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Integrating Patient-reported Symptoms in the Arthritis Care Record

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BACKGROUND

For knee and hip arthritis patients, self-assessed pain and physical function are central to treatment decisions as well as to clinical and outcomes research.

Both paper and electronic health records capture the clinician's summary of the patient symptoms.

Brief patient-reported arthritis symptom assessments have been broadly tested and validated in clinical research, yet have not been integrated into routine office practice.

The introduction of electronic health records offers an opportunity for patient direct-entry and real-time scores of standardized symptom assessments to be included in the routine health record.

PURPOSE

To both support patient-centered health care in arthritis care and to track aggregate outcomes for longitudinal research, a comprehensive arthritis care record system was designed and implemented with the goal of integrating standardized symptom assessments and clinical metrics in an individual patient health record.

- *Trend pain and function metrics over time,*
- *Provide real-time data to patients and clinicians to inform treatment decisions, and,*
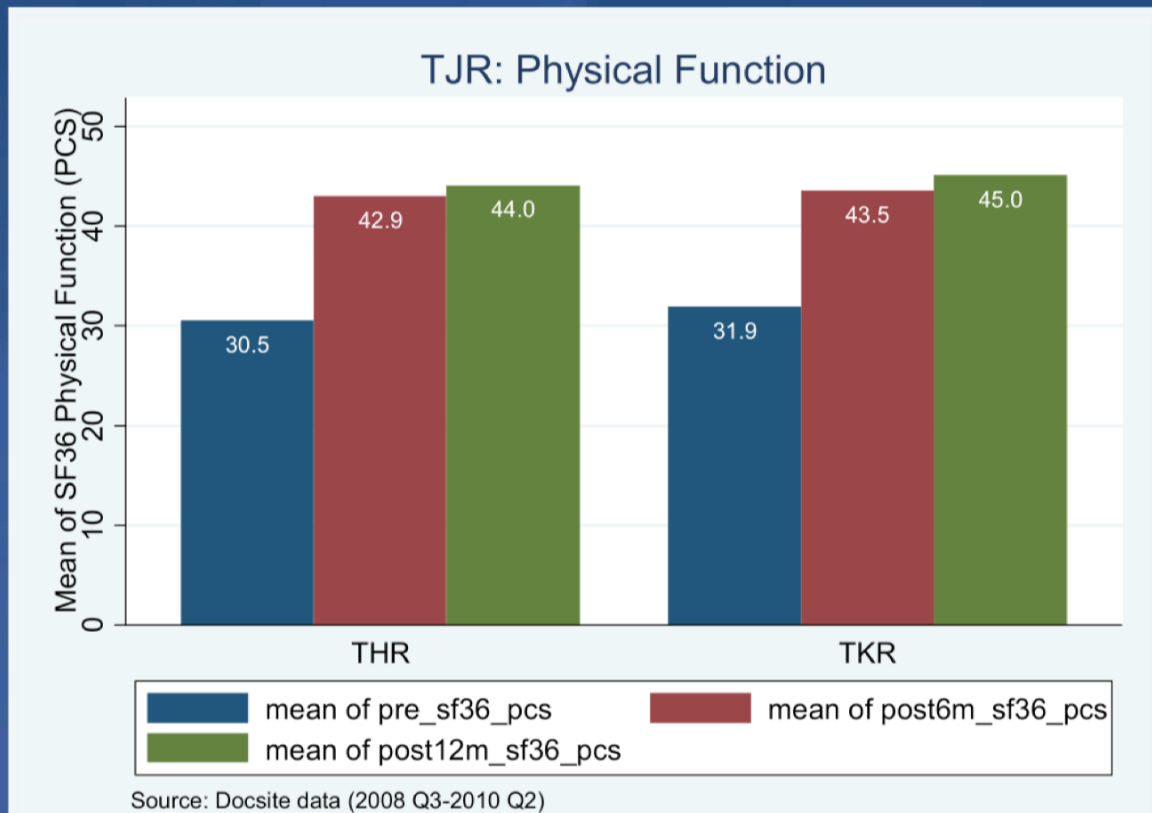- *Track aggregate outcomes for quality assessment and research.*

STUDY DESIGN

The data collection and management system was implemented in the Arthritis and Total Joint Center (TJC) ambulatory clinic at UMass Medical Center.

The host system allows development and delivery of custom web-based surveys and serves as a database archive system with interfaces to hospital information services (HIS) and a data storage location.

The survey data are divided into 21 tables representing clinical categories (e.g., pain, function, clinical diagnoses) with 259 measures, and 66 among them are used for QA reports.

The patient-entered survey data are merged with the clinical data in a structured format, providing comprehensive longitudinal records for individual patients. In addition, real-time symptom trend reports are produced using query, search and analysis functions.

Figure 1. System structure

SYSTEM USE

The core system was established in 2007, fully operational in 2008, and by June 2010, over 1,000,000 clinical measures had been collected from over 30,000 patients visiting the Arthritis and Total Joint Center (TJC). Among patient measures, around 400,000 measures (28,500 surveys) are related to patient self-assessed symptoms.

Source: Docsite data (2008 Q3-2010 Q2)

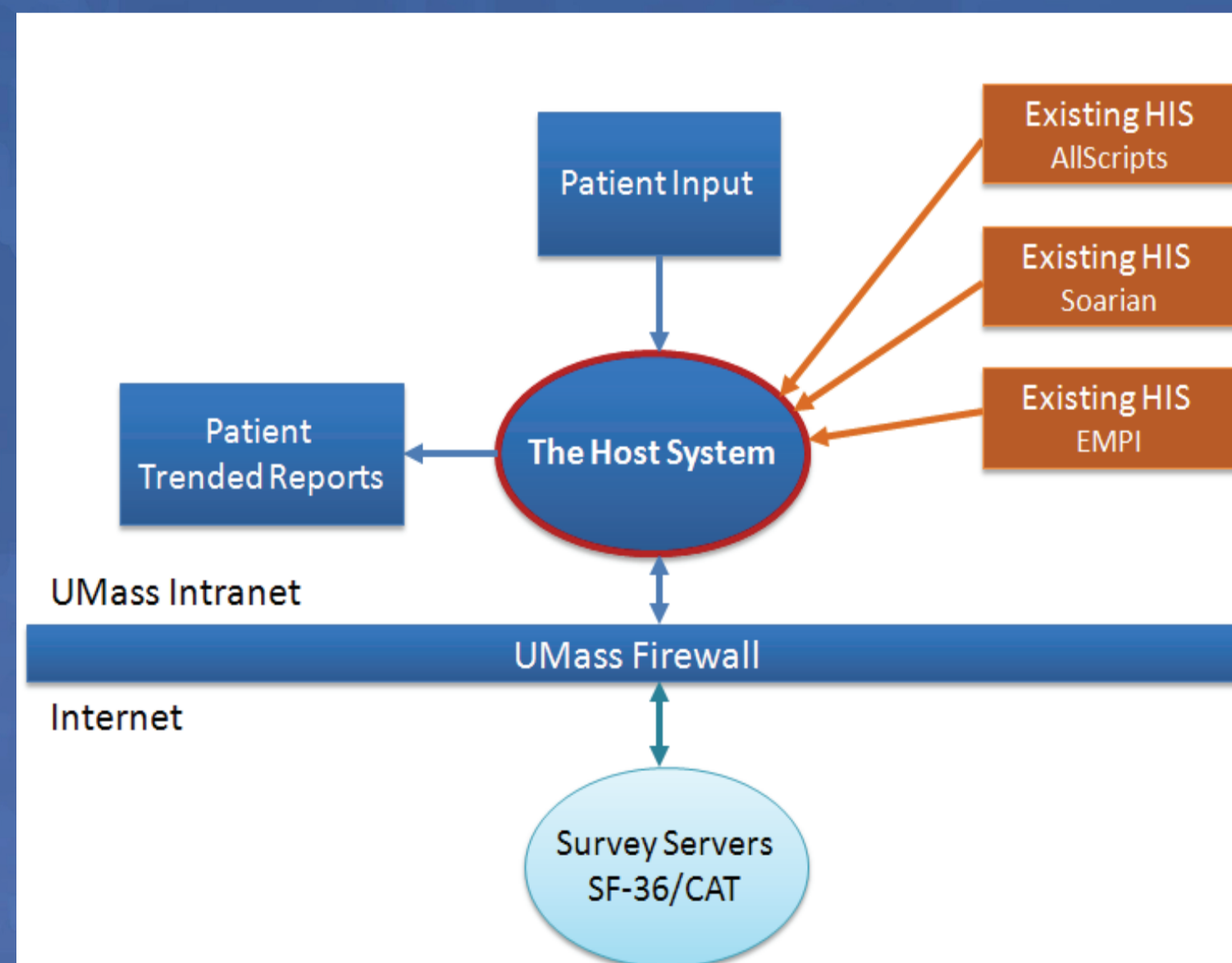**Figure 2.** An example of a quality monitoring report of function of almost 800 TJR patients

CONCLUSIONS

The system implemented in our clinic is a successful model for collecting and integrating patient symptom data with clinical data as part of a patient health record.

This template is the foundation for a newly funded national research registry for comparative effectiveness in total joint replacement surgery (FORCE-TJR).