Patient-Reported Outcome Measures
For Research, Reimbursement, and at the Point of Service

For

The California Orthopedic Association

By
Thom Walsh PhD
Founder & Chief Strategy Officer

CARDINAL POINT
HEALTHCARE SOLUTIONS
You drive. We navigate.
# Disclosures

<table>
<thead>
<tr>
<th>Company</th>
<th>Financial Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cardinal Point Healthcare Solutions</strong></td>
<td>Salary</td>
</tr>
<tr>
<td><strong>The Dartmouth Institute for Health Policy and Clinical Practice</strong></td>
<td>Salary</td>
</tr>
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</table>
Bottom Line Up Front

- Patient-reported outcomes are reliable & valid tools that can help quickly identify and measure what matters most to patients.

- Used in aggregate for:
  - Research and quality improvement
  - Measuring the quality of care for reimbursement

- Can be used at the individual level & at the point of service to:
  - Improve each patient’s care
Creating Reliable & Valid
Patient-Reported Outcome Measures

<table>
<thead>
<tr>
<th>Items</th>
<th>Scales</th>
<th>Summary Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>3a. Vigorous Activities</td>
<td>Physical Functioning (PF)</td>
<td></td>
</tr>
<tr>
<td>3b. Moderate Activities</td>
<td>Role-Physical (RP)</td>
<td></td>
</tr>
<tr>
<td>3c. Lift, Carry Groceries</td>
<td>Bodily Pain (BP)</td>
<td></td>
</tr>
<tr>
<td>3d. Climb Several Flights</td>
<td>General Health (GH)*</td>
<td></td>
</tr>
<tr>
<td>3e. Climb One Flight</td>
<td>Vitality (VT)*</td>
<td></td>
</tr>
<tr>
<td>3f. Bend, Kneel</td>
<td>Social Functioning (SF)*</td>
<td></td>
</tr>
<tr>
<td>3g. Walk Mile</td>
<td>Role-Emotional (RE)</td>
<td></td>
</tr>
<tr>
<td>3h. Walk Several Blocks</td>
<td>Mental Health (MH)</td>
<td></td>
</tr>
<tr>
<td>3i. Walk One Block</td>
<td>Mental Health (MH)</td>
<td></td>
</tr>
<tr>
<td>3j. Bathe, Dress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4a. Cut Down Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4b. Accomplished Less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4c. Limited in Kind</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4d. Had Difficulty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Pain-Magnitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Pain-Interferer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. EVGFP Rating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11a. Sick Easier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11b. As Healthy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11c. Health To Get Worse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11d. Health Excellent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9a. Pep/Life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9e. Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9g. Worn Out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9i. Tired</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Social-Extent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Social-Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5a. Cut Down Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5b. Accomplished Less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5c. Not Careful</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9b. Nervous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9c. Down in Dumps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9d. Peaceful</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9f. Blue/Sad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6h. Happy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Items marked with an asterisk indicate scales that are included in the Physical Health domain.
What Matters Most to Patients

• Pain
• Perceived health status
• Ability to fulfill “roles”
• Sense of well-being
• Do my healthcare providers know “me?”
• Do the members of my healthcare team work well together?
### Table 3. Example of Treatment Effects on Quality of Life Outcomes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean Change From Baseline</th>
<th>Treatment Effect (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Medical</td>
<td>Surgical</td>
<td></td>
</tr>
<tr>
<td><strong>Treatment effects on quality of life outcomes at month 24</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QOLIE-89^c</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>4.0</td>
<td>12.6</td>
<td>8.5 (-1.0 to 18.1)</td>
</tr>
<tr>
<td><strong>Mental health</strong></td>
<td>1.9</td>
<td>11.1</td>
<td>9.2 (0.6 to 17.9)</td>
</tr>
<tr>
<td><strong>Epilepsy targeted</strong></td>
<td>5.8</td>
<td>15.1</td>
<td>9.3 (0.2 to 18.3)</td>
</tr>
<tr>
<td>Cognitive</td>
<td>0.4</td>
<td>7.8</td>
<td>7.4 (-1.0 to 15.9)</td>
</tr>
<tr>
<td><strong>Physical health</strong></td>
<td>4.7</td>
<td>8.4</td>
<td>3.7 (-3.6 to 11.0)</td>
</tr>
<tr>
<td>QOLIE-89^d</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>2.8</td>
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<td>0.1</td>
<td>7.8</td>
<td>7.8 (0.9 to 14.7)</td>
</tr>
<tr>
<td><strong>Physical health</strong></td>
<td>4.1</td>
<td>8.5</td>
<td>4.4 (-.9 to 10.7)</td>
</tr>
</tbody>
</table>
Spine Patient Outcomes Research Trial

Physical Function

Age-Sex Norm = 89

Global $P = .71$

Surgical vs Non Operative Treatment for Lumbar Disk Herniation. JAMA. 2006;296(20):2441-2450
PROMs in QI

Overall Results

Hospital Enrollment

A primary focus in 2016 was to increase the number of hospitals that participate in the Registry. This took

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PROM Types in Joint Replacement QI

Chart 1 - Improvement rate (*unadjusted scores*) by procedure and measure

<table>
<thead>
<tr>
<th>Procedure</th>
<th>EQ-5D Index</th>
<th>EQ-VAS</th>
<th>Oxford Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hip Replacement</td>
<td>87.9%</td>
<td>64.2%</td>
<td>95.8%</td>
</tr>
<tr>
<td>Knee Replacement</td>
<td>87.9%</td>
<td>79.7%</td>
<td>92.3%</td>
</tr>
</tbody>
</table>

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PROM Types
General Health & Condition Specific
Key Principles of Payment Reform

In the future, CMS will empower patients to have a voice in model design, to seek care from high value providers (via performance metrics, financial incentives, and other means), and to become active participants in shared decision making.
Commercial Payers Follow Medicare

Aetna / Coventry
Percent of Total Spend on Contracts with Quality/Outcome/Efficiency Benchmarks, Bundles, or Shared Savings

2015: 28%
2020: 75%
Quality Payment Program

Modernizing Medicare to provide better care and smarter spending for a healthier America.

What's the Quality Payment Program?
Quality Measures

Instructions

1. Review and select measures that best fit your practice.

2. Add up to six measures from the list below, including one outcome measure. You can use the search and filters to help find the measures that meet your needs or specialty.

3. If an outcome measure is not available that is applicable to your specialty or practice, choose another high priority measure.

4. Download a CSV file of the measures you have selected for your records.

Groups in APMs qualifying for special scoring standards under MIPS, such as Shared Savings Program Track 1 or the Oncology Care Model: Report quality measures through your APM. You do not need to do anything additional for the MIPS quality category.

Note: This tool is only for informational and estimation purposes. You can't use it to submit or attest to measures or activities.

Select Measures

Search All by keyword

Filter by:

High Priority Measure • Data Submission Method • Specialty Measure Set

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Select Measures

Showing 21 Measures

- Care Plan
- Closing the Referral Loop: Receipt of Specialist Report
- Documentation of Current Medications in the Medical Record
- Functional Status Assessment for Total Hip Replacement
- Functional Status Assessment for Total Knee Replacement

Add All Measures

Selected Measures

0 Measures Added

Once you select measures, they will appear here.

Disclaimer

*MIPS eligible clinicians or groups are expected to report on applicable measures. “Applicable” is defined as measures relevant to a particular MIPS eligible clinician’s services or care rendered. MIPS eligible clinicians can refer to the measures specifications to verify which measures are applicable. Not all measures
Select Measures

Showing 21 Measures

- Care Plan
- Closing the Referral Loop: Receipt of Specialist Report
- Documentation of Current Medications in the Medical Record
- Functional Status Assessment for Total Hip Replacement
- Functional Status Assessment for Total Knee Replacement
- Osteoarthritis (OA): Function and Pain Assessment

Add All Measures
How To Use Aggregated Reports

• System to submit, retrieve, organize & display
• Process for review, selecting target, and planning change*
• Ability to manage and measure change*
  – Overcoming resistance & sustaining progress
  – Able to reduce the role of chance, bias, and confounding factors

Note*: These items qualify as MIPS advancing care information and improvement activities
PROMs at the Point of Service
Patient 1

**HISTORY**

Current Problem Areas: arm above the elbow, arm below the elbow, wrist and/or hand, neck, upper back, lower back, hip, leg above the knee and leg below the knee

Had spine-related problems for: more than 3 years

Most recent episode began: 6/6/94

Previous Providers: a chiropractor, an orthopaedic surgeon and a physical therapist

Previous Treatments: medication, physical/occupational therapy, home exercise, surgery and manipulation (e.g. chiropractic)

Daily Physical Requirements prior to problems: not strenuous at all

Reason for visit: for an evaluation requested by someone else

**FUNCTIONAL STATUS**

<table>
<thead>
<tr>
<th>Pain and Daily Activities</th>
<th>Activity</th>
<th>Impact of Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dressing</td>
<td>4 - substantial</td>
<td></td>
</tr>
<tr>
<td>Lifting</td>
<td>5 - severe</td>
<td></td>
</tr>
<tr>
<td>Walking</td>
<td>5 - severe</td>
<td></td>
</tr>
<tr>
<td>Sitting</td>
<td>5 - severe</td>
<td></td>
</tr>
<tr>
<td>Standing</td>
<td>2 - slight</td>
<td></td>
</tr>
<tr>
<td>Sleeping</td>
<td>6 - extreme</td>
<td></td>
</tr>
<tr>
<td>Social Life</td>
<td>6 - extreme</td>
<td></td>
</tr>
<tr>
<td>Traveling</td>
<td>5 - severe</td>
<td></td>
</tr>
<tr>
<td>Sex Life</td>
<td>4 - substantial</td>
<td></td>
</tr>
</tbody>
</table>

**SF-36**

<table>
<thead>
<tr>
<th>Bodily Pain</th>
<th>General Health</th>
<th>Mental Health</th>
<th>Physical Functioning</th>
<th>Role Emotional</th>
<th>Role Physical</th>
<th>Social Functioning</th>
<th>Vitality</th>
</tr>
</thead>
</table>

Scores and Norms

**Work**

Work Situation: unemployed

Avg Work Hours before problem does not apply

Stopped Work? 6/6/94

Back to Work?

Avg Work Hours/Week Now does not apply

When Back?
Patient 2
Patient 2

**HISTORY**

Current Problem Areas: arm below the elbow, lower back and ankle and/or foot

Had spine-related problems for: more than 3 years

Most recent episode began:

Previous Providers: a chiropractor, a general practitioner and a physician's assistant

Previous Treatments: physical/occupational therapy and home exercise

Daily Physical Requirements prior to problems: not strenuous at all

Reason for visit: because another doctor recommended it

**FUNCTIONAL STATUS**

<table>
<thead>
<tr>
<th>Pain and Daily Activity</th>
<th>Impact of Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Impact of pain</td>
</tr>
<tr>
<td>Dressing</td>
<td>2 - slight</td>
</tr>
<tr>
<td>Lifting</td>
<td>2 - slight</td>
</tr>
<tr>
<td>Walking</td>
<td>4 - substantial</td>
</tr>
<tr>
<td>Sitting</td>
<td>1 - none</td>
</tr>
<tr>
<td>Standing</td>
<td>2 - slight</td>
</tr>
<tr>
<td>Sleeping</td>
<td>1 - none</td>
</tr>
<tr>
<td>Social life</td>
<td>4 - substantial</td>
</tr>
<tr>
<td>Traveling</td>
<td>4 - substantial</td>
</tr>
<tr>
<td>Sex life</td>
<td>1 - none</td>
</tr>
</tbody>
</table>

**SF-36**

- Bodily Pain
- General Health
- Mental Health
- Physical Functioning
- Role Emotional
- Role Physical
- Social Functioning
- Vitality

**Work**

Situation: currently working

Avg Work Hours before problem: 40 or more

Avg Work Hours/Week Now: 40 or more

Stopped Work? Back to Work? When Back?

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Patient 3

HISTORY

Current Problem Areas: shoulder, arm above the elbow, arm below the elbow, wrist and/or hand, head, neck, upper back, lower back and buttocks

Had spine-related problems for: more than 3 years
Most recent episode began: 1/1/97
Previous Providers: a general practitioner and a physical therapist
Previous Treatments: physical/occupational therapy and home exercise
Daily Physical Requirements prior to problems: moderately strenuous
Reason for visit: for an evaluation requested by someone else

FUNCTIONAL STATUS

Pain and Daily Activities

Activity: Impact of pain
Dressing: 1 - none
Lifting: 2 - slight
Walking: 2 - slight
Sitting: 3 - moderate
Standing: 1 - none
Sleeping: 6 - extreme
Social life: 2 - slight
Traveling: 2 - slight
Sex life: 1 - none

SF-36

Scores vs. Norms

Bodily Pain
General Health
Mental Health
Physical Functioning
Role Emotional
Role Physical
Social Functioning
Vitality

Work

Work Situation: casually working
Avg Work Hours before problem 40 or more
Avg Work Hours/Week before 40 or more
Stopped Work?
Back to Work?
When Back?
Patient 3

**HISTORY**

Current Problem Areas: shoulder, arm above the elbow, arm below the elbow, wrist and/or hand, head, neck, upper back, lower back and buttocks

Had spine-related problems for: more than 3 years

Most recent episode began: 1/1/97

Previous Providers: a general practitioner and a physical therapist

Previous Treatments: physical/occupational therapy and home exercise

Daily Physical Requirements prior to problems: moderately strenuous

Reason for visit: for an evaluation requested by someone else

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<thead>
<tr>
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<tbody>
<tr>
<td>Activity:</td>
<td></td>
</tr>
<tr>
<td>Dressing:</td>
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</tr>
<tr>
<td>Lifting:</td>
<td>2 - slight</td>
</tr>
<tr>
<td>Walking:</td>
<td>2 - slight</td>
</tr>
<tr>
<td>Sitting:</td>
<td>3 - moderate</td>
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<td>2 - slight</td>
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<tr>
<td>Sex life:</td>
<td>1 - none</td>
</tr>
</tbody>
</table>

**SF-36**

Scores vs. Norms

- Bodily Pain
- General Health
- Mental Health
- Physical Functioning
- Role Emotional
- Role Physical
- Social Functioning
- Vitality

Work Situation: currently working

 Avg Work Hours before problem: 40 or more
 Avg Work Hours/Week Now: 40 or more
 Stopped Work?
 Back to Work?
 When Back?
Old

Completes PROs

Patient Arrives with a Need

Nurse Escorts to Room

Provider Encounter

Mental Component Summary (MCS)< 35 = BMED

Leaves with Need Met?

9.4%
New

Completes PROs

Mental Component Summary (MCS) < 35 = BMED

Patient Arrives with a Need

BMED Specialist Escorts to Room

Provider Encounter

Leaves with Need Met

83.8%
Current Work Group Example

“I feel overwhelmed by everything I need to do to take care of myself”
How Overwhelmed

Zero is not overwhelmed at all

Ten is completely overwhelmed
“Thanks for filling this out. It helps us treat you better. Tell me more about this score...
“How confident are you about this new plan? Zero is no confidence and ten is complete confidence.”
“A four. That’s not bad, but I’d like to see it higher. What would you need to get to eight or higher?”
Patient Reported Outcome Measures

The use of Patient Reported Outcomes (PROs) in clinical research is well documented. However, there is increasing evidence suggesting routine formal assessment of PROs in the clinical setting can lead to improved care in many ways. Today there is growing interest and great potential in using individual-level PRO data to improve patient care and aggregate-level PRO data for
Summary

- Patient-reported outcomes are moving off the spreadsheet, out of the cloud, and into the clinic
  - Aggregate level data for reimbursement & comparative assessments
  - Individual level data used at the point of service to improve each patient’s care
“Dr. Thom Walsh has approached this landscape of healthcare reform and its associated stresses as an innovator seizing an opportunity. His practical perspective has been used by both our individual providers and the administrators of our group practice. In this book, he answers the question, “what can I/we do that will lead to meaningful impact for the patients and the practice?”

His answer lies in designing care that includes the capacity to measure what matters most to patients, learn from the measurements, and to make changes needed to improve the measures while also being mindful of costs.

From working with Thom, we have come to believe the challenges of payment reform provide us with an opportunity because providers and organizations that consistently deliver value will truly have a competitive advantage.”