

Publication of provisional Patient Related Outcome Measures
(Oxford Hip and Oxford Knee Score) for the reporting period 1st
July 2018 to 30th June 2019

Owner: Dr Jon Fistein – Chief Medical Officer

Date: 17th February 2021



Contents

1	Executive Summary.....	3
1.1	Hip Replacement	4
1.2	Knee Replacement	5
2	Introduction.....	6
2.1	Background.....	6
2.2	Case Mix Adjustment	6
2.3	Notes on the provisional nature of the data	7
3	PHIN’s ability to publish PROMs measures	8
4	Rules and caveats to the published measures.....	12
5	Hip PROM: Oxford Hip Score	16
5.1	Definition.....	16
5.2	PHIN Publication of PROMs	16
5.3	Results.....	16
6	Knee PROM: Oxford Knee Score	26
6.1	Definition.....	26
6.2	PHIN Publication of PROMs	26
6.3	Results.....	26
7	Appendix A – Procedure Specific PROMs Questions	36
7.1	Oxford Hip Score	36
7.2	Oxford Knee Score	39



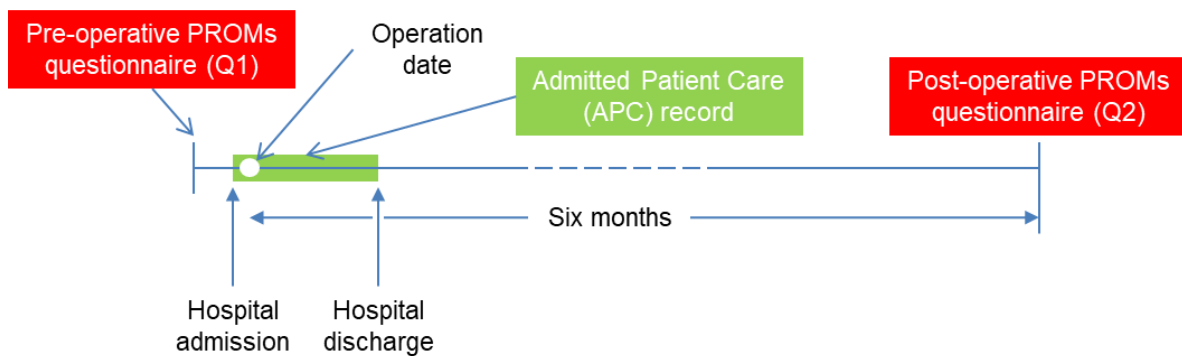
1 Executive Summary

PHIN is publishing information about Patient Reported Outcome Measures (PROMs) based on data received from UK private providers, as required by the Competition and Markets Authority Private Healthcare Market Investigation Order 2014 (*as amended*).

PROMs are a critical component of assessing whether healthcare services are improving the health of patients. Unlike process measures, which focus on issues such as productivity and adherence to standards, PROMs attempt to capture whether the services provided actually improve patients' sense of their own health and well-being in terms of their ability to complete various activities, mood, level of fatigue or pain.

PHIN's initial publication of PROMs measures is based on two instruments: Oxford Hip Score (for primary or revision hip replacement) and Oxford Knee Score (for primary or revision knee replacement). Each comprises a short 12-item patient-reported questionnaire used to assess function and pain. The questions relate to Activities of Daily Living and is completed by the patient once before their operation and, again, six months after. Both questions are scored¹ and the differences between the two forms the basis of PROMs measures (Figure 1).

Figure 1: Diagrammatic representation of the PROMs data collection process



The publication of this information represents only one dimension of the wider work of PHIN in reporting outcomes from UK private healthcare facilities² and is the first time such information has been published.

For the reporting period 1st July 2018 to 30th June 2019, out of 630³ individual private provider sites required to submit data to PHIN under the CMA Order, by the data freeze date⁴ Table 1 details the number of these sites for whom PROMs measures could be published.

¹ Scoring is based on Oxford University Innovation's propriety methodology.

² Any facility providing privately-funded healthcare services on an inpatient, day-case and/or outpatient basis, and may include a NHS Private Patient Unit.

³ This represents the total number of sites that are active as of the produced date or had submitted data for the reporting period.

⁴ For the current PROMs reporting period this was the 2nd February 2021.



Table 1: Count of the number of provider sites for whom PROMS measures could be published for the period 1st July 2018 to 30th June 2019

Procedure	Publication status	Number of Sites
Hip replacement (primary)	Sites for which PROMS could be published	120 / 630
Hip replacement (revision)	Sites for which PROMS could be published	0 / 630
Knee replacement (primary)	Sites for which PROMS could be published	112 / 630
Knee replacement (revision)	Sites for which PROMS could be published	1 / 630

1.1 Hip Replacement

The submitted data comprised 15,959 primary and 640 revision hip placements. PROMS response rates were, respectively, 28.2% and 13.5%. Overall, 97.8% of primary hip patients reported an improvement in their health status (provider site range: 100% to 77.8%) and 91.8% for revision hip patients (No provider site metrics published due to suppression for disclosure control).

Table 2: Results for hip replacement

Procedure	Eligible Procedure	Total responses	Response rate	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved
Hip replacement (primary)	14,645	4,126	28.2	1.8	0.3	97.8
Hip replacement (revision)	630	85	13.5	7.1	1.2	91.8



1.2 Knee Replacement

The submitted data comprised 13,379 primary and 546 revision knee placements. PROMs response rates were, respectively, 27.2% and 15.6%. Overall, 94.6% of primary knee patients reported an improvement in their health status (provider site range: 100% to 70.0%) and 91.8% for revision knee patients (provider site published for one site only).

Table 3: Results for knee replacement

Procedure	Eligible Procedure	Total responses	Response rate	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved
Knee replacement (primary)	13,379	3,635	27.2	4.3	1.1	94.6
Knee replacement (revision)	546	85	15.6	7.1	1.2	91.8



2 Introduction

All providers of admitted, privately-funded healthcare in the UK are required by the Competition and Markets Authority Private Healthcare Market Investigation Order 2014 (as amended) to submit data on activity, safety and quality to the Private Healthcare Information Network (PHIN).

The Order also requires PHIN to publish this data on a public web site in the form of performance measures. This report describes the publication for of these measures, referred to by the Order as “*procedure-specific measures of improvement in health outcomes*”.

The measure is based on Patient Reported Outcome Measures (PROMs) associated with hip and knee replacement surgery (both primary and revision) for patients who were discharged from hospital during the period **1st July 2018 to 30th June 2019**.

2.1 Background

For the purposes of measuring improvement in health outcome following hip and knee replacement surgery PHIN has chosen to use two procedure-specific PROMs instruments, the Oxford Hip Score (OHS) and the Oxford Knee Score (OKS)⁵. These PROMs are paired questionnaires which ask the patient about their symptoms, comorbidities and overall activities of daily living. One questionnaire is completed before surgery and the other one six months after surgery. Comparing the results of the two provides an indication of how health and well-being may have altered (improved, no change or worsened) as the result of the operation.

The OHS and OKS PROMs have been collected by all providers of NHS funded care (including where care was provided in a private hospital) since 2009 and published by NHS Digital⁶ biannually at national (England), provider (Trust) and Clinical Commissioning Group level. This is the first publication of PROMs related measures for privately funded care.

2.2 Case Mix Adjustment

Case mix adjustment aims to counteract some of the variabilities in the patient population treated by a surgeon or hospital which may impact on the degree of improvement that may be achieved by the treatment. The NHS’s publication of hip and knee PROMs uses an adjustment method which was developed based on an NHS patient population. Initial analysis to evaluate the suitability of this method for use with PHIN’s private patient population has indicated that the characteristics between the two may be sufficiently different such that the NHS model, in its current form, is unsuitable for use with a private patient cohort. As such, it is PHIN’s view that the risk of publishing potentially misleading information resulting from use of an unsuitable adjustment model outweighs the benefits. To avoid this risk the initial publication of PROMs measures at hospital level will be based on the Oxford Hip and Knee Scores and will simply show the percentage of patients who reported that their

⁵ <https://innovation.ox.ac.uk/outcome-measures/oxford-hip-score-ohs/>

⁶ <https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/patient-reported-outcome-measures-proms>

health had improved following treatment i.e. their post-operative score was greater than their pre-operative score.

2.3 Notes on the provisional nature of the data

The figures contained in this document are based on data submitted by private providers to PHIN on or before the 2nd February 2021 (data freeze date). As additional data may subsequently be submitted by providers, all data must be considered provisional and subject to change.



3 PHIN’s ability to publish PROMs measures

For the purposes of measure publication each eligible procedure (as captured with the based on the Admitted Patient Care⁷ (APC) record and based on the list of eligible procedures published by NHS Digital) must be linkable to its corresponding pre and post-operative, procedure-specific questionnaire. This is necessary to confirm the procedure indicated on the questionnaires match the procedure recorded in the APC record.

Provider sites fall into one of six publication categories depending on the number of hip and knee operations they undertook during the reporting period and the completeness of their PROMs data (i.e. a Q1 questionnaire that a score can be calculated from, a Q2 questionnaire that is linked to the Q1 questionnaire for which a score can be calculated is designated a complete paired record) and the number of PROMs eligible procedure that the hospital has performed. This leads to the categories as described in Table 4.

Table 4: Publication status definitions for PROMs measures

Publication Status	Definition
Sites for which PROMS could be reported	<ol style="list-style-type: none"> 1) A minimum of six Admitted Patient Care (APC) records for each provider has been received, each of which: <ol style="list-style-type: none"> a. includes the procedure-relevant OPCS (operation) codes (based on the list published by NHS Digital); b. is a private admission; c. contains a discharge date falling within the relevant reporting period; and d. has passed all relevant standard PHIN data validation checks. 2) A sufficiently complete⁸ pre-operative (Q1) PROMs questionnaire that can be linked to the APC record⁹. 3) A sufficiently complete post-operative (Q2) PROMs questionnaire that can be linked to the same APC record as the Q1.

⁷ Admitted Patient Care is activity which takes place in a hospital setting where the admission is planned (elective) and the patient either spends at least one night in hospital (an inpatient) or is treated and discharged on the same day (a day case).

⁸ Each questionnaire contains twelve procedure-specific questions. As long as the patient has completed ten of these questions, the remaining two can be populated based on the average response score of the other ten.

⁹ Record linkage is based on matching the Provider, the Provider Spell Number and the Episode Order number.



Publication Status	Definition
Percentage suppressed for disclosure control as five or fewer responses	Where a provider has undertaken five or fewer operations in the reporting period its data is not published as this may be disclosive and breach patient confidentiality.
Number of procedures below current threshold for PROMS reporting.	These hospitals have undertaken fewer than 100 operations in this period and is below the current threshold for PROMS reporting
Insufficient data supplied	These hospitals have not provided sufficient data as required. Fewer than 5 responses have been submitted, and the hospital has greater than 100 eligible procedures within the reporting period
Required PROMS data not supplied	No complete questionnaires have been submitted, and these hospitals have greater than 100 eligible procedures within the reporting period
No <procedure type> procedures reported in the period	No hip or knee replacement procedures present within the APC data for the reporting period, therefore no measure publication required or possible

Table 5 describes the publication status of all 630¹⁰ hospital sites which currently submit data to PHIN under the CMA Order. As not all of these hospitals will undertake hip or knee replacement surgery or do so only in relatively small numbers (less than 100 cases annually), not all sites will have publishable PROMS measures.

Table 5: Ability to publish PROMS percentage of patients improved for hip and knee replacements data across the private sector (1st July 2018 to 30th June 2019).

Procedure	Publication status	Number of Sites
Hip replacement (primary)	Publishable PROMS - publishable measures	120
Hip replacement (primary)	Insufficient data supplied - eligible procedures above 100 and 7 or fewer responses	27
Hip replacement (primary)	Required PROMS data not supplied- eligible procedures below 100 and no PROMS data supplied	6
Hip replacement (primary)	Number of procedures below current threshold for PROMS reporting - eligible procedures below 100	81

¹⁰ This represents the total number of sites that are active as of the produced date or had submitted data for the reporting period.



Procedure	Publication status	Number of Sites
Hip replacement (primary)	No Hip replacement (primary) procedures reported in the period - no eligible procedures in period	394
Hip replacement (primary)	Percentage suppressed for disclosure control as 7 or fewer responses - eligible procedures below 100 and 7 or fewer responses	2
Hip replacement (primary)	Total	630
Hip replacement (revision)	Publishable PROMs - publishable measures	0
Hip replacement (revision)	Insufficient data supplied - eligible procedures above 100 and 7 or fewer responses	52
Hip replacement (revision)	Required PROMs data not supplied- eligible procedures below 100 and no PROMs data supplied	0
Hip replacement (revision)	Number of procedures below current threshold for PROMs reporting - eligible procedures below 100	101
Hip replacement (revision)	No Hip replacement (revision) procedures reported in the period - no eligible procedures in period	477
Hip replacement (revision)	Percentage suppressed for disclosure control as 7 or fewer responses - eligible procedures below 100 and 7 or fewer responses	0
Hip replacement (revision)	Total	630
Knee replacement (primary)	Publishable PROMs - publishable measures	112
Knee replacement (primary)	Insufficient data supplied - eligible procedures above 100 and 7 or fewer responses	34
Knee replacement (primary)	Required PROMs data not supplied- eligible procedures below 100 and no PROMs data supplied	6
Knee replacement (primary)	Number of procedures below current threshold for PROMs reporting - eligible procedures below 100	71
Knee replacement (primary)	No Knee replacement (primary) procedures reported in the period - no eligible procedures in period	405
Knee replacement (primary)	Percentage suppressed for disclosure control as 7 or fewer responses - eligible procedures below 100 and 7 or fewer responses	2
Knee replacement (primary)	Total	630
Knee replacement (revision)	Publishable PROMs - publishable measures	1
Knee replacement (revision)	Insufficient data supplied - eligible procedures above 100 and 7 or fewer responses	49
Knee replacement (revision)	Required PROMs data not supplied- eligible procedures below 100 and no PROMs data supplied	0
Knee replacement (revision)	Number of procedures below current threshold for PROMs reporting - eligible procedures below 100	101
Knee replacement (revision)	No Knee replacement (revision) procedures reported in the period - no eligible procedures in period	479



Procedure	Publication status	Number of Sites
Knee replacement (revision)	Percentage suppressed for disclosure control as 7 or fewer responses - eligible procedures below 100 and 7 or fewer responses	0
Knee replacement (revision)	Total	630



4 Rules and caveats to the published measures

There are a number of rules and caveats associated with the data that PHIN uses for measure publication based on how the data are provided to PHIN. These must be considered when exploring the PROMs measures to ensure they are interpreted correctly.

Table 6: PROMs measures rules and caveats

Summary	Technical detail (where needed)				
General notes					
<p>Providers who have undertaken 100 or more of the specific eligible procedure type within the relevant publication period (see below) are above the current threshold for PROMs reporting and are required to submit PROMs for these patients to PHIN for publication.</p>	<p>Although providers who have undertaken fewer than 100 procedures within the publication period are not required to submit PROMs, they may choose to do so, in which case, subject to submission of a minimum of 6 cases, the data will be published.</p> <p>For providers who have undertaken fewer than 100 procedures within the publication period and are below the current threshold for PROMs reporting, this is reflected in the messaging published for this measure.</p> <p>If a provider does perform more than 100 procedures and does not submit data to PHIN this is reflected with different messaging to highlight that this provider should be submitting data to PHIN for the PROMs.</p>				
<p>PHIN will be publishing the percentage of patients improved, worsened and unchanged as well as the number of responses (matched Q1 and Q2 score) for Oxford Hip Score (OHS) and Oxford Knee Score (OKS). This approach is consistent with that already used by NHS Digital on behalf of NHS organisations.</p>					
<p>PHIN will be publishing PROMs data for hip and knee replacement procedures (primary and revision), defined as qualifying for a PROM based on NHS Digital's list of eligible OPCS (procedure) codes.</p>	<p>PROMs data will be published at hospital level and will only appear on the PHIN website where the user has selected one of the following qualifying procedure groups (shown together with the corresponding PROM).</p> <table border="1"> <thead> <tr> <th>PHIN Procedure Group</th> <th>PROM</th> </tr> </thead> <tbody> <tr> <td>Hip Replacement (primary)</td> <td>OHS</td> </tr> </tbody> </table>	PHIN Procedure Group	PROM	Hip Replacement (primary)	OHS
PHIN Procedure Group	PROM				
Hip Replacement (primary)	OHS				



	<p>Hip Replacement (revision) OHS</p> <p>Knee Replacement (primary) OKS</p> <p>Knee Replacement (primary – unicompartmental) OKS</p> <p>Knee Replacement (primary – patellofemoral) OKS</p> <p>Knee Replacement (revision) OKS</p> <p>N.B. User selection of any of the three primary knee replacement groups will result in the same data being shown.</p>
Data published is not case-mix adjusted.	PHIN’s publication of PROMs data based on a patient’s health status as having improved, not changed or got worse is based on the NHS Digital methodology, which does not include any form of case mix adjustment.
Data publication considerations	
The OHS and OKS measures are based on data that has been submitted directly by private providers to PHIN. The CMA Order ¹¹ places an obligation on the providers to provide PHIN with information that is “sufficiently detailed and complete” for PHIN to be able to publish accurate information.	<p>PHIN publishes information on the assumption that providers have submitted records which are both complete and accurate.</p> <p>Publication of this PROMs measure requires PHIN being able to link together records for the same patient that relate to their stay in hospital (the Admitted Patient Care record), the results of their pre-operative questionnaire (Q1) and the results of their post-operative questionnaire (Q2). Deficiencies or inaccuracies in any of these data will prevent publication of data for this patient and may result in a partial view of a hospital’s performance.</p>
In order to account for the amount of time it takes to collect and process paired PROMs questionnaires, PHIN will publish PROMs measures twelve months in	<p>For all OHS and OKS:</p> <ul style="list-style-type: none"> The discharge date must occur within the published reporting period.

¹¹ Private Healthcare Market Investigation Order 2014 (as amended)



<p>arrears of the most recent reporting period for its other measures.</p>	<ul style="list-style-type: none"> • Because post-operative questionnaire data is collected no earlier than six months after surgery the published reporting period for PROMs is 12 months behind the latest reporting period. • Any data submitted after the appropriate PHIN data freeze will not appear (even if it relates to events or activity during the published reporting period).
<p>Data validations</p>	
<p>Both PROMs questionnaire records must link back to the PROMs Core record which also must link to a valid APC record.</p>	<p>Each PROMs Core, Pre-Operative, Post-Operative and APC record for the same patient should include matching values in the PROVIDER, PROVSPNUM and EPIORDER fields. This enables each record to be linked and the records validated with respect to each other. If it is not possible to link these records together the PROMs data is deemed to be invalid and is not published.</p>
<p>Only information relating to private patients is published. This comprises privately funded care in both independent sites and NHS PPUs and excludes NHS-funded care.</p>	<p>Only PROMs records that link to APC records where ADMINCAT = 2 (private) are included.</p> <p>PROMs data on NHS-funded care (including that delivered by independent organisations) is required for reporting directly to NHS Digital and is available to the public via the NHS Digital website.</p>
<p>PHIN does not currently publish any information based on APC records containing any of a list of proscribed procedures and diagnoses, which NHS Digital has deemed “sensitive”. This is in line with NHS Digital policy and is something PHIN has currently decided to adhere to. This means that if an APC record associated with a PROM contains one of these codes the PROM information will not be included for publication.</p>	<p>NHS Digital 2016: Submitting Anonymous and Sensitive Records to SUS</p>
<p>PHIN does not publish information relating to outpatient activity.</p>	<p>Outpatient activity is excluded from the CMA Order. Private providers do not send outpatient information to PHIN.</p>



<p>PHIN only publishes PROMs measures where the questionnaire completion dates are in line with standard methods published by NHS Digital.</p>	<p>For hip and knee PROMs this means only PROMs records with a valid Q1 completed date before the procedure date, AND a valid Q2 completed date which is at least 6 months after the procedure date will be included.</p>
<p>Disclosure control</p>	
<p>Small numbers of PROMs responses are published in line with NHS reporting standards for small number suppression.</p>	<p>PHIN will apply the same reporting standard.</p>



5 Hip PROM: Oxford Hip Score

5.1 Definition

The Oxford Hip Score (OHS) is a short 12-item patient-reported PROMs used to assess function and pain with patients undergoing a total hip replacement (THR) – both primary replacement and revision surgery. The questions relate to Activities of Daily Living and are filled in by the patient to eliminate inter-observer bias. The questionnaire is carried out by the patient twice, pre- and post-operatively in order to calculate patient outcomes post-surgery.

The score was designed and developed by researchers within the Nuffield Department of Population Health at the University of Oxford in association with surgical colleagues at the Nuffield Orthopaedic Centre and has been well validated.

The score comprises of twelve multiple choice questions relating to the patient’s experience of pain, ease of joint movement and ease of undertaking normal domestic activities. Each question is scored with the score decreasing as the reported symptoms increase. Each of the 12 questions are scored in the same way with the score decreasing as the reported symptoms increase, i.e. become worse (from four least/no symptoms to zero representing the greatest severity). The individual scores are then added together to provide a single score with 0 indicating the worst possible and 48 indicating the highest possible score. This is undertaken pre- and post-operation and the score for each is calculated. This allows the improvement, or indeed worsening, of symptoms to be quantified.

5.2 PHIN Publication of PROMs

PHIN’s initial publication of the Oxford Hip Score will comprise of the number of responses and the percentage improvement in the score.

5.3 Results

Table 7: UK rates for privately funded hip replacements (1 April 2018 - 31 March 2019)

Procedure	Eligible Procedure	Total responses	Response rate	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved
Hip replacement (primary)	14,645	4,126	28.2	1.8	0.3	97.8
Hip replacement (revision)	630	85	13.5	7.1	1.2	91.8



Table 8 only contains information for provider sites where a percentage change in patient reported outcome could be calculated.

Table 8: Hip replacement (primary) patient reported changes in health status by provider site (1st July 2018 to 30th June 2019). Sites with 0 responses and sites with 7 or fewer responses are not reported in this table; a complete list of sites with suppressed and incomplete data is reported in the Excel datasheet.

Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Aspen Healthcare	Aspen - Parkside Hospital Wimbledon	IND	119	12	0.0	0.0	100.0	0	0	12
BMI Healthcare	BMI Bath Clinic	IND	35	12	0.0	0.0	100.0	0	0	12
BMI Healthcare	BMI Bishops Wood Hospital	IND	50	13	7.7	0.0	92.3	1	0	12
BMI Healthcare	BMI Goring Hall Hospital	IND	85	17	0.0	0.0	100.0	0	0	17
BMI Healthcare	BMI Mount Alvernia Hospital	IND	63	28	0.0	0.0	100.0	0	0	28
BMI Healthcare	BMI St Edmunds Hospital	IND	33	16	6.3	0.0	93.8	1	0	15
BMI Healthcare	BMI The Alexandra Hospital	IND	124	48	4.2	0.0	95.8	2	0	46
BMI Healthcare	BMI The Blackheath Hospital	IND	46	12	0.0	0.0	100.0	0	0	12
BMI Healthcare	BMI The Cavell Hospital	IND	33	8	0.0	0.0	100.0	0	0	8
BMI Healthcare	BMI The Chaucer Hospital	IND	39	12	0.0	0.0	100.0	0	0	12
BMI Healthcare	BMI The Chiltern Hospital	IND	123	63	0.0	1.6	98.4	0	1	62
BMI Healthcare	BMI The Droitwich Spa Hospital	IND	41	13	7.7	0.0	92.3	1	0	12
BMI Healthcare	BMI The Duchy Hospital	IND	26	9	11.1	0.0	88.9	1	0	8
BMI Healthcare	BMI The Edgbaston Hospital	IND	116	38	0.0	0.0	100.0	0	0	38



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
BMI Healthcare	BMI The Hampshire Clinic	IND	54	14	0.0	0.0	100.0	0	0	14
BMI Healthcare	BMI The Lincoln Hospital	IND	36	9	11.1	0.0	88.9	1	0	8
BMI Healthcare	BMI The Manor Hospital	IND	35	10	0.0	0.0	100.0	0	0	10
BMI Healthcare	BMI The Meriden Hospital	IND	56	24	0.0	0.0	100.0	0	0	24
BMI Healthcare	BMI The Park Hospital	IND	87	20	0.0	0.0	100.0	0	0	20
BMI Healthcare	BMI The Princess Margaret Hospital	IND	59	27	0.0	0.0	100.0	0	0	27
BMI Healthcare	BMI The Priory Hospital	IND	43	17	0.0	0.0	100.0	0	0	17
BMI Healthcare	BMI The Ridgeway Hospital	IND	52	33	0.0	0.0	100.0	0	0	33
BMI Healthcare	BMI The Runnymede Hospital	IND	68	33	0.0	0.0	100.0	0	0	33
BMI Healthcare	BMI The Saxon Clinic	IND	52	24	8.3	0.0	91.7	2	0	22
BMI Healthcare	BMI The Sloane Hospital	IND	22	12	0.0	0.0	100.0	0	0	12
BMI Healthcare	BMI The Winterbourne Hospital	IND	85	31	0.0	0.0	100.0	0	0	31
BMI Healthcare	BMI Thornbury Hospital	IND	45	15	0.0	0.0	100.0	0	0	15
BMI Healthcare	BMI Three Shires Hospital	IND	68	26	0.0	0.0	100.0	0	0	26
BMI Healthcare	BMI Werndale Hospital	IND	96	33	0.0	0.0	100.0	0	0	33
BMI Healthcare	BMI Woodlands Hospital	IND	69	9	0.0	0.0	100.0	0	0	9
Circle Health	Circle Bath	IND	106	14	0.0	0.0	100.0	0	0	14
Circle Health	Circle Reading Hospital	IND	108	11	0.0	0.0	100.0	0	0	11
HCA International	Lister Hospital	IND	63	31	0.0	0.0	100.0	0	0	31



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
HCA International	London Bridge Hospital	IND	142	17	5.9	0.0	94.1	1	0	16
HCA International	Princess Grace Hospital	IND	227	53	1.9	0.0	98.1	1	0	52
Healthcare Management Trust	Sancta Maria Hospital	IND	144	32	0.0	0.0	100.0	0	0	32
Horler Healthcare	The Horler Centre	IND	136	36	0.0	0.0	100.0	0	0	36
Hospital Of St John And St Elizabeth	Hospital of St John & St Elizabeth	IND	69	16	0.0	0.0	100.0	0	0	16
KIMS Hospital	KIMS Hospital	IND	123	82	1.2	2.4	96.3	1	2	79
Nuffield Health	Nuffield Health Bournemouth Hospital	IND	229	118	1.7	0.0	98.3	2	0	116
Nuffield Health	Nuffield Health Brentwood Hospital	IND	61	14	0.0	0.0	100.0	0	0	14
Nuffield Health	Nuffield Health Brighton Hospital	IND	19	9	11.1	0.0	88.9	1	0	8
Nuffield Health	Nuffield Health Bristol, The Chesterfield Hospital	IND	36	18	0.0	0.0	100.0	0	0	18
Nuffield Health	Nuffield Health Cambridge Hospital	IND	146	33	0.0	0.0	100.0	0	0	33
Nuffield Health	Nuffield Health Cardiff Bay & Vale Hospitals	IND	194	74	2.7	0.0	97.3	2	0	72
Nuffield Health	Nuffield Health Cheltenham Hospital	IND	132	63	0.0	0.0	100.0	0	0	63
Nuffield Health	Nuffield Health Chester, The Grosvenor Hospital	IND	86	29	0.0	0.0	100.0	0	0	29
Nuffield Health	Nuffield Health Chichester Hospital	IND	107	36	0.0	0.0	100.0	0	0	36
Nuffield Health	Nuffield Health Derby Hospital	IND	100	47	0.0	0.0	100.0	0	0	47



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Nuffield Health	Nuffield Health Exeter Hospital	IND	252	92	1.1	1.1	97.8	1	1	90
Nuffield Health	Nuffield Health Glasgow Hospital	IND	225	62	3.2	0.0	96.8	2	0	60
Nuffield Health	Nuffield Health Guildford Hospital	IND	84	40	2.5	0.0	97.5	1	0	39
Nuffield Health	Nuffield Health Haywards Heath Hospital	IND	68	15	6.7	0.0	93.3	1	0	14
Nuffield Health	Nuffield Health Hereford Hospital	IND	98	68	4.4	0.0	95.6	3	0	65
Nuffield Health	Nuffield Health Ipswich Hospital	IND	144	72	2.8	0.0	97.2	2	0	70
Nuffield Health	Nuffield Health Leeds Hospital	IND	122	43	0.0	0.0	100.0	0	0	43
Nuffield Health	Nuffield Health Leicester Hospital	IND	105	42	2.4	2.4	95.2	1	1	40
Nuffield Health	Nuffield Health Newcastle Upon Tyne Hospital	IND	123	61	3.3	0.0	96.7	2	0	59
Nuffield Health	Nuffield Health North Staffordshire Hospital	IND	64	24	0.0	0.0	100.0	0	0	24
Nuffield Health	Nuffield Health Oxford, The Manor Hospital	IND	287	149	2.7	0.0	97.3	4	0	145
Nuffield Health	Nuffield Health Plymouth Hospital	IND	78	40	0.0	0.0	100.0	0	0	40
Nuffield Health	Nuffield Health Shrewsbury Hospital	IND	40	15	0.0	0.0	100.0	0	0	15
Nuffield Health	Nuffield Health Taunton Hospital	IND	86	30	3.3	0.0	96.7	1	0	29
Nuffield Health	Nuffield Health Tees Hospital	IND	55	29	0.0	0.0	100.0	0	0	29



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Nuffield Health	Nuffield Health Tunbridge Wells Hospital	IND	59	16	0.0	0.0	100.0	0	0	16
Nuffield Health	Nuffield Health Warwickshire Hospital	IND	151	55	1.8	0.0	98.2	1	0	54
Nuffield Health	Nuffield Health Wessex Hospital	IND	155	61	6.6	0.0	93.4	4	0	57
Nuffield Health	Nuffield Health Woking Hospital	IND	56	11	0.0	0.0	100.0	0	0	11
Nuffield Health	Nuffield Health Wolverhampton Hospital	IND	47	12	0.0	0.0	100.0	0	0	12
Nuffield Health	Nuffield Health York Hospital	IND	85	44	0.0	4.5	95.5	0	2	42
One Healthcare Group Ltd	One Ashford Hospital	IND	110	56	0.0	1.8	98.2	0	1	55
One Healthcare Group Ltd	One Hatfield Hospital	IND	47	19	0.0	0.0	100.0	0	0	19
Ramsay Health Care UK	Ashtead Hospital	IND	48	26	3.8	0.0	96.2	1	0	25
Ramsay Health Care UK	Clifton Park Hospital	IND	32	8	0.0	0.0	100.0	0	0	8
Ramsay Health Care UK	Duchy Hospital	IND	106	52	0.0	0.0	100.0	0	0	52
Ramsay Health Care UK	Fitzwilliam Hospital	IND	88	30	10.0	0.0	90.0	3	0	27
Ramsay Health Care UK	Mount Stuart Hospital	IND	96	35	0.0	0.0	100.0	0	0	35
Ramsay Health Care UK	New Hall Hospital	IND	59	19	0.0	0.0	100.0	0	0	19
Ramsay Health Care UK	North Downs Hospital	IND	17	9	11.1	0.0	88.9	1	0	8



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Ramsay Health Care UK	Oaks Hospital	IND	109	57	0.0	1.8	98.2	0	1	56
Ramsay Health Care UK	Pinehill Hospital	IND	63	18	0.0	0.0	100.0	0	0	18
Ramsay Health Care UK	Rivers Hospital	IND	96	17	0.0	0.0	100.0	0	0	17
Ramsay Health Care UK	Springfield Hospital	IND	102	32	3.1	0.0	96.9	1	0	31
Ramsay Health Care UK	Winfield Hospital	IND	96	24	4.2	0.0	95.8	1	0	23
Ramsay Health Care UK	Woodland Hospital	IND	51	11	0.0	0.0	100.0	0	0	11
Ramsay Health Care UK	Yorkshire Clinic	IND	44	17	0.0	0.0	100.0	0	0	17
Spire Healthcare	Spire Alexandra Hospital	IND	38	14	0.0	0.0	100.0	0	0	14
Spire Healthcare	Spire Bristol Hospital	IND	185	51	2.0	0.0	98.0	1	0	50
Spire Healthcare	Spire Bushey Hospital	IND	155	62	1.6	1.6	96.8	1	1	60
Spire Healthcare	Spire Cambridge Lea Hospital	IND	163	61	1.6	0.0	98.4	1	0	60
Spire Healthcare	Spire Cardiff Hospital	IND	117	34	2.9	0.0	97.1	1	0	33
Spire Healthcare	Spire Cheshire Hospital	IND	80	26	3.8	0.0	96.2	1	0	25
Spire Healthcare	Spire Clare Park Hospital	IND	140	64	6.3	0.0	93.8	4	0	60
Spire Healthcare	Spire Fylde Coast Hospital	IND	44	12	0.0	0.0	100.0	0	0	12
Spire Healthcare	Spire Gatwick Park Hospital	IND	75	27	3.7	0.0	96.3	1	0	26
Spire Healthcare	Spire Harpenden Hospital	IND	113	52	0.0	0.0	100.0	0	0	52



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Spire Healthcare	Spire Hartswood Hospital	IND	79	18	5.6	0.0	94.4	1	0	17
Spire Healthcare	Spire Hull & East Riding Hospital	IND	73	25	0.0	0.0	100.0	0	0	25
Spire Healthcare	Spire Leeds Hospital	IND	71	14	0.0	0.0	100.0	0	0	14
Spire Healthcare	Spire Leicester Hospital	IND	106	48	4.2	0.0	95.8	2	0	46
Spire Healthcare	Spire Little Aston Hospital	IND	110	37	5.4	0.0	94.6	2	0	35
Spire Healthcare	Spire Manchester Hospital	IND	59	18	16.7	5.6	77.8	3	1	14
Spire Healthcare	Spire Methley Park Hospital	IND	24	8	0.0	0.0	100.0	0	0	8
Spire Healthcare	Spire Montefiore Hospital	IND	59	23	0.0	0.0	100.0	0	0	23
Spire Healthcare	Spire Murrayfield Hospital Edinburgh	IND	433	118	0.8	0.8	98.3	1	1	116
Spire Healthcare	Spire Murrayfield Hospital Wirral	IND	67	18	0.0	0.0	100.0	0	0	18
Spire Healthcare	Spire Norwich Hospital	IND	241	93	0.0	0.0	100.0	0	0	93
Spire Healthcare	Spire Nottingham Hospital	IND	58	16	0.0	0.0	100.0	0	0	16
Spire Healthcare	Spire Portsmouth Hospital	IND	154	49	2.0	0.0	98.0	1	0	48
Spire Healthcare	Spire Regency Hospital	IND	41	14	0.0	0.0	100.0	0	0	14
Spire Healthcare	Spire South Bank Hospital	IND	145	49	0.0	0.0	100.0	0	0	49
Spire Healthcare	Spire Southampton Hospital	IND	162	59	1.7	0.0	98.3	1	0	58
Spire Healthcare	Spire St Anthony's Hospital	IND	142	46	0.0	2.2	97.8	0	1	45



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Spire Healthcare	Spire Sussex Hospital	IND	59	16	0.0	0.0	100.0	0	0	16
Spire Healthcare	Spire Tunbridge Wells Hospital	IND	24	9	0.0	0.0	100.0	0	0	9
Spire Healthcare	Spire Washington Hospital	IND	48	15	6.7	0.0	93.3	1	0	14
Spire Healthcare	Spire Wellesley Hospital	IND	113	28	0.0	0.0	100.0	0	0	28
Spire Healthcare	Spire Yale Hospital	IND	211	58	3.4	0.0	96.6	2	0	56
The London Clinic	The London Clinic	IND	172	47	2.1	0.0	97.9	1	0	46
University Hospitals of Derby and Burton NHS Foundation Trust	Royal Derby Hospital	NHS PPU	30	19	0.0	0.0	100.0	0	0	19



Table 9: Hip replacement (revision) patient reported changes in health status by provider site (1st July 2018 to 30th June 2019)

Note: Table 9 is omitted as there are no data available in this publication period.



6 Knee PROM: Oxford Knee Score

6.1 Definition

The Oxford Knee Score (OKS) is a short 12-item patient-reported PROMs used to assess function and pain with patients undergoing a total knee replacement (TKR) – both primary replacement and revision surgery. The questions relate to Activities of Daily Living and are filled in by the patient to eliminate inter-observer bias. The questionnaire is carried out by the patient twice, pre- and post-operatively in order to calculate patient outcomes post-surgery.

The score was designed and developed by researchers within the Nuffield Department of Population Health at the University of Oxford in association with surgical colleagues at the Nuffield Orthopaedic Centre and has been well validated.

The score comprises of twelve multiple choice questions relating to the patient’s experience of pain, ease of joint movement and ease of undertaking normal domestic activities. Each question is scored with the score decreasing as the reported symptoms increase. Each of the 12 questions are scored in the same way with the score decreasing as the reported symptoms increase, i.e. become worse (from four least/no symptoms to zero representing the greatest severity). The individual scores are then added together to provide a single score with 0 indicating the worst possible and 48 indicating the highest possible score. This is undertaken pre- and post-operation and the score for each is calculated. This allows the improvement, or indeed worsening, of symptoms to be quantified.

6.2 PHIN Publication of PROMs

PHIN’s initial publication of the Oxford Knee Score will comprise of the number of responses and the percentage improvement in the score.

6.3 Results

Table 10: UK rates for privately funded knee replacements – only sites who have submitted complete PROMs and APC data are included (1st July 2018 to 30th June 2019)

Procedure	Eligible Procedure	Total responses	Response rate	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved
Knee replacement (primary)	13,379	3,635	27.2	4.3	1.1	94.6
Knee replacement (revision)	546	85	15.6	7.1	1.2	91.8



Table 11 and Table 12 only contain information for provider sites where a percentage change in patient reported outcome could be calculated.

Table 11: Knee replacement (primary) patient reported changes in health status by provider site (1st July 2018 to 30th June 2019). Sites with 0 responses and sites with 7 or fewer responses are not reported in this table; a complete list of sites with suppressed and incomplete data is reported in the Excel datasheet.

Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Aspen Healthcare	Aspen - Parkside Hospital Wimbledon	IND	126	9	11.1	0.0	88.9	1	0	8
Aspen Healthcare	Aspen - The Holly Private Hospital	IND	59	10	0.0	10.0	90.0	0	1	9
BMI Healthcare	BMI Bath Clinic	IND	26	15	0.0	0.0	100.0	0	0	15
BMI Healthcare	BMI Goring Hall Hospital	IND	104	33	6.1	0.0	93.9	2	0	31
BMI Healthcare	BMI Mount Alvernia Hospital	IND	47	17	5.9	0.0	94.1	1	0	16
BMI Healthcare	BMI St Edmunds Hospital	IND	64	21	4.8	0.0	95.2	1	0	20
BMI Healthcare	BMI The Alexandra Hospital	IND	189	69	5.8	0.0	94.2	4	0	65
BMI Healthcare	BMI The Blackheath Hospital	IND	43	11	0.0	0.0	100.0	0	0	11
BMI Healthcare	BMI The Chaucer Hospital	IND	32	14	7.1	0.0	92.9	1	0	13
BMI Healthcare	BMI The Chiltern Hospital	IND	153	59	6.8	1.7	91.5	4	1	54
BMI Healthcare	BMI The Droitwich Spa Hospital	IND	59	22	4.5	0.0	95.5	1	0	21
BMI Healthcare	BMI The Duchy Hospital	IND	83	21	0.0	0.0	100.0	0	0	21



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
BMI Healthcare	BMI The Edgbaston Hospital	IND	24	9	0.0	0.0	100.0	0	0	9
BMI Healthcare	BMI The Hampshire Clinic	IND	55	18	0.0	0.0	100.0	0	0	18
BMI Healthcare	BMI The Lancaster Hospital	IND	44	20	0.0	0.0	100.0	0	0	20
BMI Healthcare	BMI The Lincoln Hospital	IND	39	14	0.0	0.0	100.0	0	0	14
BMI Healthcare	BMI The Meriden Hospital	IND	49	22	0.0	0.0	100.0	0	0	22
BMI Healthcare	BMI The Park Hospital	IND	107	24	0.0	0.0	100.0	0	0	24
BMI Healthcare	BMI The Princess Margaret Hospital	IND	85	31	6.5	3.2	90.3	2	1	28
BMI Healthcare	BMI The Priory Hospital	IND	130	30	6.7	0.0	93.3	2	0	28
BMI Healthcare	BMI The Ridgeway Hospital	IND	81	31	0.0	0.0	100.0	0	0	31
BMI Healthcare	BMI The Runnymede Hospital	IND	123	53	3.8	1.9	94.3	2	1	50
BMI Healthcare	BMI The Saxon Clinic	IND	72	26	0.0	0.0	100.0	0	0	26
BMI Healthcare	BMI The Sloane Hospital	IND	25	10	10.0	0.0	90.0	1	0	9
BMI Healthcare	BMI The Winterbourne Hospital	IND	56	24	8.3	0.0	91.7	2	0	22
BMI Healthcare	BMI Thornbury Hospital	IND	50	11	0.0	0.0	100.0	0	0	11
BMI Healthcare	BMI Three Shires Hospital	IND	81	29	0.0	3.4	96.6	0	1	28



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
BMI Healthcare	BMI Werndale Hospital	IND	103	28	0.0	0.0	100.0	0	0	28
Circle Health	Circle Bath	IND	155	16	6.3	0.0	93.8	1	0	15
HCA International	London Bridge Hospital	IND	173	19	0.0	0.0	100.0	0	0	19
HCA International	Princess Grace Hospital	IND	147	35	2.9	0.0	97.1	1	0	34
Healthcare Management Trust	Sancta Maria Hospital	IND	74	14	0.0	14.3	85.7	0	2	12
Hospital Of St John And St Elizabeth	Hospital of St John & St Elizabeth	IND	51	11	0.0	0.0	100.0	0	0	11
KIMS Hospital	KIMS Hospital	IND	107	55	3.6	1.8	94.5	2	1	52
Nuffield Health	Nuffield Health Bournemouth Hospital	IND	159	96	4.2	2.1	93.8	4	2	90
Nuffield Health	Nuffield Health Brentwood Hospital	IND	74	15	13.3	13.3	73.3	2	2	11
Nuffield Health	Nuffield Health Bristol, The Chesterfield Hospital	IND	53	21	4.8	0.0	95.2	1	0	20
Nuffield Health	Nuffield Health Cambridge Hospital	IND	86	25	4.0	0.0	96.0	1	0	24
Nuffield Health	Nuffield Health Cardiff Bay & Vale Hospitals	IND	137	45	2.2	0.0	97.8	1	0	44
Nuffield Health	Nuffield Health Cheltenham Hospital	IND	130	67	6.0	1.5	92.5	4	1	62



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Nuffield Health	Nuffield Health Chester, The Grosvenor Hospital	IND	34	11	0.0	9.1	90.9	0	1	10
Nuffield Health	Nuffield Health Chichester Hospital	IND	101	36	5.6	2.8	91.7	2	1	33
Nuffield Health	Nuffield Health Derby Hospital	IND	136	59	3.4	0.0	96.6	2	0	57
Nuffield Health	Nuffield Health Exeter Hospital	IND	234	107	3.7	2.8	93.5	4	3	100
Nuffield Health	Nuffield Health Glasgow Hospital	IND	146	39	2.6	2.6	94.9	1	1	37
Nuffield Health	Nuffield Health Guildford Hospital	IND	74	36	5.6	2.8	91.7	2	1	33
Nuffield Health	Nuffield Health Haywards Heath Hospital	IND	26	9	0.0	0.0	100.0	0	0	9
Nuffield Health	Nuffield Health Hereford Hospital	IND	73	48	4.2	0.0	95.8	2	0	46
Nuffield Health	Nuffield Health Ipswich Hospital	IND	141	73	2.7	1.4	95.9	2	1	70
Nuffield Health	Nuffield Health Leeds Hospital	IND	102	43	7.0	0.0	93.0	3	0	40
Nuffield Health	Nuffield Health Leicester Hospital	IND	55	22	4.5	0.0	95.5	1	0	21
Nuffield Health	Nuffield Health Newcastle Upon Tyne Hospital	IND	115	40	7.5	0.0	92.5	3	0	37
Nuffield Health	Nuffield Health Oxford, The Manor Hospital	IND	275	124	1.6	0.0	98.4	2	0	122
Nuffield Health	Nuffield Health Plymouth Hospital	IND	81	44	4.5	2.3	93.2	2	1	41



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Nuffield Health	Nuffield Health Shrewsbury Hospital	IND	42	22	13.6	0.0	86.4	3	0	19
Nuffield Health	Nuffield Health Taunton Hospital	IND	49	11	0.0	9.1	90.9	0	1	10
Nuffield Health	Nuffield Health Tees Hospital	IND	65	27	11.1	0.0	88.9	3	0	24
Nuffield Health	Nuffield Health Tunbridge Wells Hospital	IND	89	43	4.7	0.0	95.3	2	0	41
Nuffield Health	Nuffield Health Warwickshire Hospital	IND	156	61	3.3	1.6	95.1	2	1	58
Nuffield Health	Nuffield Health Wessex Hospital	IND	109	37	5.4	2.7	91.9	2	1	34
Nuffield Health	Nuffield Health Woking Hospital	IND	71	33	0.0	0.0	100.0	0	0	33
Nuffield Health	Nuffield Health Wolverhampton Hospital	IND	49	14	0.0	0.0	100.0	0	0	14
Nuffield Health	Nuffield Health York Hospital	IND	56	31	0.0	0.0	100.0	0	0	31
One Healthcare Group Ltd	One Ashford Hospital	IND	95	40	5.0	0.0	95.0	2	0	38
One Healthcare Group Ltd	One Hatfield Hospital	IND	37	15	0.0	0.0	100.0	0	0	15
Ramsay Health Care UK	Ashtead Hospital	IND	51	24	0.0	0.0	100.0	0	0	24
Ramsay Health Care UK	Duchy Hospital	IND	60	18	0.0	5.6	94.4	0	1	17



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Ramsay Health Care UK	Fitzwilliam Hospital	IND	81	14	14.3	0.0	85.7	2	0	12
Ramsay Health Care UK	Mount Stuart Hospital	IND	64	15	6.7	0.0	93.3	1	0	14
Ramsay Health Care UK	New Hall Hospital	IND	34	11	0.0	0.0	100.0	0	0	11
Ramsay Health Care UK	North Downs Hospital	IND	30	12	0.0	0.0	100.0	0	0	12
Ramsay Health Care UK	Oaks Hospital	IND	98	65	4.6	0.0	95.4	3	0	62
Ramsay Health Care UK	Pinehill Hospital	IND	41	11	0.0	0.0	100.0	0	0	11
Ramsay Health Care UK	Rivers Hospital	IND	99	15	0.0	0.0	100.0	0	0	15
Ramsay Health Care UK	Springfield Hospital	IND	117	35	2.9	0.0	97.1	1	0	34
Ramsay Health Care UK	Winfield Hospital	IND	80	28	7.1	0.0	92.9	2	0	26
Ramsay Health Care UK	Yorkshire Clinic	IND	40	18	5.6	0.0	94.4	1	0	17
Spire Healthcare	Spire Alexandra Hospital	IND	39	10	20.0	10.0	70.0	2	1	7
Spire Healthcare	Spire Bristol Hospital	IND	203	63	4.8	1.6	93.7	3	1	59
Spire Healthcare	Spire Bushey Hospital	IND	222	81	11.1	1.2	87.7	9	1	71
Spire Healthcare	Spire Cambridge Lea Hospital	IND	94	35	5.7	0.0	94.3	2	0	33
Spire Healthcare	Spire Cardiff Hospital	IND	104	33	3.0	0.0	97.0	1	0	32
Spire Healthcare	Spire Cheshire Hospital	IND	93	30	3.3	0.0	96.7	1	0	29



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Spire Healthcare	Spire Clare Park Hospital	IND	101	53	5.7	0.0	94.3	3	0	50
Spire Healthcare	Spire Elland Hospital	IND	37	8	0.0	0.0	100.0	0	0	8
Spire Healthcare	Spire Fylde Coast Hospital	IND	53	11	0.0	9.1	90.9	0	1	10
Spire Healthcare	Spire Gatwick Park Hospital	IND	67	22	4.5	0.0	95.5	1	0	21
Spire Healthcare	Spire Harpenden Hospital	IND	111	38	5.3	0.0	94.7	2	0	36
Spire Healthcare	Spire Hartswood Hospital	IND	97	16	0.0	0.0	100.0	0	0	16
Spire Healthcare	Spire Hull & East Riding Hospital	IND	76	21	9.5	0.0	90.5	2	0	19
Spire Healthcare	Spire Leeds Hospital	IND	48	10	10.0	0.0	90.0	1	0	9
Spire Healthcare	Spire Leicester Hospital	IND	112	57	0.0	1.8	98.2	0	1	56
Spire Healthcare	Spire Little Aston Hospital	IND	100	39	5.1	0.0	94.9	2	0	37
Spire Healthcare	Spire London East	IND	30	10	20.0	0.0	80.0	2	0	8
Spire Healthcare	Spire Manchester Hospital	IND	43	22	0.0	0.0	100.0	0	0	22
Spire Healthcare	Spire Methley Park Hospital	IND	50	16	0.0	0.0	100.0	0	0	16
Spire Healthcare	Spire Montefiore Hospital	IND	78	34	11.8	0.0	88.2	4	0	30
Spire Healthcare	Spire Murrayfield Hospital Edinburgh	IND	287	77	5.2	0.0	94.8	4	0	73
Spire Healthcare	Spire Murrayfield Hospital Wirral	IND	57	17	0.0	0.0	100.0	0	0	17



Provider	Site	Sector	Eligible Procedures	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Spire Healthcare	Spire Norwich Hospital	IND	136	63	4.8	0.0	95.2	3	0	60
Spire Healthcare	Spire Nottingham Hospital	IND	52	18	5.6	0.0	94.4	1	0	17
Spire Healthcare	Spire Portsmouth Hospital	IND	130	46	6.5	0.0	93.5	3	0	43
Spire Healthcare	Spire Regency Hospital	IND	49	12	0.0	0.0	100.0	0	0	12
Spire Healthcare	Spire South Bank Hospital	IND	111	22	4.5	4.5	90.9	1	1	20
Spire Healthcare	Spire Southampton Hospital	IND	401	96	7.3	1.0	91.7	7	1	88
Spire Healthcare	Spire St Anthony's Hospital	IND	76	23	13.0	4.3	82.6	3	1	19
Spire Healthcare	Spire Sussex Hospital	IND	51	16	0.0	6.3	93.8	0	1	15
Spire Healthcare	Spire Washington Hospital	IND	46	15	6.7	0.0	93.3	1	0	14
Spire Healthcare	Spire Wellesley Hospital	IND	93	28	10.7	0.0	89.3	3	0	25
Spire Healthcare	Spire Yale Hospital	IND	157	30	3.3	3.3	93.3	1	1	28
The London Clinic	The London Clinic	IND	76	18	5.6	0.0	94.4	1	0	17
University Hospitals of Derby and Burton NHS Foundation Trust	Royal Derby Hospital	NHS PPU	42	24	4.2	0.0	95.8	1	0	23



Table 12: Knee replacement (revision) patient reported changes in health status by provider site (1st July 2018 to 30th June 2019)

Provider	Site	Sector	Eligible Procedure	Total responses	% of patients reported worsened	% of patients reported unchanged	% of patients reported improved	Patients reported worsened	Patients reported unchanged	Patients reported improved
Nuffield Health	Nuffield Health Oxford, The Manor Hospital	IND	22	8	12.5	0.0	87.5	1	0	7



7 Appendix A – Procedure Specific PROMs Questions

7.1 Oxford Hip Score¹²

Table 13: List of questions in Oxford Hip Score with responses that can be selected by patients

During the past 4 weeks	
How would you describe the pain you usually have in your hip?	None Very mild Mild Moderate Severe
Have you been trouble by pain from your hip in bed at night?	No nights Only 1 or 2 nights Some nights Most nights Every night
Have you had any sudden, severe pain (shooting, stabbing, or spasms) from your affected hip?	No nights Only 1 or 2 nights Some nights Most nights Every night
For how long have you been able to walk before the pain in your hip becomes severe (with or without a walking aid)?	No pain for 30 minutes or more 16 to 30 minutes 5-10 minutes Around the house only Not at all

¹² The Oxford Hip Score questions are the intellectual property of Oxford University Innovation (<https://innovation.ox.ac.uk/outcome-measures/oxford-hip-score-ohs/>)



During the past 4 weeks	
Have you been able to climb a flight of stairs?	Yes, easily With little difficulty With moderate difficulty With extreme difficulty No, impossible
Have you been able to put on a pair of socks, stocking or tights?	Yes, easily With little difficulty With moderate difficulty With extreme difficulty No, impossible
After a meal (sat at a table), how painful has it been for you to stand up from a chair because of your hip?	Not at all painful Slightly painful Moderately painful Very painful Unbearable
Have you had any trouble getting in and out of a care or using public transportation because of your hip?	No trouble at all Very little trouble Moderate trouble Extreme difficulty Impossible to do
Have you had any trouble with washing and drying yourself (all over) because of your hip?	No trouble at all Very little trouble Moderate trouble Extreme difficulty Impossible to do



During the past 4 weeks	
Could you do the household shopping on your own?	Yes, easily With little difficulty With moderate difficulty With extreme difficulty No, impossible
How much has pain from your hip interfered with your usual work, including housework?	Not at all A little bit Moderately Greatly Totally



7.2 Oxford Knee Score¹³

Table 14: List of questions in Oxford Knee Score with responses that can be selected by patients

During the past 4 weeks	
How would you describe the pain you usually have in your knee?	None Very mild Mild Moderate Severe
Have you had any trouble with washing and drying yourself (all over) because of your knee?	No trouble at all Very little trouble Moderate trouble Extreme difficulty Impossible to do
Have you had any trouble getting in and out of a car or using public transportation because of your knee (with or without a stick)?	No trouble at all Very little trouble Moderate trouble Extreme difficulty Impossible to do
For how long have you been able to walk before the pain in your knee becomes severe (with or without a walking aid)?	No pain for 60 minutes or more 16 to 60 minutes 5-15 minutes Around the house only Not at all

¹³ The Oxford Knee Score questions are the intellectual property of Oxford University Innovation (<https://innovation.ox.ac.uk/outcome-measures/oxford-knee-score-oks/>)



During the past 4 weeks	
After a meal (sat at a table), how painful has it been for you to stand up from a chair because of your hip?	Not at all painful Slightly painful Moderately painful Very painful Unbearable
Have you been limping when walking, because of your knee?	Rarely/never Sometimes or just at first Often, not at first Most of the time All of the time
Could you kneel down and get up again afterwards?	Yes, easily With a little difficulty With moderate difficulty With extreme difficult No, impossible
Are you troubled by pain in your knee at night in bed?	Not at all Only one or two nights Some nights Most nights Every night
How much has pain from your hip interfered with your usual work, including housework?	Not at all A little bit Moderately Greatly Totally



During the past 4 weeks	
Have you felt that your knee might suddenly “give way” or let you down?	Rarely/never Sometimes or just at first Often, not at first Most of the time All of the time
Could you do the household shopping on your own?	Yes, easily With little difficulty With moderate difficulty With extreme difficulty No, impossible
Could you walk down a flight of stairs?	Yes, easily With little difficulty With moderate difficulty With extreme difficulty No, impossible

