Integrating Patient Reported Outcomes (PRO) into Practice:
University of Rochester Medical Center
URMC

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“Of the 1958 quality indicators in the National Quality Measures Clearinghouse...only 139 (7%) are actual outcomes and only 32 (<2%) are patient reported outcomes”
UR PRO Collection Platform

CORE IDEALS

1. Collection for clinical use to improve health of patients and community
2. Only validated, standard of care PROs added to platform to allow for Research and Quality use
3. Minimize Provider Burden
4. Minimize Patient Burden
5. Minimize Disruption to Clinic Flow
6. Minimize Cost
7. Easy reporting for use with other data
8. Provide feedback/data for continuous improvement
Developed a Homegrown Platform to Collect PRO Data:

**URVoice**

**Validated Outcomes In Clinical Experience**

- Incorporates biopsychosocial assessments
- Domain specific not disease specific
- Produces validate data quickly
  - Item Response Theory
  - Short Forms
- Uses Computer Adapted Technology

Core Instruments:
- Pain Interference
- Physical Function
- Depression

Oncology:
- Distress Score and Trigger
- Fatigue

Future:
- Self-efficacy
Putting it all together

Predictive Modeling

Example: Factors influencing the need for rehab stay after TJA (PROMIS PF scores, co-morbidities, pharma, prior surgery etc.)

Scheduling

HL7

PROMIS PRO
Package Prep CORE
Modeling
Interactive Visualization
Integration

Registration

HTML

Epic Hyperspace

Epic Interconnect Server

Epic Chronicles
Individual Patient Level

https://www.youtube.com/embed/H1EWU0RJYL0
Patient-Reported Outcomes

PROMIS Adult Physical Function

Higher values are better

- Within Normal Limits
- Mild Impairment
- Moderate Impairment
- Severe Impairment

T-Score

Jul '17 - Jan '18 - Jul '18 - Jan '19
UR VOICE: Collections

**Total, May 2019**
- 2.2 million scores
- 240k unique patients

**Cumulative Scores Recorded**
- Start, Feb 2015
- Date
- 0, 250,000, 500,000, 750,000, 1,000,000, 1,250,000, 1,500,000, 1,750,000, 2,000,000, 2,250,000, 2,500,000

**PROMIS Adult Domains**
- 1.9 million scores (84%)

**Non-PROMIS**
- 194,496 scores (9%)

**Physical Function**

**Pain Interference**

**Depression**

**PROMIS Pediatric/Parent Proxy Domains**
- 170,601 scores (7%)

**44 seconds**
Median time to complete assessment

**4 items**
Median items answered per assessment

**98.2% completed**
Using the Data

• Started out as a clinical care tool in Ortho
• Now mined for quality projects and research studies
• Linking PROMIS to other related instruments
• Dermatology started in 2017
  • Added Mood Instrument
• Oncology started in 2018
  • Added Distress Tool and Social Work Trigger in EPIC
  • 2020: Adding Self-efficacy
Changes in the works for URVoice

• Improved Visualizations with categorial guidelines
  - Aid in clinical interpretation

• Delivery Windows
  - Choose which domains and when to collect

• Improved Program administration tools
  - Assess and monitor collection/administration metrics of PROs

• Clinician focused analytic resources
  - Help with Clinical questions geared toward improving Clinical Care and Quality
    • Additional Data analysts; small grant funding, statistical support
Resources

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