

(Table). Only 23.1% of patients contributing longitudinal data had a change greater than the MID in any of the 5 PRO measures. Patients with RA (OR: 1.54, 95% CI: 1.14–2.06), biologic use (2.12, 1.43–3.15), and those with Twitter accounts (1.40, 1.08–1.82) were more likely to contribute longitudinal PRO data in the absence of regular reminders.

Conclusions: Multiple factors were associated with patients contributing longitudinal PRO data. Patients were willing to contribute longitudinal PRO data even in the absence of a change in their health state exceeding any MID. Additional efforts are needed to engage patients to contribute PRO data over time.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.5370

THU0644 PATIENT DECISIONS RELATED TO HIP AND KNEE ARTHROPLASTY AND THE FACTORS INFLUENCING THEM

W.B. Nowell¹, S. Venkatachalam², E. Harden², T. Concannon^{3,4,5}. ¹Global Healthy Living Foundation, Upper Nyack, United States; ²CreakyJoints, Global Healthy Living Foundation, Upper Nyack; ³Tufts Clinical and Translational Science Institute; ⁴Tufts University School of Medicine; ⁵The RAND Corporation, Boston, United States

Background: Patient-engaged research can improve the safety and satisfaction outcomes of hip and knee arthroplasty (joint replacement surgery).

Objectives: The objective of this study was to identify the decisions that are most important to patients when undergoing hip or knee arthroplasty and the factors they view as important in making those decisions.

Methods: Forty-nine U.S. participants were recruited from ArthritisPower Patient-Powered Research Network and CreakyJoints arthritis patient community to participate in structured one-hour discussions held via webinar during January to April 2016 to understand patients' experiences with joint replacement. Patients described decisions that were most important to them and the factors they used to make those decisions. Discussions were transcribed and coded to identify themes; patient decisions and factors were identified and categorized and co-occurrence of decisions and factors was tabulated. Demographic and procedure-related characteristics were captured.

Results: Eight decisions emerged that were influenced by at least ten factors (Table). The most important decisions involved whether to have surgery, selection of surgery date, surgeon, facility, implant device, and ancillary health care professionals (HCPs) and services. Factors included current situation, expectations of having or not having surgery, professional and word-of-mouth familiarity with surgeon/HCP, procedure, services and device, and perceived value. Patients' current situation and health status and their expectations of surgery were most commonly used to make decisions about whether and when to have surgery. Patients' trust of and communication with doctors was the most commonly factor used when deciding on arthroplasty surgeon.

Table 1: Arthroplasty Decisions Important to Patients and the Most Common Factors Influencing Them

Decisions Important to Patients	Most Common Factors Influencing Decisions
Surgery: Whether to have partial or total hip/knee joint replacement surgery (arthroplasty)	Current life situation / health status (44%), Expectations of surgery (11%), Information provided to patient by doctor/HCP (11%), Alternatives to surgery (11%)
Timing: When to have surgery	Current life situation and health status (38%), Expectations of surgery (19%), Alternatives to surgery (19%)
Surgeon: Which surgeon will perform surgery	Trust and communication with surgeon (45%), Perceived value of surgeon's expertise (19%), Expectations of surgery (16%), Information accessed by patient (10%)
Facility: Where surgery will be performed (e.g., location, specific hospital or medical center)	Information provided to patient by doctor/HCP (28%), Trust and communication with HCP (18%), Firsthand familiarity with facility (18%), Expectations of surgery (18%), Information accessed by patient (9%), Perceived value of facility expertise (9%)
Device: Which implant device will be installed during surgery	Expectations of surgery (39%), Information provided to patient by doctor/HCP (18%), Perceived value of device (16%), Trust and communication with HCP (11%)
Approach: Specific approach to surgery (e.g., anterior vs. posterior, bilateral joint replacement)	Expectations of surgery (45%), Trust and communication with surgeon (42%), Firsthand familiarity with other HCPs (18%)
Other HCPs: Who/which other health care professionals (HCPs) besides the surgeon will be involved in care during and after surgery	Expectations of surgery (30%), Trust and communication with HCP (20%), Current life situation / health status (20%), Perceived value of / familiarity with other HCPs (20%)
Other Services: What other services will be necessary before, during or after surgery	Expectations of surgery (71%), Trust and communication with HCP (14%), Current life situation / health status (14%)

Conclusions: Arthroplasty patients are concerned about a variety of decisions. Patient-centered research should maximally address questions of importance to patients and this study is a first step in identifying and prioritizing topics that matter most to patients and the information that patients currently use to make joint replacement decisions.

Acknowledgements: This project was funded through a Patient-Centered Outcomes Research Institute (PCORI) Eugene Washington PCORI Engagement Award (2228-GHLF).

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.5291

THU0645 OPTIMIZING THE EFFICIENCY OF PATIENT DATA CAPTURE USING SMARTPHONE TECHNOLOGY: EVALUATION OF THE CORRELATION BETWEEN PROMIS INSTRUMENTS FOR PRO DATA CAPTURE

W.B. Nowell¹, H. Yun², J. Beaumont³, S. Yang⁴, J. Willig⁴, S. Ginsberg⁵, K.V. Clayton⁵, S. Hazei⁵, C. Wiedmeyer⁵, J.R. Curtis⁴. ¹Global Healthy Living Foundation, Upper Nyack; ²University of Alabama at Birmingham School of Public Health, Birmingham; ³Northwestern University Feinberg School of Medicine, Evanston; ⁴University of Alabama at Birmingham, Birmingham; ⁵CreakyJoints, Global Healthy Living Foundation, Upper Nyack, United States

Background: Patient-reported outcomes (PROs) are key to enabling the comprehensive assessment of patient-centered benefits in comparative effectiveness research (CER). However, the relationships between different PROMIS instruments and condition-specific disease activity measures in diseases such as rheumatoid arthritis (RA) have not been well studied.

Objectives: The objectives of this analysis were to evaluate the longitudinal relationship between different PROMIS instruments and the RAPID3, a measure of self-reported patient disease activity.

Methods: Four NIH PROMIS instruments (Pain Interference, Physical Function, Sleep Disturbance and Fatigue) and the RAPID3 were administered to participants in the PCORI-funded ArthritisPower patient registry. After descriptive analytics, we estimated multiple correlations between PROMIS instruments and the RAPID3. For each PRO instrument and with each assessment used as the unit of measure, we calculated the R-squared using mixed models to evaluate how the PROs were related to each other. Using Pain Interference as an example, we evaluated R-squared for each model with additional PROs and demographic factors including enrollment age, sex, race, Twitter account, region, and visit times.

Results: A total of 1,590 unique participants who answered the survey one or more times were included in the analysis, with mean (SD) age of 49 (12) years. The mean score for Pain Interference was 63.7 (SD: 7.0), Physical Function 37.5 (8.7), Sleep Disturbance 58.4 (8.7), Fatigue 63.8 (8.8), and RAPID3 15.5 (5.7). Most PROMIS instruments were low to moderately correlated (around 0.2) with each other and the RAPID3. Using Pain Interference as an example, R-squared measures revealed a high total variance explained (R²=49%) between Pain Interference and Physical Function (Table); those involving Pain Interference, Physical Function, Fatigue, Sleep Disturbance and RAPID3 also revealed a higher variance contribution with these additional PROs (66%). Additional adjustment for demographic factors added little variance explanation (1.4%).

Table: Total variance explained by predictors (R-Squared) with PROMIS Pain Interference as the dependent variable

Models with PROMIS Pain Interference as the dependent variable	Pain variance that could not be explained by predictors	Total variance that could be explained by predictors (R-Squared)
Baseline model: no predictors	42.6	-
Model with predictors: PROMIS Physical Function	22.6	46.9%
Model with predictors: PROMIS Physical Function, Sleep Disturbance	20.7	51.6%
Model with predictors: PROMIS Physical Function, Sleep Disturbance, Fatigue	18.7	56.1%
Model with predictors: PROMIS Physical Function, Sleep Disturbance, Fatigue, RAPID3	15.3	64.1%
Model with predictors: PROMIS Physical Function, Sleep Disturbance, Fatigue, RAPID3 and demographic predictors (age, gender, race, region, etc.)	15.1	64.7%
Model with only demographic predictors: age, gender, race, region, etc.	42.3	0.7%

Conclusions: PROMIS Pain Interference, Physical Function, Sleep Disturbance, Fatigue instruments and RAPID3 are reasonably correlated to each other. Age, gender, race and other demographic factors play little role in explaining variance in PROs. These results suggest potential efficiencies in using some measures to predict or impute the values for other measures and to optimize the frequency of patient data collection using at-home technologies including Smartphone Apps like ArthritisPower.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.5329