

PROMIS[®] in Orthopedics

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‘What We Know about PRO’ ...this presentation highlights work of Judy Baumhauer MD MPH and colleagues at UR...

**If you want to know
how your patients are doing.....
Just ask them**

Validated Outcomes In Clinical Experience

UR VOICE



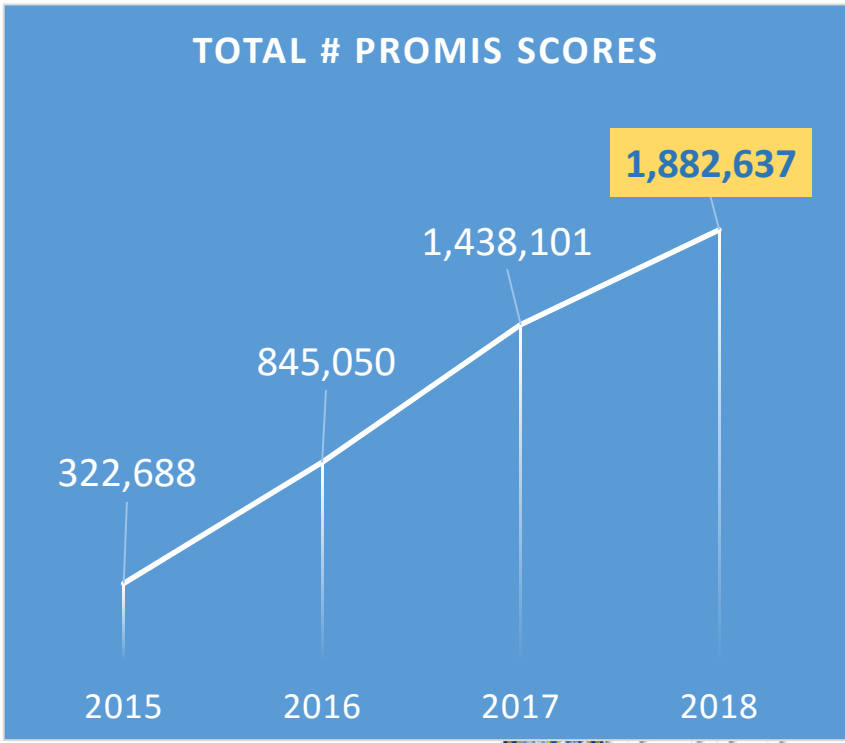
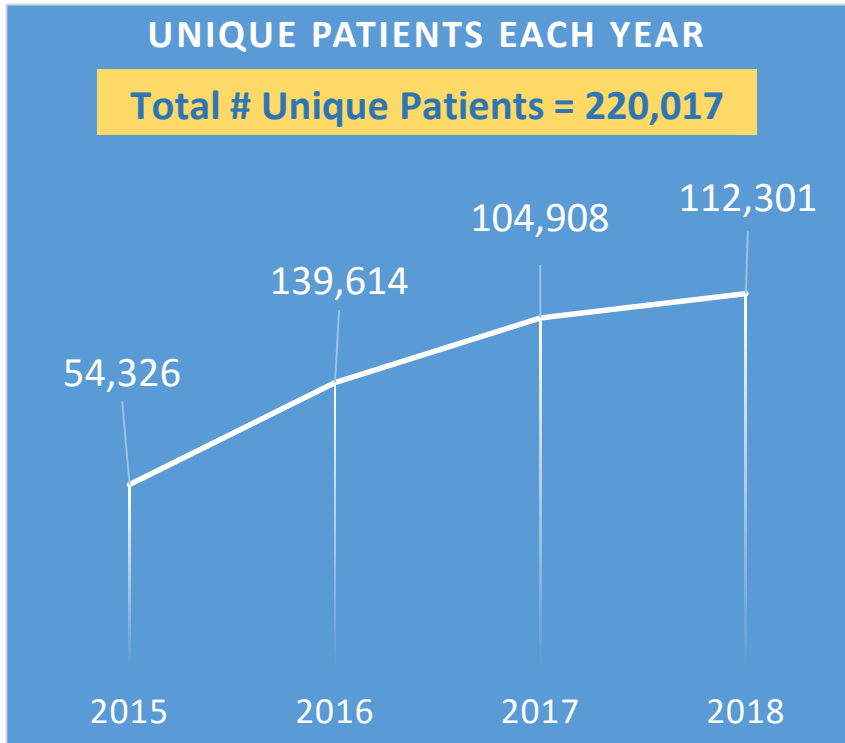
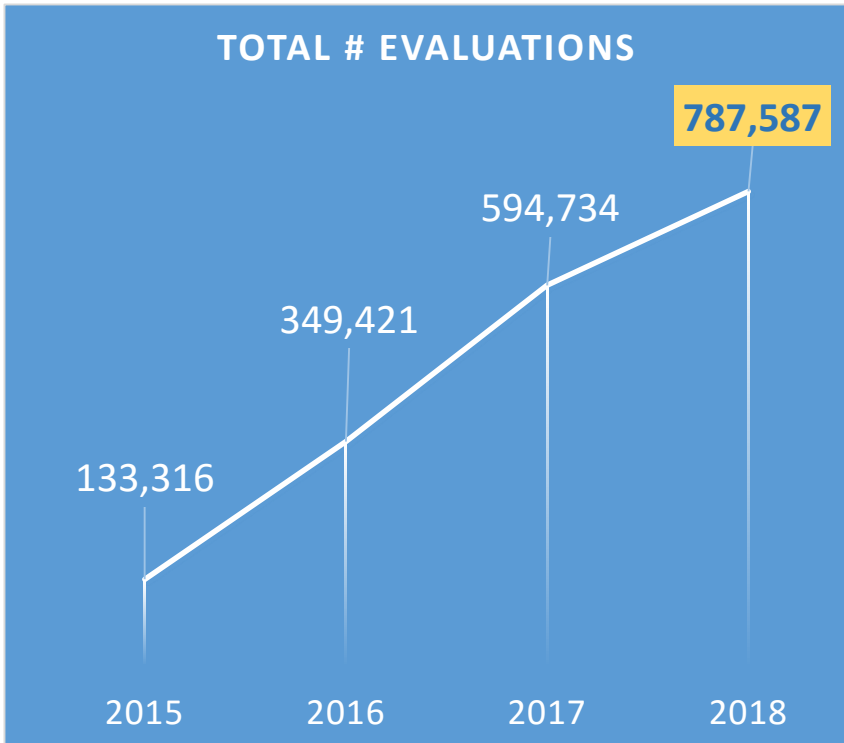
Every Patient, Every Clinic, Every Visit

UR VOICE:

- Validated Outcomes in the Clinical Experience – Homegrown Platform

PROMIS:

- Patient Reported Outcome Measurement Information System
- NIH Initiative- investment of \$100 million
- Domain Specific, Not Disease Specific-PROMIS assesses domains that allow the enterprise of UR medicine to have common assessment values on the same patient for comparisons over time.



URMC #1 in the WORLD in collection of PROMIS data





Flexibility and immediate availability to share insights into the patient experience.



Provides self-reported (for adults and pediatrics) and parent-reported (for children) measures of global, emotional, physical, and social health.

[LEARN MORE](#)



Provides self-reported (for adults and pediatrics) measures of physical, mental, and social health for individuals with neurological conditions.

[LEARN MORE](#)



Self-reported measures (for adults) to assess the physical, social, and emotional impact for individuals with sickle cell disease.

[LEARN MORE](#)



Multidimensional examiner-administered, self-reported, and parent-reported measures to assess cognitive, sensory, motor, and emotional function.

[LEARN MORE](#)



PROMIS[®]

Dynamic Tools to Measure Health Outcomes from the Patient Perspective



About PROMIS[®]

Measures

Science

Software

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Sample Questions

See samples of actual questions taken from selected physical health, mental health, and social health short forms.

[More ...](#)



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Know yourself? PROMIS[®] Computer Adaptive Test instantly reports on up to 9 diff moods like anger, fatigue. <http://t.co/v9LY4ANH>

Oct 29 (2 days ago)

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promisNIH PROMIS - NIH

#Researchers, #Clinicians..what is your preferred format to access research/pubs on Twitter? Presentation, PDF, or Video?

Oct 25 (6 days ago)

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Researchers

Provides efficient, reliable, and valid assessments of adult and child (pediatric) self-reported health

- ▶ [PROMIS Instruments Selected References](#)
- ▶ [PROMIS In Research](#)



Clinicians

Provides data about the effect of therapy that cannot be found in traditional clinical measures

- ▶ [PROMIS for Clinicians](#)
- ▶ [Select Publications](#)
- ▶ [Computer Adaptive Test \(CAT\) Demonstration](#)



Patients

Measures what you are able to do and how you feel

- ▶ [More on PROMIS](#)
- ▶ [What Patient Reported Outcomes \(PROs\) are](#)
- ▶ [PROMIS Measures](#)



Bio

Psycho

Social

PROMIS Profile
Domains

Physical Health

Physical Function

Pain Intensity

Pain Interference

Fatigue

Sleep Disturbance

Mental Health

Depression

Anxiety

Social Health

Ability to
Participate in Social
Roles & Activities

PROMIS Additional
Domains

Pain Behavior

Pain Quality

Sleep-related
Impairment

Sexual Function

Gastro-Intestinal
Symptoms

Dyspnea

Anger

Cognitive Function

Alcohol Use,
Consequences, &
Expectancies

Psychosocial Illness
Impact

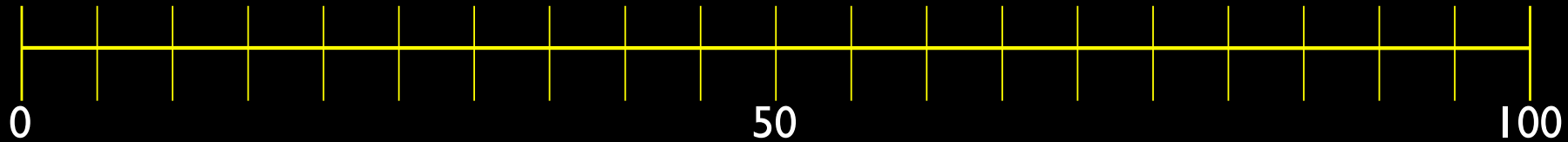
Self-efficacy

Satisfaction with
Social Roles &
Activities

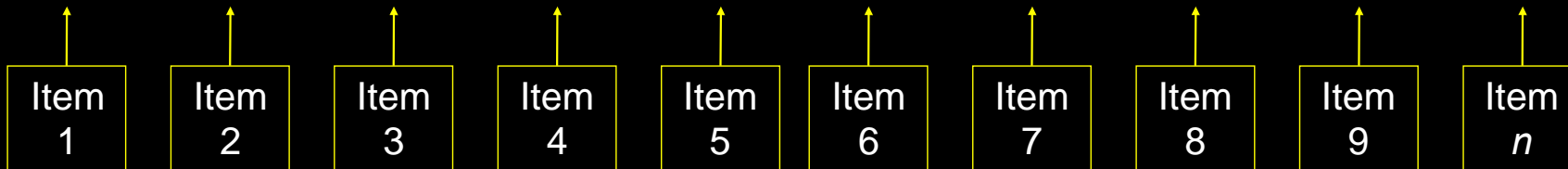
Social Support

Social Isolation

Companionship



Physical Functioning Item Bank



Are you able to get in and out of bed?

Are you able to stand without losing your balance for 1 minute?

Are you able to walk from one room to another?

Are you able to walk a block on flat ground?

Are you able to run or jog for two miles?

Are you able to run five miles?

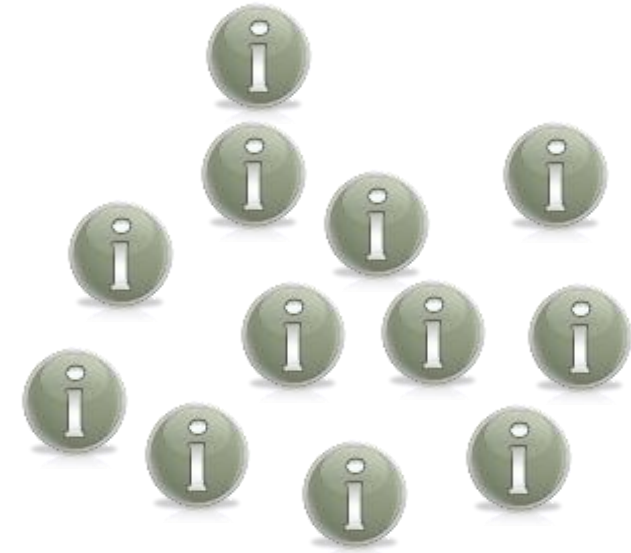


CAT Starts with an Item Bank

- Item bank is a large collection of items measuring a single domain
- Covers the whole range of the domain
- Items are “calibrated” (difficulty and discrimination)
- Any and all items can be used to provide a score on that domain



Physical Function





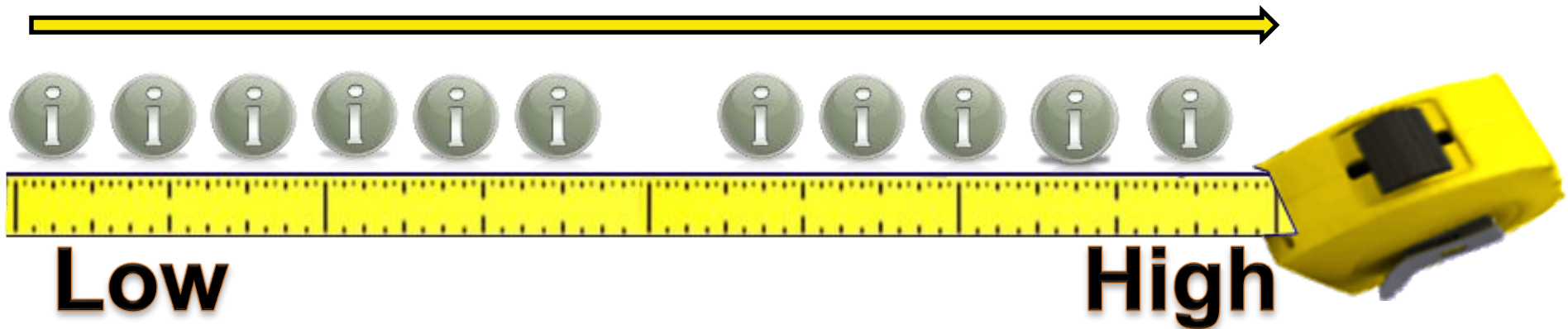
Low

High

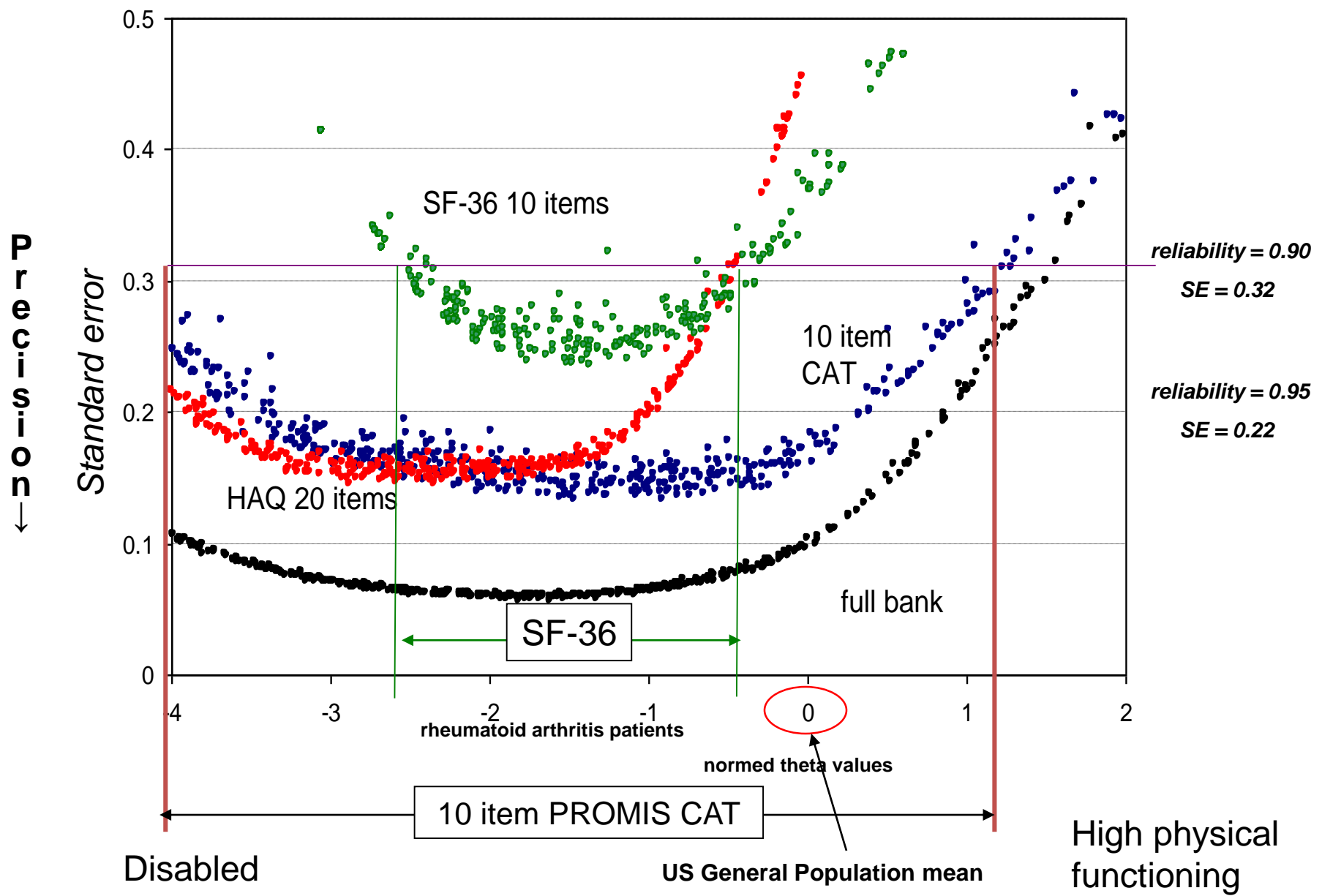




$$\ln L(u|\theta) = \sum [u_i \ln P_i + (1-u_i) \ln Q_i]$$

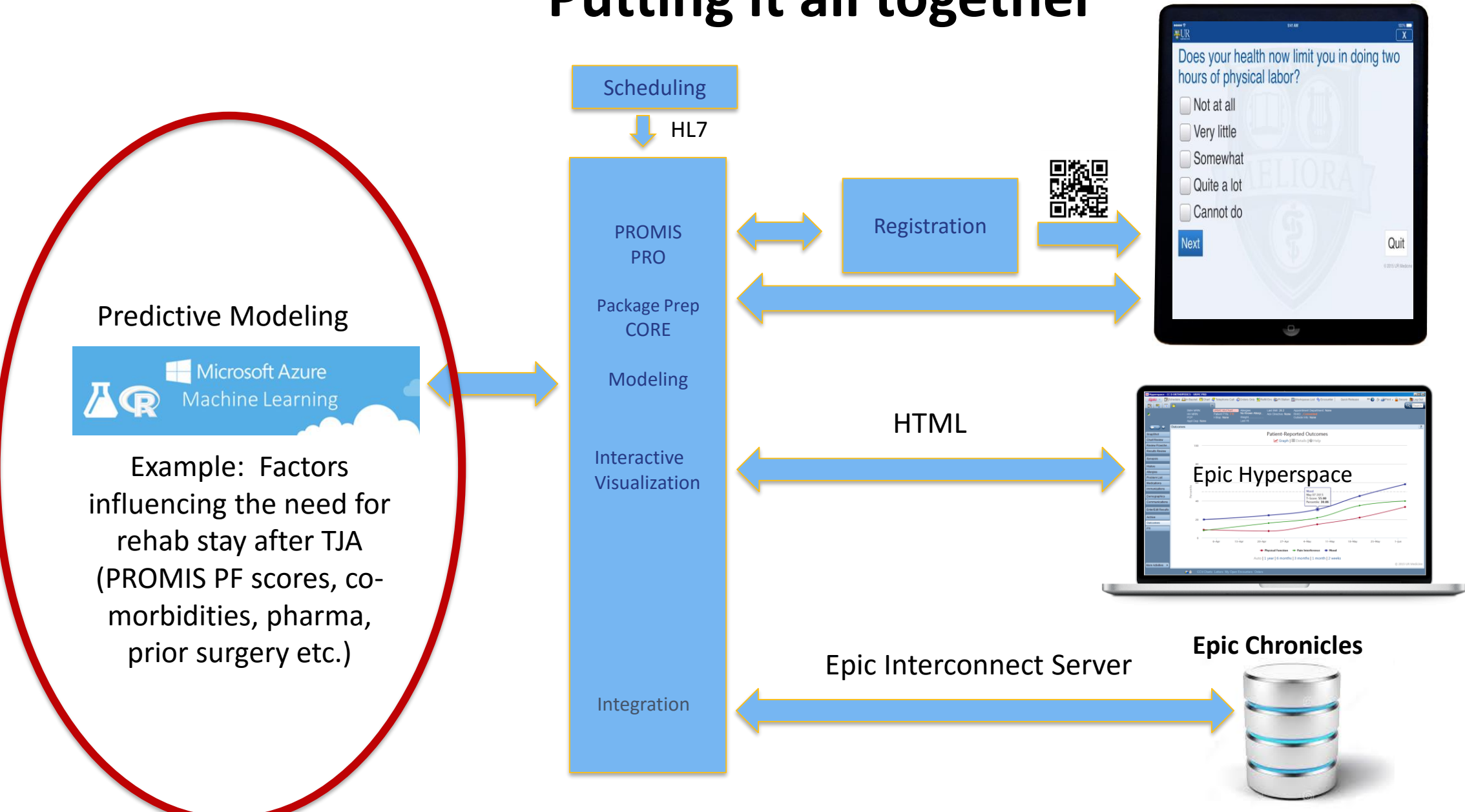


Physical Functioning: Improved Precision vs. Legacy



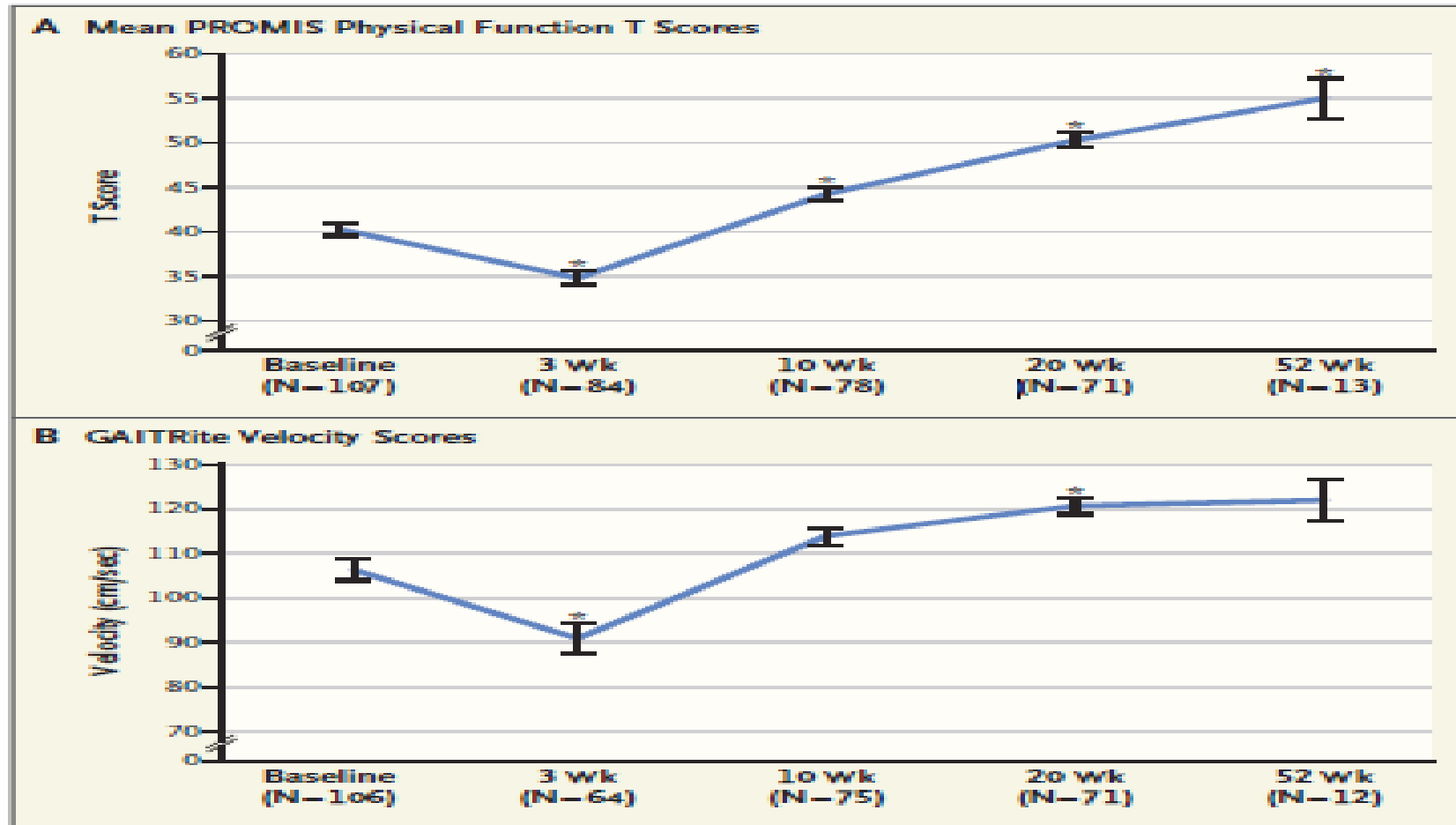
UR VOICE: Validated Outcomes In Clinical Experience

Putting it all together



Patient-Reported Outcomes — Are They Living Up to Their Potential?

Judith F. Baumhauer, M.D., M.P.H.

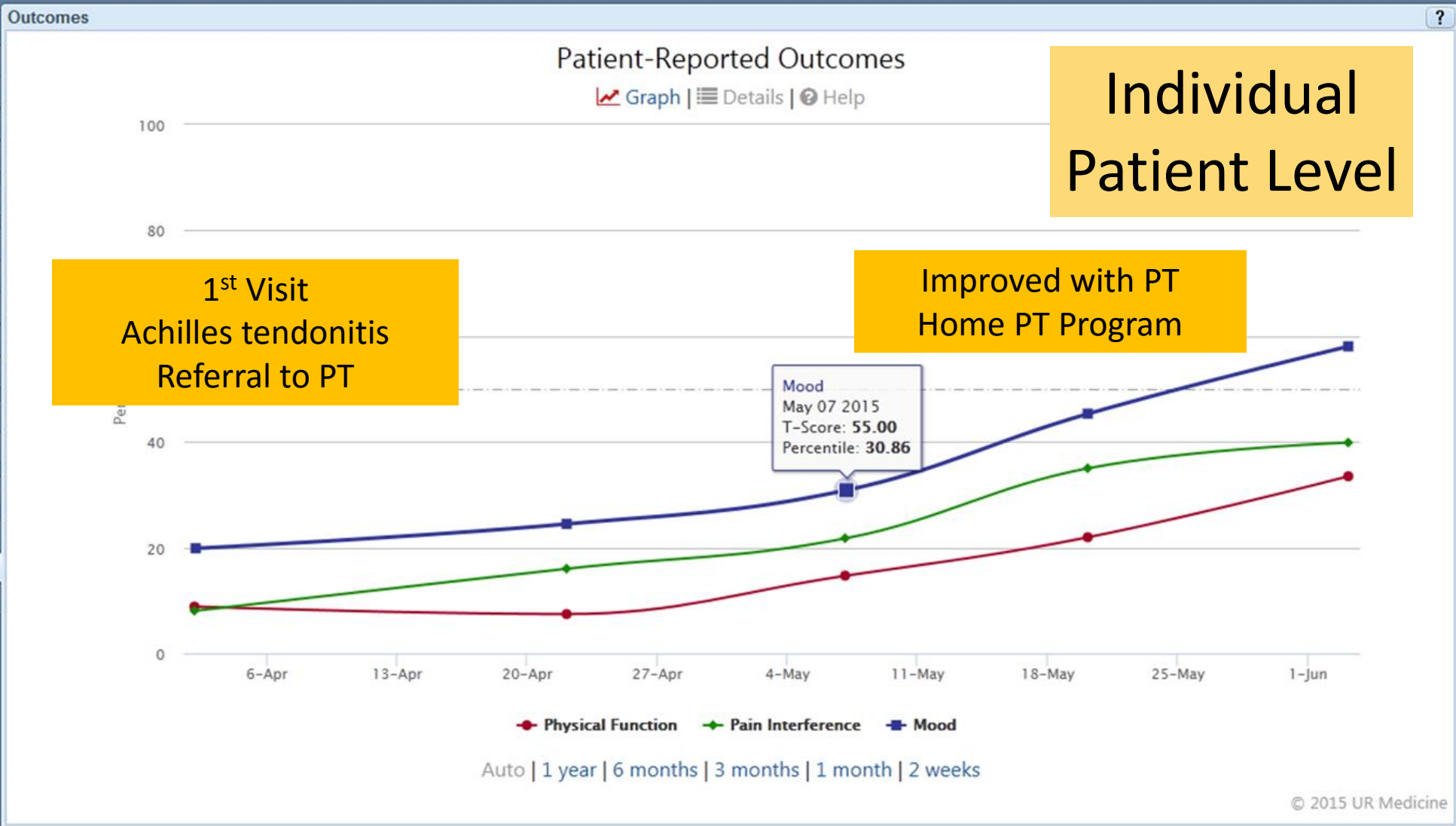


Physical Function Assessments after Knee-Ligament Reconstruction.

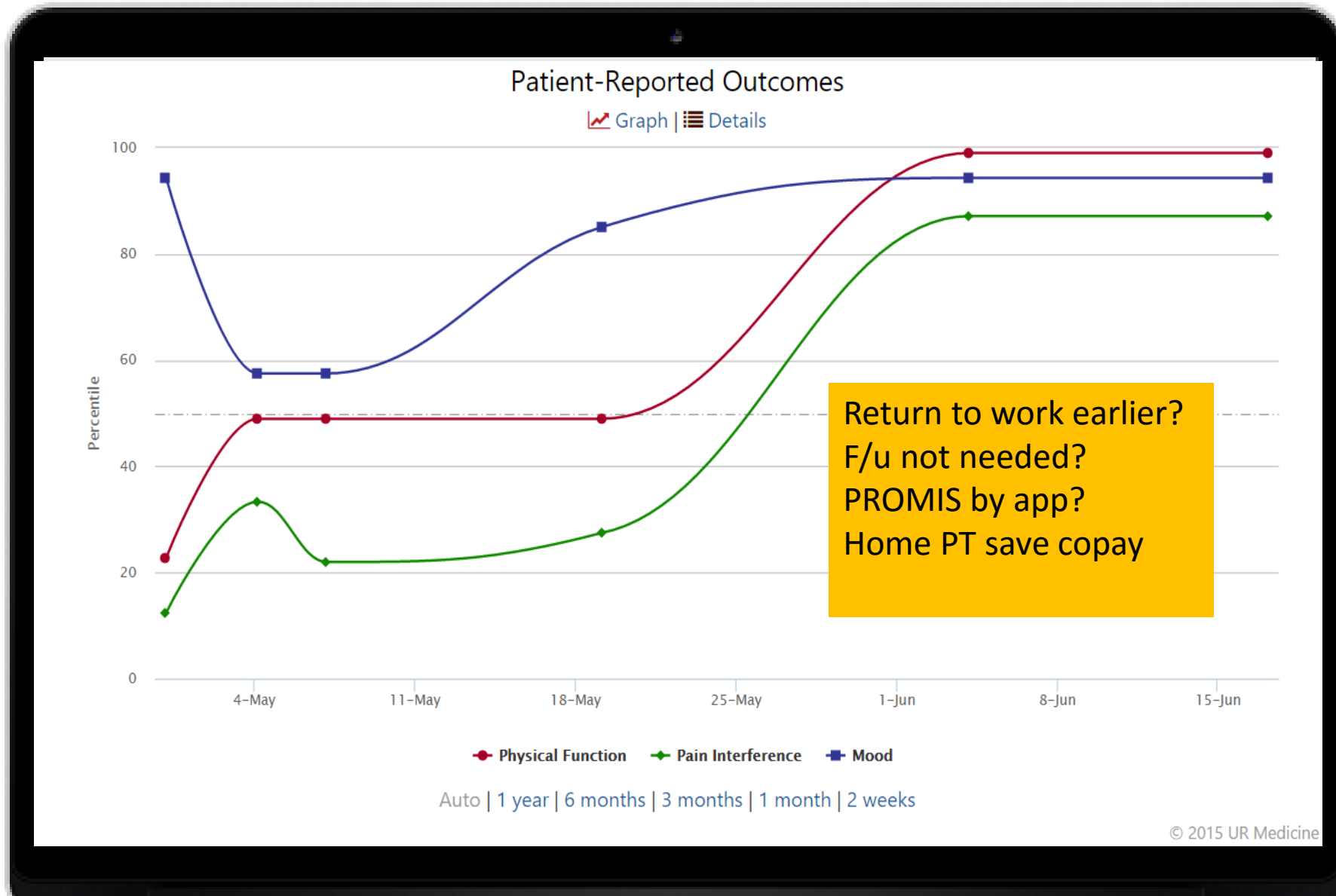
Mean PROMIS physical function T scores (Panel A) and GAITRite velocity scores (Panel B) were obtained at baseline and over 1 year. Error bars indicate the standard error, and asterisks a significant difference from baseline ($P < 0.001$). Modified from Papuga et al.²

SMH MRN: URM MyChart... Allergies: No Known Allergi... Last BMI: 28.2 Appointment Department: None
HH MRN: Patient FYIs: FYI Adv Directive: None RHIO: Consented
PCP: I-Stop: None Weight: Last Ht: Outside Info: None
Appt Dep: None

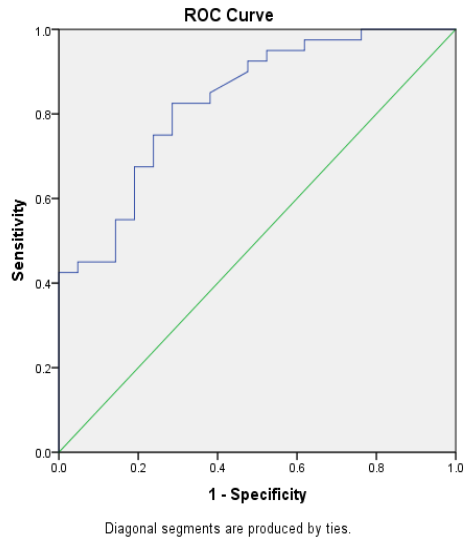
- SnapShot
- Chart Review
- Review Flowshe...
- Results Review
- Synopsis
- History
- Allergies
- Problem List
- Medications
- Immunizations
- Demographics
- Communications
- Enter/Edit Results
- Archive
- Outcomes
- FYI
- More Activities



PRO Index

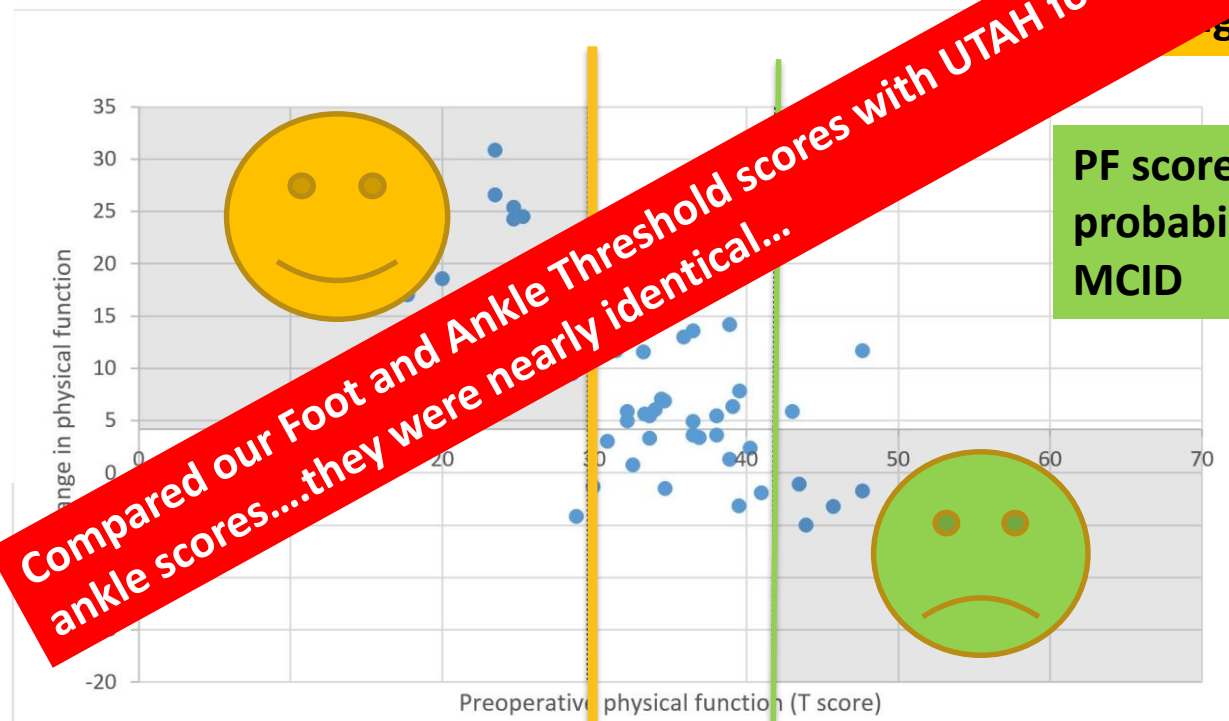


PROMIS PF Foot and Ankle



- ROC curves
 - Preop PF predictive of MCID
 - Used 95% Specificity

Figure 2: Scatter plot of preoperative PROMIS physical function versus change in physical function



Compared our Foot and Ankle Threshold scores with UTAH foot and ankle scores....they were nearly identical...

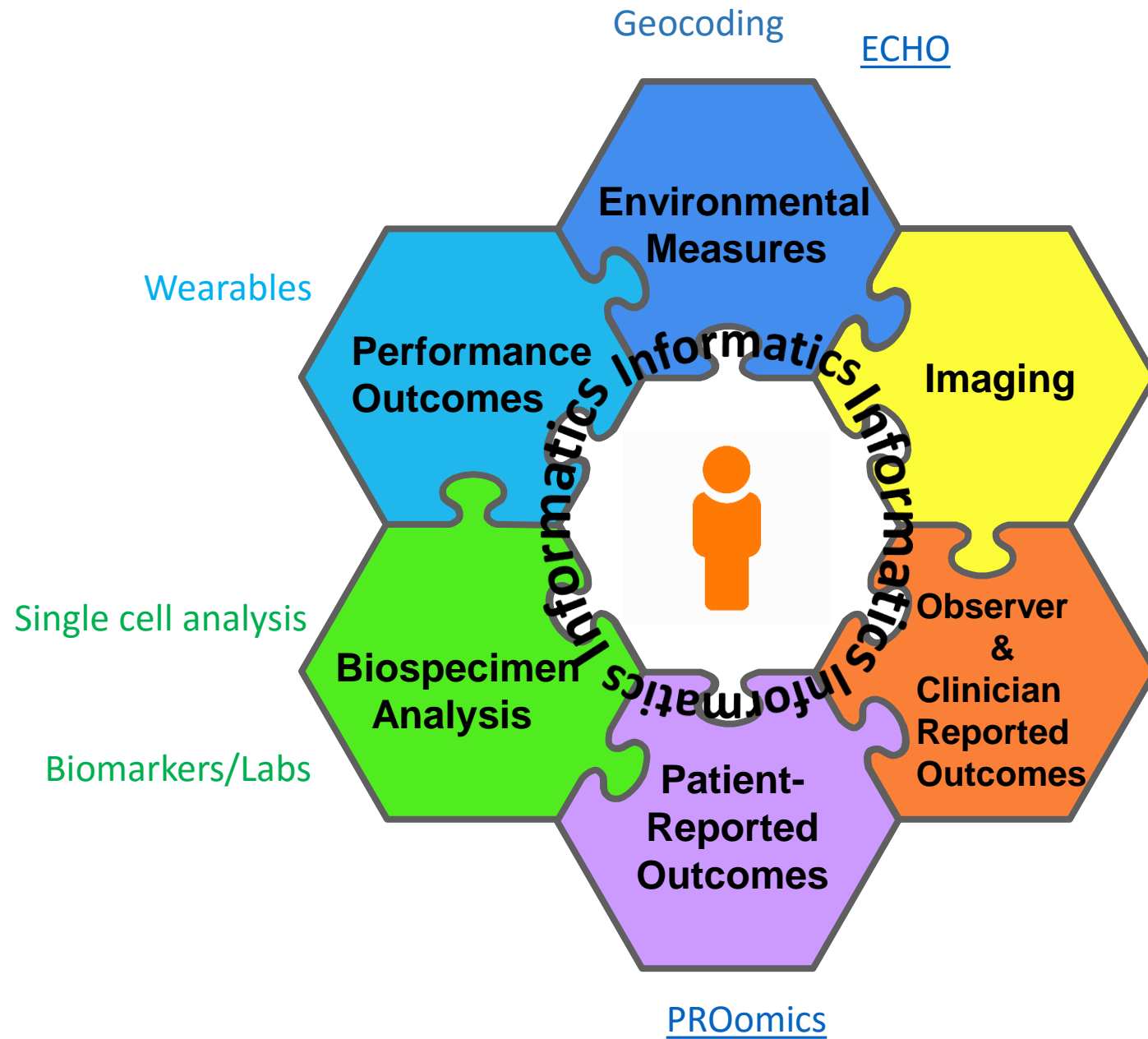
PF score < 30.7 had an 83% probability of failing to meet MCID;

PF score > 42 had a 94% probability of failing to meet MCID

Foot Ankle Int. 2016 Sep;37(9):911-8. doi: 10.1177/1071100716665113. Epub 2016 Aug 16.

Preoperative PROMIS Scores Predict Postoperative Success in Foot and Ankle Patients.

Ho B¹, Houck JR², Flemister AS¹, Ketz J¹, Oh I¹, DiGiovanni BF¹, Baumhauer JF³.



Judy Baumhauer's PROMIS video

<https://youtu.be/gP3rvlqPjZ4>