



USING PATIENT-REPORTED OUTCOMES MEASURES IN CLINICAL DECISION SUPPORT AND CARE PLANNING

Kevin J. Bozic, M.D., MBA, FAOA, FAAOS¹

Executive Director, Musculoskeletal Institute
Chair, Department of Surgery and Perioperative Care
Professor, Department of Surgery and Perioperative Care
Dell Medical School, The University of Texas at Austin

SUMMARY

The Dell Medical School at the University of Texas at Austin is successfully using PROMs with predictive analytics to guide personalized care discussions between physicians and patients in their multi-disciplinary musculoskeletal institute. Dr. Kevin Bozic is the inaugural chair of surgery and perioperative care at Dell Medical School and one of the pioneers in PROMs collection. After helping create and chair the California Joint Replacement Registry when he was at the University of California, San Francisco School of Medicine, Dr. Bozic now leads the effort at Dell Medical School and serves within the governing body of the American Joint Replacement Registry.

“I believe measuring outcomes from the patient's perspective is probably the most important tool clinicians can use to deliver greater value to patients.”

UT Health Austin, Dell Medical School's clinical practice, in conjunction with their technology partner (OM1, Boston, MA) developed Joint Insights™, a predictive analytic tool that uses

¹ This case study was a result of an interview conducted with Dr. Kevin Bozic in May, 2020

algorithms that incorporate patient demographic and PROMs data to produce a care outcomes report that is utilized as a discussion guide in a shared decision making conversation with patients who suffer from knee arthritis and are considering treatment options, including knee replacement. The tool assesses the patient’s likelihood of achieving a minimum clinically important difference in pain, functional status, and quality of life following knee replacement. The tool is being beta-tested at UT Health Austin and in other health systems across the country. The process at UT Health Austin is unique because they are not only measuring outcomes of treatment, but are also using the tool to augment clinical triage and decision support.



GOVERNANCE

A governing body at UT Health Austin decides which measures are universally captured for every patient in their multi-specialty clinics, as well as which condition-specific measures will be measured within specific patient populations (e.g., patients with arthritis or back pain). Individual clinics are not permitted to customize the tools and must go through a series of approvals to modify any part of the workflow related to PROMs collection. The governance body also decides technical aspects such as which vendors will be used and how the tool is integrated and displayed in the electronic health record (EHR).



MEASURES USED

The musculoskeletal team uses PROMIS Global-10, PHQ-2/9, and GAD 2/7 to obtain baseline quality of life and mental health assessment (depression and anxiety) for all patients.

PROMIS Global-10 is a gauge of overall health-related quality of life. It was designed to be a “bottom-line” assessment of a patient’s health that can be used for a wide variety of diseases. The ten survey items assess general domains of health and functioning, including overall physical health, mental health, social health, pain, fatigue, and perceived quality of life, generating two summary scores: a Global Physical Health Score and a Global Mental Health Score.²

PHQ-2/9 is a major depressive disorder questionnaire used to screen for major depression and grade severity of symptoms in general medical and mental health settings. Through subsequent repeat administrations, it also allows clinicians to assess treatment response and remission of

² <https://www.codetechnology.com/promis-global-10/>

depression.³ GAD-2/7 is a similar questionnaire used to screen for generalized anxiety disorder.⁴ Mental health is assessed in every patient regardless of condition, as all UT Health Austin providers recognize the influence of mental health on physical health, and the need to take both into consideration when formulating a treatment plan for a particular patient, regardless of the condition for which they are seeking treatment.

The KOOS, JR is a condition specific questionnaire for knee injury and osteoarthritis in the context of joint replacement that assesses patients' stiffness, pain, functions and activities of daily living of the affected knee. Originally derived from the 42-item KOOS, the KOOS, JR provides an overall summary for "knee health."⁵



Patients are asked to complete the PROMIS Global-10 and the PHQ-2/9 and GAD-2/7 surveys via electronic platform 2 weeks prior to their appointment. This is successful approximately 25% of the time. If the patient has not filled out the surveys prior to their visit, they are asked to do so when they arrive for their appointments so the clinical team has the information in the EHR before they see the patient. UT Health Austin is near 100% completion with patients answering their PROMs before a practitioner sees the patient so it can be used during the initial consultation.

The data is fed into UT Health Austin's unique Joint Insights™ predictive analytic tool, which assesses a patient's likelihood of achieving a minimum clinically important difference in pain, functional status, and quality of life with knee replacement surgery for the treatment of knee osteoarthritis. That assessment is ultimately presented to the patient in the form of a shared decision-making tool which the care team and the patient use to help determine the appropriate care plan. Shared decision making tools are particularly useful in helping patients with preference-sensitive musculoskeletal conditions—such as back pain and arthritis—decide, for example, if surgery is likely to help their condition.

“The goal is to measure outcomes from the patient perspective for every patient throughout the course of their treatment.”

³ <https://patient.info/doctor/patient-health-questionnaire-phq-9>

⁴ <https://www.hiv.uw.edu/page/mental-health-screening/gad-2>

⁵ <https://pubmed.ncbi.nlm.nih.gov/26926773/>



CHALLENGES AND BARRIERS

- Regular and routine implementation of the program by care teams
- Patient engagement with filling out the surveys before the visit and in follow up
- Clinician engagement in using PROMs in shared decision making discussions with patients
- Ancillary IT problems that create logistical challenges for recording, logging and processing the data.
- Investment in human capital, time and financial resources



STRATEGIES FOR SUCCESS

USE IN CLINICAL DECISION SUPPORT: To get the maximum benefit out of PROMs, a program should be implemented as far upstream in the care process as possible and followed throughout the course of a patient’s treatment. In the case of patients with musculoskeletal conditions, this means using PROMs in clinical decision support to help the patient decide if surgery, for example, is the right choice based on their likelihood of achieving their minimum clinically important difference in pain, functional status, and quality of life. Using PROMs in hospital settings can be helpful, but without the integration into upstream clinical decision making, PROMs will not deliver their full potential.

“The key to success for long-term implementation is to use the information in clinical practice and shared clinical decision making.”

DEMONSTRATE THE VALUE PROPOSITION: The value proposition needs to be clear to obtain full buy-in by the clinical and administrative teams, as well as patients. The strongest value proposition UT Health Austin has found is in shared clinical decision making. If the measurements are only used for compliance or reimbursement incentives, they will be undervalued and underused. In UT Health Austin’s experience, the more patients and providers understand the value and importance of the report, the more participation they will have in the program. UT Health Austin is in the process of publishing the results of their randomized control trial comparing PROMs-driven shared decision making with usual care, which demonstrates the value patients see in the process when they experience how PROMs, in collaboration with their care team, are used in deciding a course of treatment.

SEAMLESS INTEGRATION INTO PATIENT JOURNEY AND CLINICAL WORKFLOW: UT Health Austin is working to seamlessly integrate PROMs and shared decision making tools into the clinical

workflow and patient experience so it becomes as routine as taking vital signs like weight and blood pressure and just as important in determining the best course of treatment as physical exams and imaging. To obtain longevity and sustainability, PROMs must be viewed as essential—not a separate function, or “extra thing to do.” It must be incorporated into the EHR seamlessly. It should be as easy to access as a standard lab value or vital sign so it can be used regularly.



THE FINAL WORD

Using PROMs to both measure outcomes and make clinical decisions assists UT Health Austin in delivering high value, patient-centered care. PROMs gives UT Health Austin the ability to assess a patient’s physical health, mental wellness and quality of life while understanding how that might influence a patient’s response to certain treatments. The PROMs system enables the practitioner and patient to make decisions that are most likely to lead to outcomes consistent with the patient’s preferences and values.