

# MSK Community Services Standardised Dataset

# Introduction

The NHS Mandate (2018) lays out the need for NHS transformation, with NHS England supporting leaders to drive forwards real improvements in patient care and patient outcomes. Tackling unwarranted variation is highlighted as a priority objective within both the NHS Mandate (2018) and the Five Year Forward View (NHS England, 2014), aiming to reduce the 'unacceptable' care and quality gap.

Standardised data is essential in order to identify variation in Musculoskeletal (MSK) service performance (including outcomes and costs) and requires the use of specific standardised metrics. There has been a large focus on costing, efficiency, and standardised metrics within the acute MSK setting, but far less attention in primary care and community services. In response to the COVID-19 pandemic there is also increasing focus on MSK digital health tools, but evaluation of these innovations is made difficult by the large number of outcome measures used in musculoskeletal conditions which makes comparing different models of care challenging (Hewitt et al, 2020).

Keele Primary Care Centre Versus Arthritis have therefore developed an evidence based set of core metrics that make up a recommended standardised dataset to be used by UK community and primary care MSK services. This document outlines the proposed metrics and tools included within the dataset, with supporting detail for implementation.

The dataset is made up of core areas of; demographic factors, clinical factors, employment factors, functional/MSK health status, patient reported experience measures, and healthcare utilisation (economic factors). This is a collection of evidence based validated tools such as the Musculoskeletal Health Questionnaire (MSK-HQ) (Hill et al, 2016), and patient factors/metrics including demographics and characteristics that can be used for case-mix adjustment (a statistical process that aims to account for differences in the mix of patient attributes/characteristics across definitive patient cohorts (lezzoni, 2009)) in order to be able to make objective comparisons of PROM data (Deutscher et al, 2018)). Where there is overlap, factors have been aligned with those of ICHOM to improve global standardisation (ICHOM 2017). Factors including specific questions and coding are listed within an accompanying excel document, with more detail on included tools/variables outlined below. All mandatory tools included are free to use subject to obtaining the associated licence agreements (as shown below).

This MSK standardised dataset is currently in consultation phase. Over the next 12 months further data analysis will be undertaken to verify appropriate case-mix adjustment variables and to make recommendations on the most parsimonious case-mix adjustment model to be used within this setting. Feedback will also be collected from clinicians, service managers and patients looking to gain consensus over the core metrics to be included within the final published dataset.

# **Proposed Mandatory Variables within the Dataset**

Variable Name	Response Options	Capture Point
Demographics		
Age	Continuous numeric	Baseline
Sex at birth	Binary (male/female)	Baseline
Education	Categorical (4 options)	Baseline
Ethnicity	Categorical (5 options)	Baseline
<b>Baseline Clinical Factors</b>		
Pain Site	Categorical (11 options)	Baseline
Comorbidities	Categorical (12 options)	Baseline
Duration of Symptoms	Categorical (5 options)	Baseline
Previous Surgery	Categorical (4 options)	Baseline
Self-Reported as Disabled	Binary (yes/no)	Baseline
Employment		
Work Status	Binary (yes/no)	Baseline and 3 months
Work Absence	Binary (yes/no)	Baseline and 3 months
Work Absence Duration	Categorical (4 options)	Baseline and 3 months
Functional Status		
MSK-HQ (MSK Health Status)	Questionnaire (15 questions)	Baseline and 3 months
Pain Intensity (NPRS)	Numeric (0-10)	Baseline and 3 months
Patient Reported Experience		
Friends and Family Test (FFT)	Questionnaire (2 questions)	3 months
Global Change in Health Status	Categorical (6 options)	3 months

# **Proposed Optional Variables**

Variable Name	Response Options	Capture Point
Baseline Clinical Factors		
Previous Physiotherapy	Binary (yes/no)	Baseline
Assisted with Questionnaire	Binary (yes/no)	Baseline
Employment		
Benefit Status	Categorical (12 options)	Baseline
Functional Status		
STarT MSK (Risk Status)	Questionnaire (10 questions)	Baseline
EQ5D5L (QOL)	Questionnaire (5 questions)	Baseline and 3 months
Patient Reported Experience		
Valuing Patients as Individuals	Questionnaire (6 questions)	3 months
-Care and Respect		
-Understanding & Engagement		
CollaboRATE	Questionnaire (3 questions)	3 months
-Shared Decision making		
MSK Indicators	2 questions	3 months
-Clinical Competence		
-Sufficient Information		
<b>Economic Factors</b>		
Healthcare Utilisation	Free text numeric	3 months
Investigations and Treatments	Free text numeric	3 months
Inpatient Stays	Free text numeric	3 months
Prescribed Medication	Binary (yes/no)	3 months

# **Demographic Factors**

**Age:** (continuous numeric) Year of birth used to ensure patients are not identifiable from the anonymised data. This variable is for both use in case-mix adjustment and descriptive analysis.

**Sex:** (at birth) (binary) Research does not support the use of gender as a case-mix adjuster (Burgess et al, 2019, 2020) but this is still important for descriptive analysis and is included in similar core datasets in this area (ICHOM, 2017, Clement et al, 2015, Rolfson et al, 2016).

**Education:** (categorical (4 options)) The Education variable is for case-mix adjustment of the data as a proxy for socioeconomic status, again to ensure anonymity of patients rather than use of postcode/Index of Multiple Deprivation (IMD). This is supported by the latest Focus on Therapeutic Outcomes (FOTO) case-mix adjustment model (Deutscher et al, 2018) and by ICHOM (2017) and categories are aligned to ICHOM (2017).

**Ethnicity:** (categorical (5 options)) The Ethnicity variable can be used within case-mix adjustment modelling as supported by National PROMs (NHS England, 2013) but is also necessary for descriptive analysis to highlight variation across groups. Groups are informed by the Office of National Statistics (ONS, 2019).

### **Baseline Clinical Factors**

**MSK Pain Site:** This is a list of 11 potential pain sites, patients mark all as appropriate (yes/no pain) to list all problematic pain sites (This variable is for use in case-mix adjustment and for descriptive analysis allowing for targeted quality improvement).

**Comorbidities:** This is a list of 12 comorbid conditions, patients mark all as appropriate (yes/no) to list all comorbid conditions (This variable is informed by the new NICE Indicator for multi-morbidity in primary care (NICE, 2019) and forms part of the case-mix adjustment model alongside allowing for descriptive analysis around complexity).

**Duration of Symptoms:** (categorical (5 options)) This variable forms part of the case-mix adjustment model and will help highlight differences between services compared with regards to case-mix and chronicity of population.

**Previous Surgery:** (categorical (4 options)) This variable aligns to the latest FOTO case-mix adjustment model (Deutscher et al, 2018) and is for use in case-mix adjustment.

**Self-Reported as Disabled:** (categorical (2 options)) This variable aligns to the National PROMs Programme case-mix adjustment model (NHS England, 2013) and is for use in case-mix adjustment.

#### **Optional Extras:**

**Previous Physiotherapy**: This variable will be tested within the case-mix model to see if it adds to predictive ability but is also useful for signposting of patents that have had previous treatment.

**Assisted with Questionnaire (Q1)**: This variable is aligned to the National PROMs Programme casemix adjustment model (NHS England, 2013), and will be further tested in planned data analysis. Within the National PROMs model assistance filling out the questionnaire at Q2 (follow up questionnaire) was predictive but not at Q1 (baseline questionnaire). For this model all variables will be collected at baseline for case-mix adjustment therefore giving less support for its inclusion.

# **Employment**

Work Status (categorical (2 options))

Work Absence (categorical (2 options)) (only complete if at work)

Work Absence Duration (continuous numeric) (only complete if have been absent from work)

These employment factors are captured at baseline and are reflective of factors captured within the First Contact Physiotherapist Pilot commissioned by NHS England (funded by the Chartered Society of Physiotherapy Charitable Trust and the Department for Work and Pensions/DH Joint Work and Health Unit. Evaluation led by Keele's Primary Care Centre Versus Arthritis in collaboration with Nottingham University (CSP, 2018)).

#### **Optional Extras**

**Benefit Status:** (categorical (12 options)) This variable is similar to the 'payer' variable within the FOTO case-mix adjustment model (Deutscher et al, 2018) as it could be used as a proxy for socioeconomic status, it only needs to be asked of those patients reporting that they are not in paid employment.

# **Functional Status/MSK Health Status**

MSK-HQ: (14 questions that make up MSK-HQ score (low (0) to high functioning (56) and 1 additional standalone question on Physical Activity Level) The MSK-HQ questionnaire was developed in 2016 (Hill et al 2016) as an MSK specific PROM for generic use across MSK conditions to measure patient's MSK health and response to MSK treatments. Over 300 licences have now been issued demonstrating good uptake across the MSK community. Additional information on development and scoring are available on the Oxford Innovations website where a free licence can also be obtained; see <a href="https://innovation.ox.ac.uk/outcome-measures/musculoskeletal-health-questionnaire-msk-hq/">https://innovation.ox.ac.uk/outcome-measures/musculoskeletal-health-questionnaire-msk-hq/</a>

#### **Optional Extras**

**STarT MSK:** This is a baseline risk stratification tool and is made up of 10 questions including pain intensity using a numeric pain rating scale (NPRS). The STarT MSK is a risk stratification tool that places patients into categories dependent on their risk of a poor outcome (low, medium and high) (Campbell et al, 2016). Additional information can be found on the Keele website where a free licence can be obtained; see: <a href="https://www.keele.ac.uk/startmsk/">https://www.keele.ac.uk/startmsk/</a>. The full trial for the STarT MSK is still underway so although this is available for use and is useful for risk stratification it will not form part of the core recommended set until supporting evidence is available from the main trial alongside supporting matched treatment approaches.

**EQ5D:** The EQ-5D is a measure of quality of life and is an important tool for economic evaluation (Euroqol, 2019). The EQ-5D requires a licence agreement and is not free for all users and therefore has not been included at this stage in the core set. It is however licensed within NHS Secondary Care Trusts as part of the National PROMs Programme (NHS England, 2017) which uses it within all mandated data collections and therefore holds a licence agreement across NHS secondary care providers. The EQ5D will be further tested as a useful addition to the dataset within planned analysis.

# **Patient Reported Experience**

Friends and Family Test (FFT): (made up of 2 questions, 1 with free text) The Friends and Family Test (FFT) was launched in 2013 and is now used by most NHS services (NHS England 2019). More information on implementation of this tool can be found in the FFT Guidance Document developed by NHS England: <a href="https://assets.nhs.uk/prod/documents/FFTGuide Final 1807 FINAL.pdf">https://assets.nhs.uk/prod/documents/FFTGuide Final 1807 FINAL.pdf</a> and on the NHS England website: <a href="https://www.nhs.uk/using-the-nhs/about-the-nhs/friends-and-family-test-fft/">https://www.nhs.uk/using-the-nhs/about-the-nhs/friends-and-family-test-fft/</a>

**Global Change:** (Categorical (6 options)) Global change is a useful measure of change in health and can be used alongside other PROMs to evaluate efficacy of intervention/pathway of care

#### **Optional Extras**

Valuing Patients as Individuals Scale (VPAI): (Only questions 3,7,9, for Care and Respect, and 1,4,8, for Understanding and Engagement, were included as others are not relevant to the community/primary care setting) The Valuing Patients as Individuals Scale (VPAI) was developed by Coyle and Williams in 2001. It is free to use and more details about the tool can be found in the paper by Jones et al (2017): DOI: 10.1111/jocn.13845,

http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-2702/earlyview

**CollaboRATE:** The collaboRATE tool was developed by Elwyn et al (2013) to measure shared decision making as part of a clinical encounter. It is made up of 3 brief questions, has been designed for use in routine practice, and has undergone psychometric testing (Barr et al, 2014).

**MSK Indicators:** Additional indicators were used alongside validated patient reported experience measures (PREMs) including the VPAI and FFT to capture patient experience within the National FCP Evaluation (see Appendix 1 for details) which we recommend are adopted nationally.

Keele's Recommended List of Patient Experience Questions (See Appendix 1 for full list).

## **Economic Factors**

### **Optional Extras**

**Healthcare Utilisation:** (7 categories with patients annotating amount of visits in past 3 months (to GP, Physiotherapist, Consultant etc))

**Investigations and Treatments:** (free text to enter investigation and frequency)

Inpatient Stays: (free text to enter reason for admission and length of stay)

**Prescribed Medication:** (binary yes/no for being prescribed medication for current pain condition)

The above economic factors are supported by a recently published systematic review (Burgess et al, 2020). This review found that the key drivers of MSK healthcare costs were GP visits, Outpatient Medical Specialist visits and Physiotherapy visits, followed by prescription medication and inpatient stays. Investigations including Xray and MRI, and private healthcare visits were other useful additions.

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# Appendix 1: Keele's Recommended List of Patient Experience Questions

Answer the following questions thinking about the consultation you have just had...

Item name	Question	Response	options	Source of item
1. Treated with care and	The clinician listened attentively to what I said	Strongly agree	5	Well in a series of a series in the series
respect		Agree	4	Valuing patients as individuals
		Uncertain	3	
		Disagree	2	
		Strongly disagree	1	
		Not applicable	9	
	The clinician was very approachable and	Strongly agree	5	
	easy to talk to	Agree	4	Valuing patients as individuals
		Uncertain	3	
		Disagree	2	
		Strongly disagree	1	
		Not applicable	9	
	The clinician treated me kindly	Strongly agree	5	
		Agree	4	Valuing patients as individuals
		Uncertain	3	
		Disagree	2	
		Strongly disagree	1	
		Not applicable	9	

1	1			
2. Being understood and valued	My problems were regarded as important	Strongly agree	5	Valuing patients as individuals
dia valueu		Agree	4	valuing patients as individuals
		Uncertain	3	
		Disagree	2	
		Strongly disagree	1	
		Not applicable	9	
	All of my questions were answered	Strongly agree	5	Valvina nationto ao individuale
		Agree	4	Valuing patients as individuals
		Uncertain	3	
		Disagree	2	
		Strongly disagree	1	
		Not applicable	9	
	I was treated as an intelligent human	Strongly agree	5	Well to a seffection of P. C. L.
	being	Agree	4	Valuing patients as individuals
		Uncertain	3	
		Disagree	2	
		Strongly disagree	1	
		Not applicable	9	
3. Satisfaction	How likely are you to recommend this	Extremely likely	5	Fairn de and familia de d
	type of video consultation to friends and family if they need similar care or	Likely	4	Friends and family test
	treatment?	Neither likely nor unlikely	3	
		Unlikely	2	

		Extremely unlikely	1	
4. Confidence in clinical competence	How confident were you in the clinician's competency to assess and treat your problem?	Extremely Very Moderately Slightly Not at all	5 4 3 2	From the National FCP pilot
5. Shared decision- making	How much effort was made to help you understand your health issues?	Every effort was made A lot of effort was made Some effort was made A little effort was made No effort was made	4 3 2 1 0	From CollaboRATE
	How much effort was made to listen to the things that matter most to you about your health issues?	Every effort was made A lot of effort was made Some effort was made A little effort was made No effort was made	4 3 2 1 0	From CollaboRATE
	How much effort was made to include what matters most to you in choosing what to do next?	Every effort was made A lot of effort was made Some effort was made	3 2	From CollaboRATE

6. Given sufficient information	Did you receive sufficient information about your condition or self-care?	A little effort was made No effort was made  Yes No	1 0	From the National FCP pilot
7. Overall sense of improvement	Overall, how would you describe how you are compared to before the consultation?	Much better  Better Same Worse Much worse Prefer not to say	5 4 3 2 1 9	Global change item
8. Understanding of health condition	Thinking about your recent video consultation, how well do you feel it helped you understand your condition and any current treatment?	Completely Very well Moderately Slightly Not at all	4 3 2 1	From MSK-HQ
9. Confidence to manage yourself	How confident do you now feel in being able to manage your health condition by yourself?	Extremely Very Moderately Slightly Not at all	4 3 2 1	From MSK-HQ

40. Timalin and and				
10. Timeliness and convenience	How suitable was the timing of this video consultation for you?	Extremely	4	
	·	Very	3	
		Moderately	2	
		Slightly	1	
		Not at all	1	
	How convenient was this video	Extremely	4	
	consultation for you?	Very	3	
		Moderately	2	
		Slightly	1	
		Not at all	1	