Harness the Power of Patient Reported Outcomes: Tell Your Practice's Story

Presented By

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Agenda

- Introduction to OAM

- Claims data context

- Collecting PRO data

- Looking at PRO data differently

- Putting PRO data to use in your practice

Introducing Orthopaedic Associates of Michigan

Delivering First-Class Orthopaedic Care Across West Michigan

- Orthopaedic Associates of Michigan (OAM) began from the merger of three successful West Michigan practices: Orthopaedic Associates of Grand Rapids, Orthopaedic and Spine Specialists of West Michigan, the Michigan Hand Center in 2007.
- OAM has "roots" in Grand Rapids dating back to 1935.

28 Physicians (24 surgeons & 4 PM/R)

Over 70 total Providers

4 locations (including ASC, PT and clinics)

Draw from all over west Michigan

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Specialties

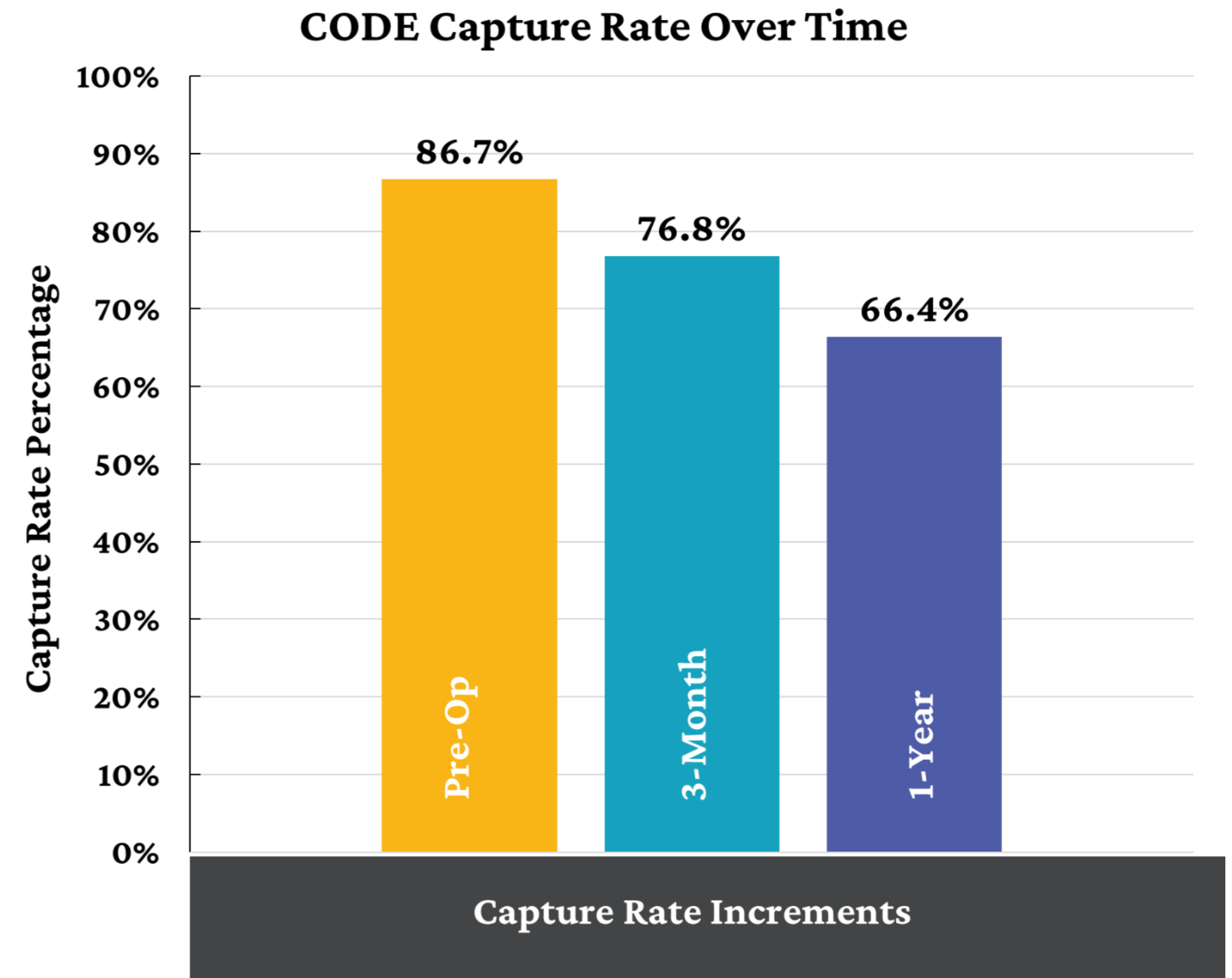|			
Orthopedic Trauma	**Joint Reconstruction**	**Foot & Ankle**	**Hand & Upper Extremity**
Sports Medicine	**Physical Medicine & Rehabilitation/Interventional Spine**		**Spine Surgery**

Ancillaries

- Bone Health
- DME | Durable Medical Equipment/Orthotics
- Ideal Protein | Medical Weight Loss
- MRI
- OAM Now | Urgent Orthopaedic Care
- Radiology

- Physical Therapy
- Occupational Therapy (Hand)
- Work Center
- Mid Towne Surgery Center
- Research
- HURT! App
- Anderson Medical CCT

OAM Data Sources

CODE Technology
PROS On Surgical Cases

Social Climb:
Patient Experience

Foto:
Physical Therapy

CODE Capture Rate Over Time

Capture Rate Percentage

- Pre-Op: 86.7%
- 3-Month: 76.8%
- 1-Year: 66.4%

Capture Rate Increments

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How We Got Here

- OrthoForum 2024

- "What Can We Learn from Employers and Data" panel discussion

- CODE Technology, OAM, OrthoForum, Embold Health and CareJourney collaborated on a presentation focused on enabling practices to demonstrate value, improve outcomes, and use data to successfully navigate Employer payment reform

A Table Of Three Data Sets

CareJourney	embold HEALTH.	CODE TECHNOLOGY
• Claims • Data Each Year - set available for this project is 2022 procedures • Measures through 90 day bundle • Medicare Data	• Claims • 4 years of data September 2018 to September 2022 • Metrics cover outcomes to 1 year at various intervals • Private Insurance	• Patient-Reported Outcomes (PROs) • Sent To All Patients • Survey data out through 6 years (currently) but utilized 2020 to date data for this project • Pre to post-op intervals

CODE TECHNOLOGY

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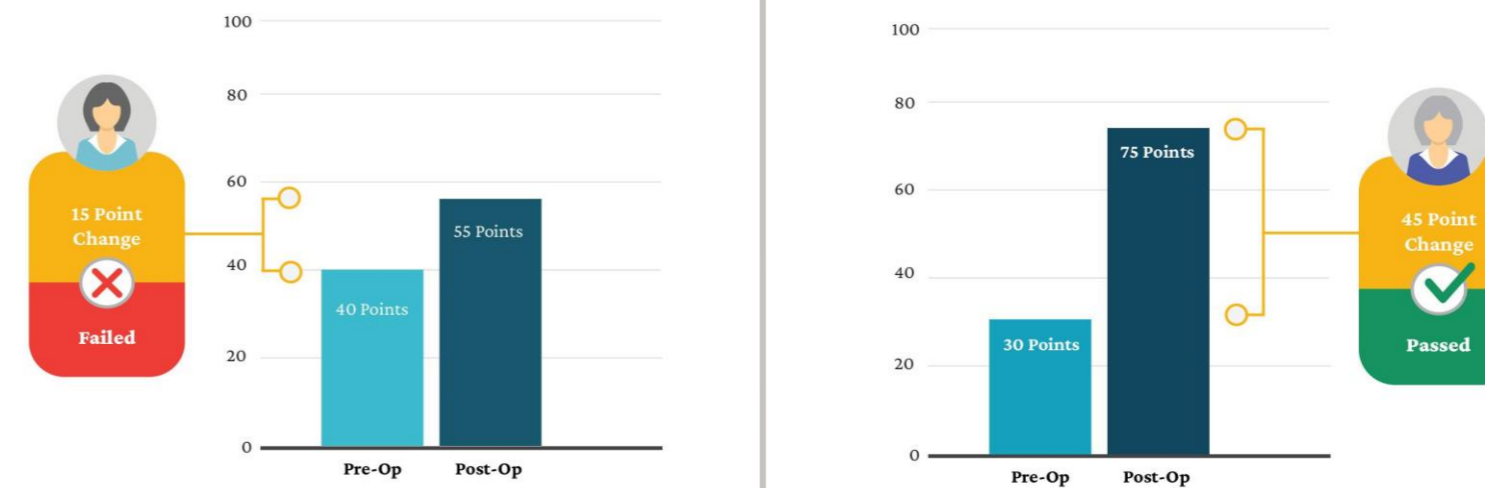| Care Journey		Embold Health		CODE Technology	
−	Complication By episode	+	Surgical Revision	+	Surgical Revision
−	ER Visits By 1,000 Episodes	+	Complication Rate After TJ	+	Other Complication
−	Average Episode Payment	+	SNF Admission	+	% Expectations Met Post-Op 1 Year
+	Average LOS (Days of Institutional Long Term)			+	% Recommend To Friends And Family
+	Unplanned Readmissions Per 1,000 Episodes				

Doctor A

Care Journey		Embold Health		CODE Technology	
+	Complication By episode	=	Surgical Revision	+	Surgical Revision
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Doctor A

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THA/TKA PRO-PM

Failure to collect and report PROMs will result in a ¼ reduction in annual APU.

Measure Requirement | PRO Response Rate

50%

50% of patients must have both the preoperative and 1-year postoperative PRO data collected.
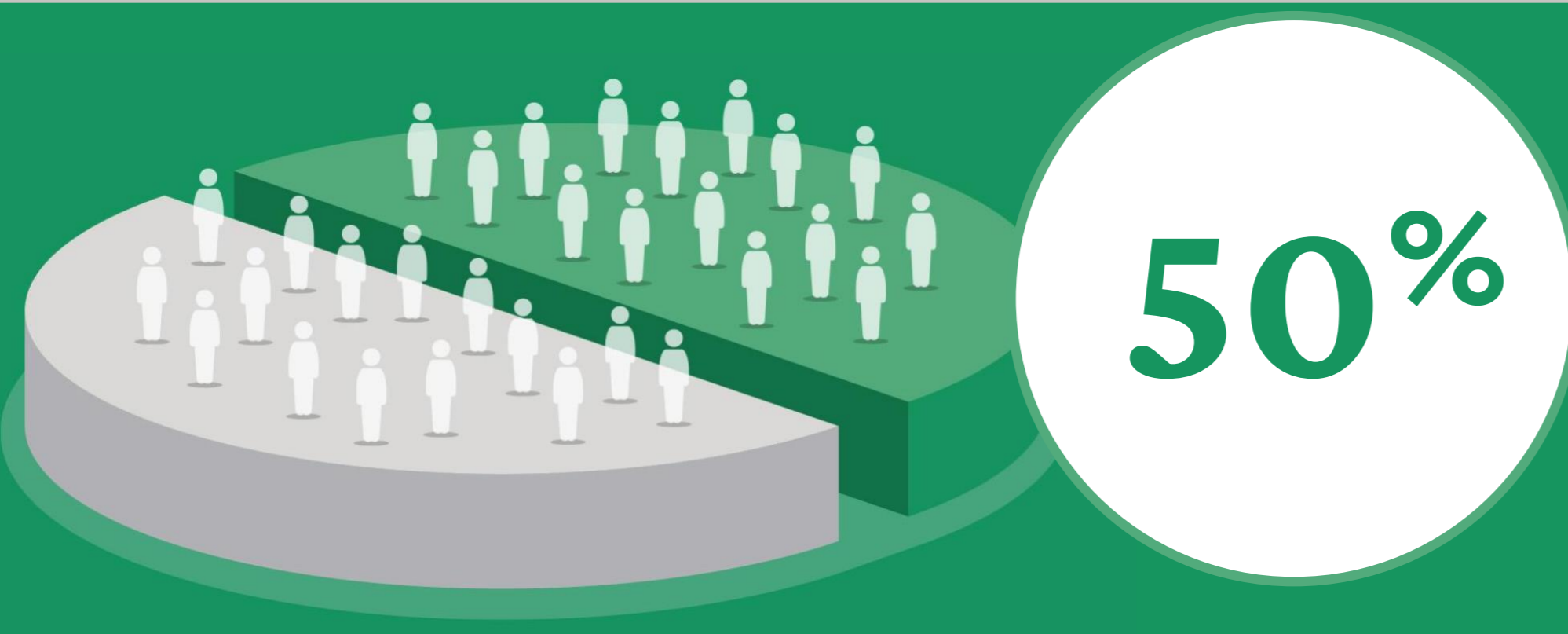
Patient-Level Outcome | SCB

Functional improvement, or substantial clinical benefit (SCB), between patient's pre-op and post-op PRO scores: 22 points for the HOOS JR and 20 points for the KOOS JR.

Hospital-Level Outcome | RSIR
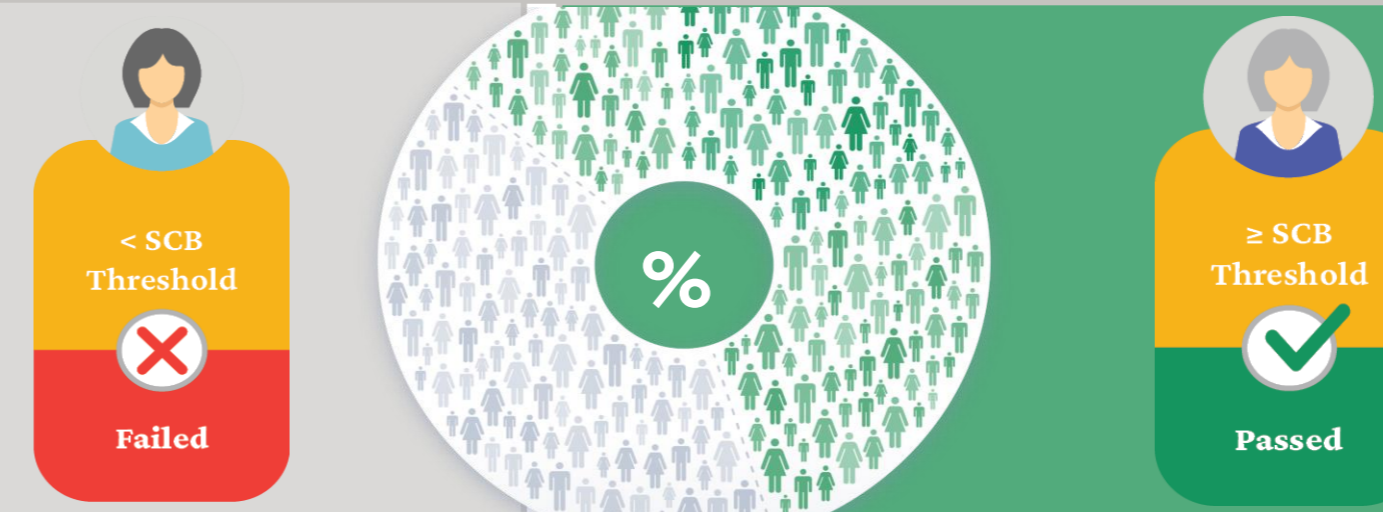
For this example, the Risk Standardized Improvement Rate (RSIR) is 60%. 60% of patients at the organization showed a substantial improvement after their procedure.

Want to learn more. Scan Here

Why Collect PROMs?

Patient-reported outcome measurements (PROMs) are standardized and validated questionnaires. They provide healthcare providers with valuable insights into a patient's functional level, overall health, and post-surgery progress, directly from the patients themselves.

$$Value = \frac{Outcome}{Cost}$$

Track Pain, Function, Quality of Life

Benchmarking & Quality Tracking

Shared Decision Making

Research

Alternative Payment Models

Talent Recruitment

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Options For Collecting Data

1 Pen and Paper

2 SaaS Product

3 Service

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Working with CODE is simple | SaaS + Service = Success

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Choosing The Right PRO Partner

Implementation Timeframe | How long will it take to build, implement and kickoff a patient-reported outcomes program?

Accessibility Barrier | Are there any significant barriers to survey completion such as patient logins to health portals?

Capture Rate | What is the median capture rate for pre-op and post-op PROM surveys across all clients and customers? How is the capture rate calculated?

FTE Requirements | Who bears responsibility for ongoing PRO program maintenance? What full-time employee resources will be required to oversee survey completion and achieve capture rate goals?

Data Extraction | What is the time commitment to extract, format and submit raw data to meet many complex program specifications like the CMS' Patient-Reported Outcome Performance Measures?

Reporting | What are the product's aggregate-level reporting capabilities? How accessible are data reports, filtered by procedure type, by provider, and by benchmarking data? Is manual compilation of data necessary due to limitations in report accessibility?

CODE | Full-Service PROM Partnership

Vision | To **revolutionize health care** by giving the medical world the data they need to make health care better.

Mission | To help hospitals and private practices **collect, use, and love outcome data.**

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Software + Service = Success

Collect → Score | Store | Share → Report

10+ Years CODE has spent a decade building an orthopedic registry
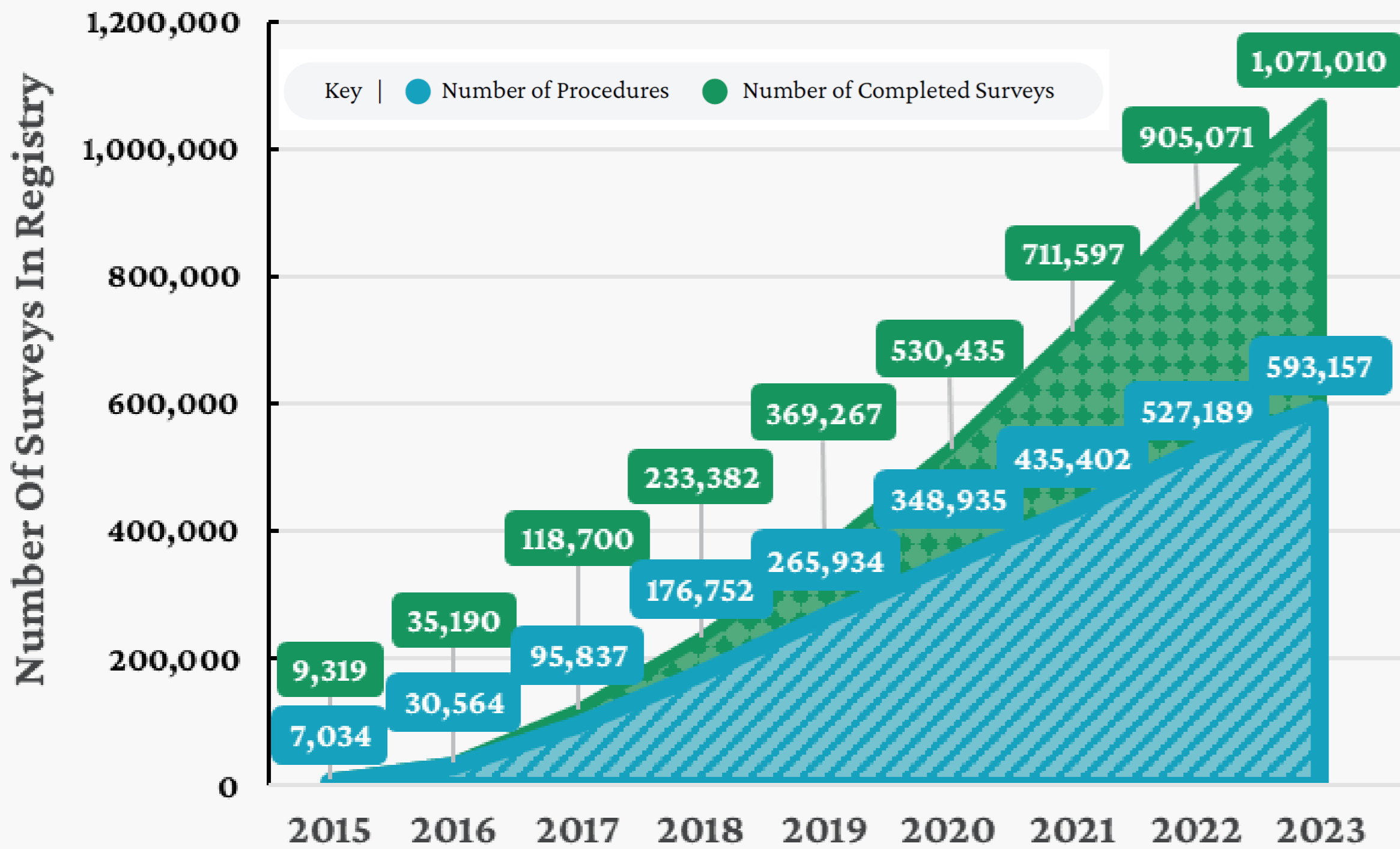
High Capture Rate

Zero Disruption To Workflow

Quality Data

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CODE | A Powerhouse Registry

Procedures and Surveys Growth

Number Of Surveys In Registry

Key | ● Number of Procedures | ● Number of Completed Surveys

Year	Number of Procedures	Number of Completed Surveys
2015	7,034	9,319
2016	30,564	35,190
2017	95,837	118,700
2018	176,752	233,382
2019	265,934	369,267
2020	348,935	530,435
2021	435,402	711,597
2022	527,189	905,071
2023	593,157	1,071,010

CODE's PRO Registry | We've collected & analyzed data from:

- Report on 20,000 procedures to AAOS annually
- **68%** Capture Rate Through 1-Year Post-op
- Over 600,000 Procedures
- **80%** Pre-op Capture Rate
- Over 1 Million Completed Surveys
- Over 700 Surgeons

- Orthopedic Trauma Adult and Pediatric
- Adult Reconstruction
- Lower Extremity Foot & Ankle
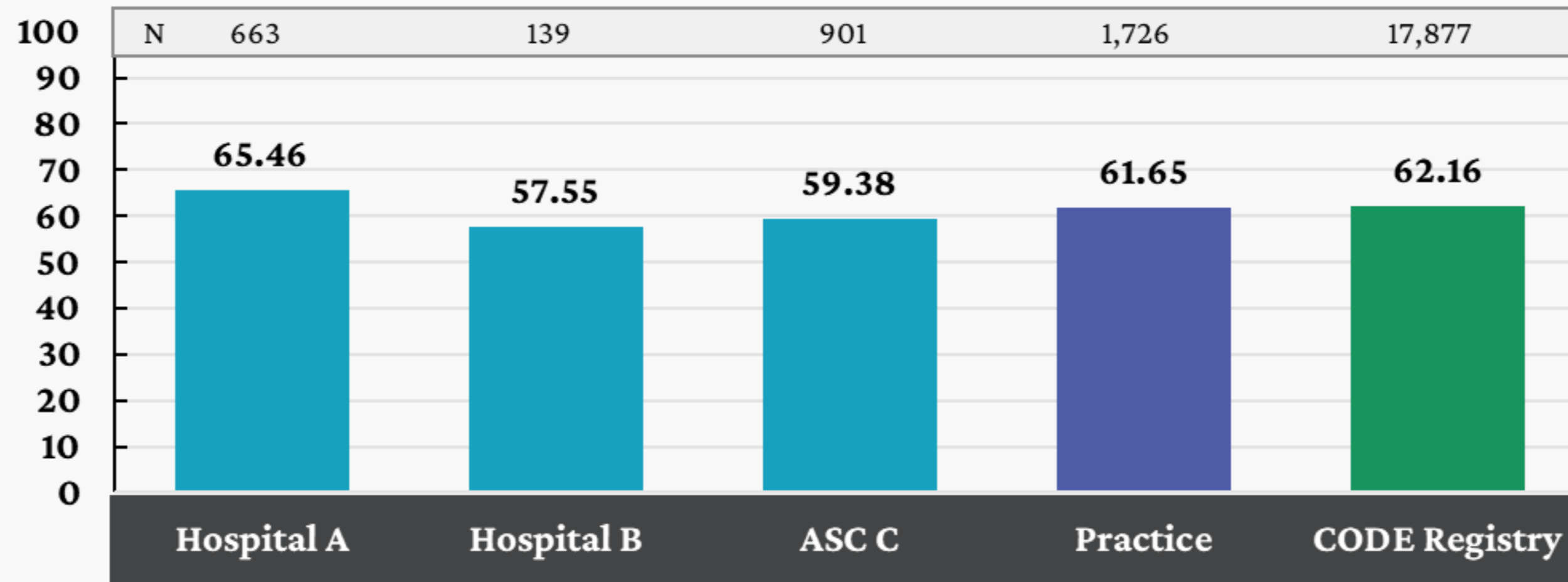- Upper Extremity and Hand
- Sports
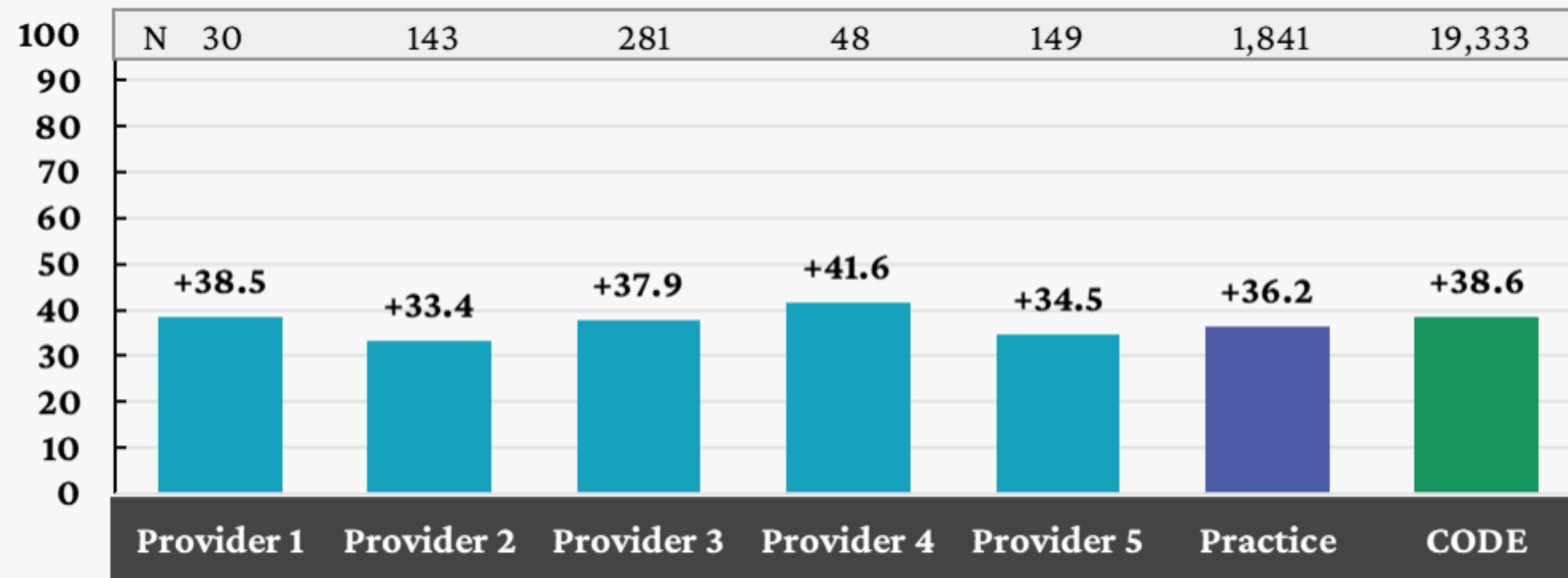- Orthopedic Oncology
- Non-Operative Intervention

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CODE | Reporting And Benchmarking

After surgery, was your pain better or worse than expected?

N	663	139	901	1,726	17,877

Hospital A: 65.46, Hospital B: 57.55, ASC C: 59.38, Practice: 61.65, CODE Registry: 62.16

KOOS Functional Improvement
Pre-op versus 1-year

N	30	143	281	48	149	1,841	19,333

Provider 1: +38.5, Provider 2: +33.4, Provider 3: +37.9, Provider 4: +41.6, Provider 5: +34.5, Practice: +36.2, CODE: +38.6

Types Of Data CODE Collects

- ✓ Risk Stratification
- ✓ Social Determinants Of Health
- ✓ Patient Experience
- ✓ Complications
- ✓ Readmissions

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OAM Registry

OAM Registry | Breadth Of Data
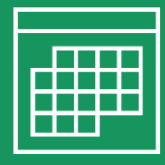
Longevity
OAM has collected PROS for **over 6 years** with CODE

Cohorts
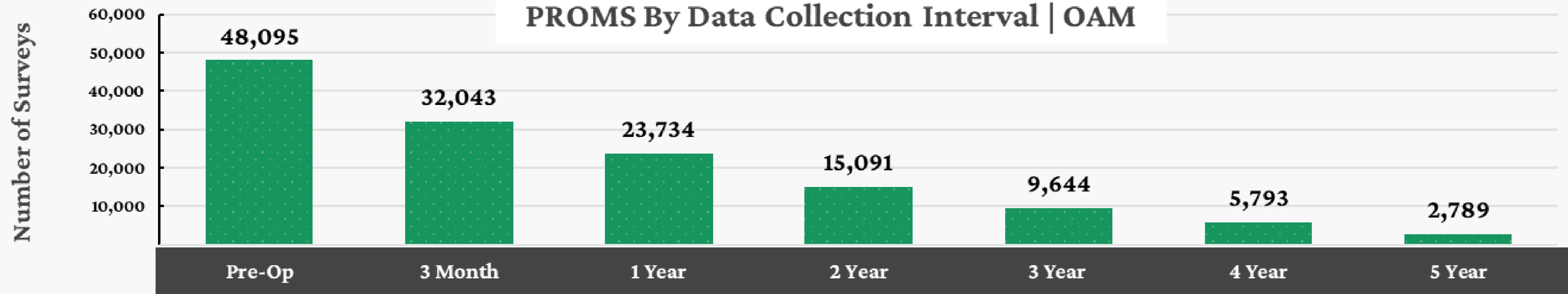TKA, THA, Spine, Upper Extremity, Hand, Foot & Ankle, Sports

Surveys Functional PROMs, Global Health PROM, Patient-Reported Complications, Patient Experience

Collection Intervals
Pre-op, 3 month, 1 year, Annually

PROMS By Data Collection Interval | OAM

Interval	Number of Surveys
Pre-Op	48,095
3 Month	32,043
1 Year	23,734
2 Year	15,091
3 Year	9,644
4 Year	5,793
5 Year	2,789

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What Quantifies A Good TKA Outcome According To PROM Data?

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PROMs, Value And The Score Threshold

Relevant Terms

$$\text{Value} = \frac{\text{Outcome}}{\text{Cost}}$$

We're collecting KOOS, PROMIS 10, Patient Experience, Patient-Reported Complication and more at pre-op, 3-month, 1-year, then annually.

Completed PROs 30,537 | Procedures 14,000

Our Questions | Is there a KOOS threshold at one-year post-op that correlates with a good outcome? What is that score threshold? *What are the barriers for achieving the target outcome?*

Method | We've analyzed OAM's KOOS data at 1 year to define a target KOOS score that correlates with results of TKA meeting expectations.

PROM Overview

KOOS | The Knee Injury and Osteoarthritis Outcome Score (KOOS) is a PROM used in both short-term and long-term patient outcome monitoring. It quantifies a pain, function and quality of life on a scale from 0-100.

Patient Experience | A single question on the KOOS we use to benchmark by provider.

1. The results of the surgery have met my expectations.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

KOOS Scores Over Time

Patient One KOOS Scores

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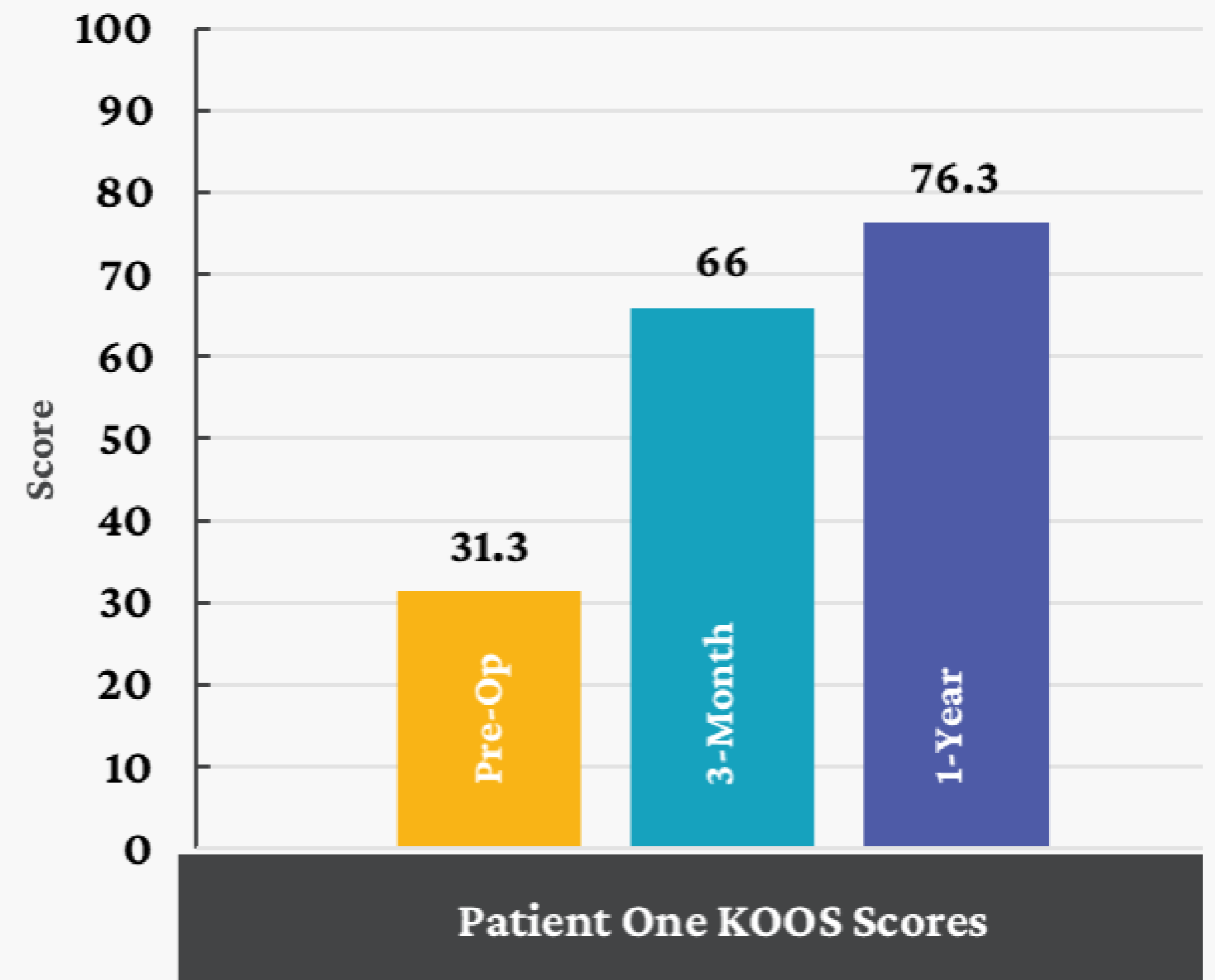
Average Response to Results Met Expectations
(1 = strongly disagree - 5 = strongly agree) by KOOS Improvement Δ group at 1 year post-op
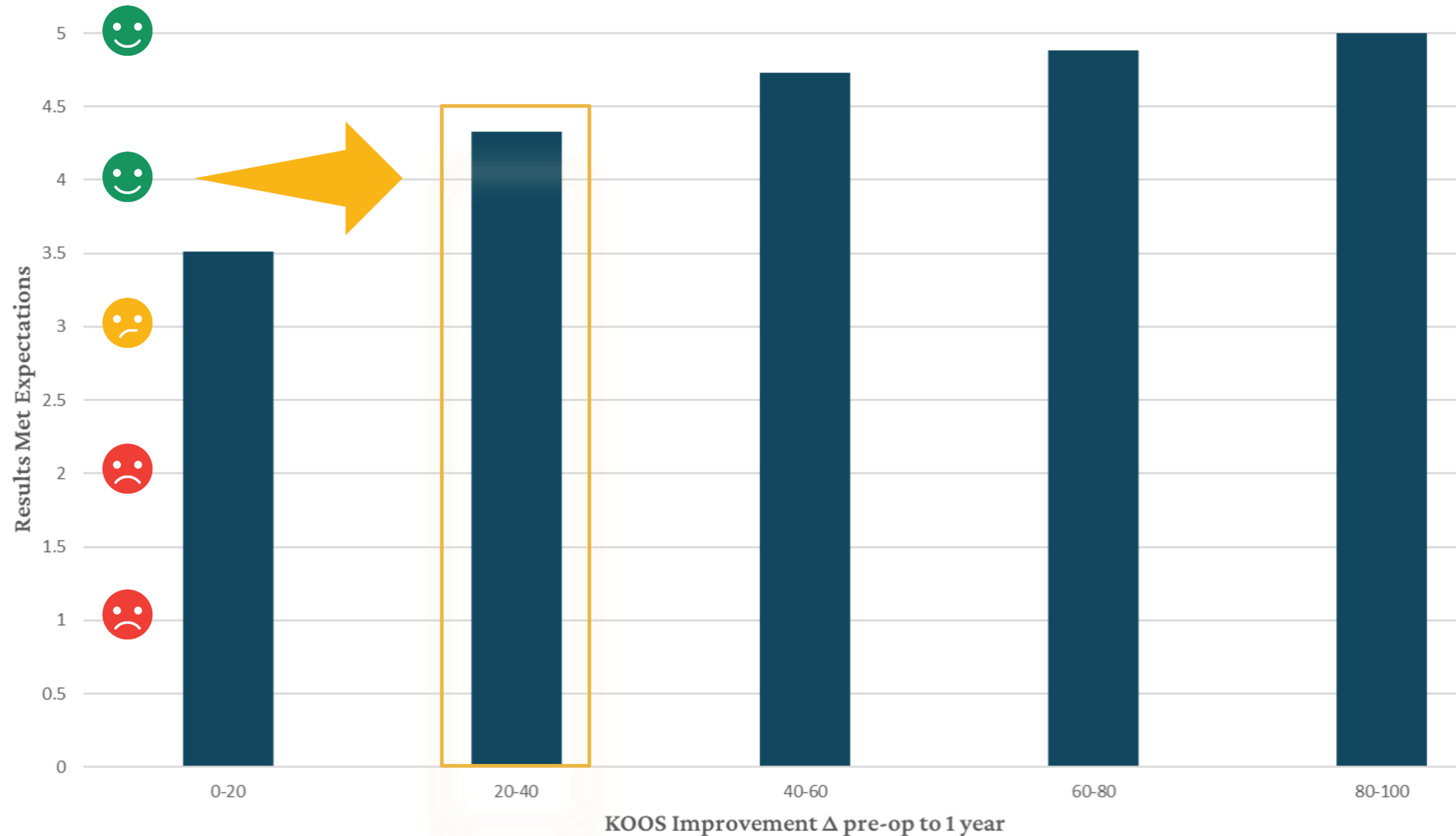
As we look at how well patients' expectations were met 1-year post-op, a functional improvement delta (Δ) ranging between +40 points to +100 points correlates to strong agreeance to the procedure meeting their expectations.

Patients with a functional improvement delta (Δ) ranging between +0 points to +40 points are the population we're trying to better understand.

Patient Experience: Results Met Expectations
(1 = strongly disagree - 5 = strongly agree)
driven by KOOS Overall Improvement Delta pre-op to 1 year post-op
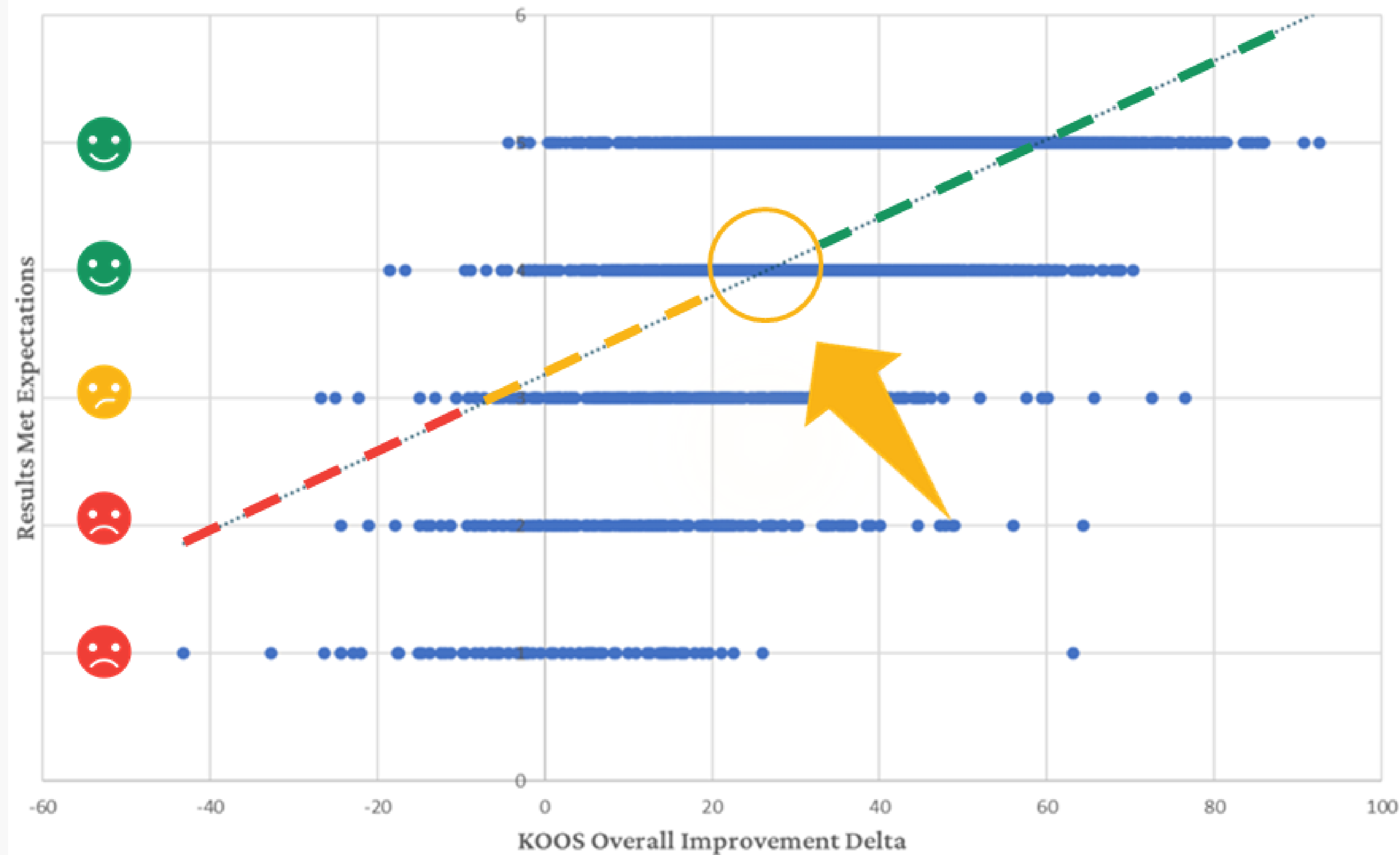
Let's find a more exact threshold target.

A delta (Δ) ranging from 20-24 points is the turning point between a patient **agreeing** that the results met expectations and being **neutral** towards the procedure results.

Based on the regression line, patients with improvement scores with a Δ less than 22 points do not agree that their procedure met expectations.

Patient Experience: Results Met Expectations
(1 = strongly disagree - 5 = strongly agree)
driven by KOOS Overall Score at 1 year post-op
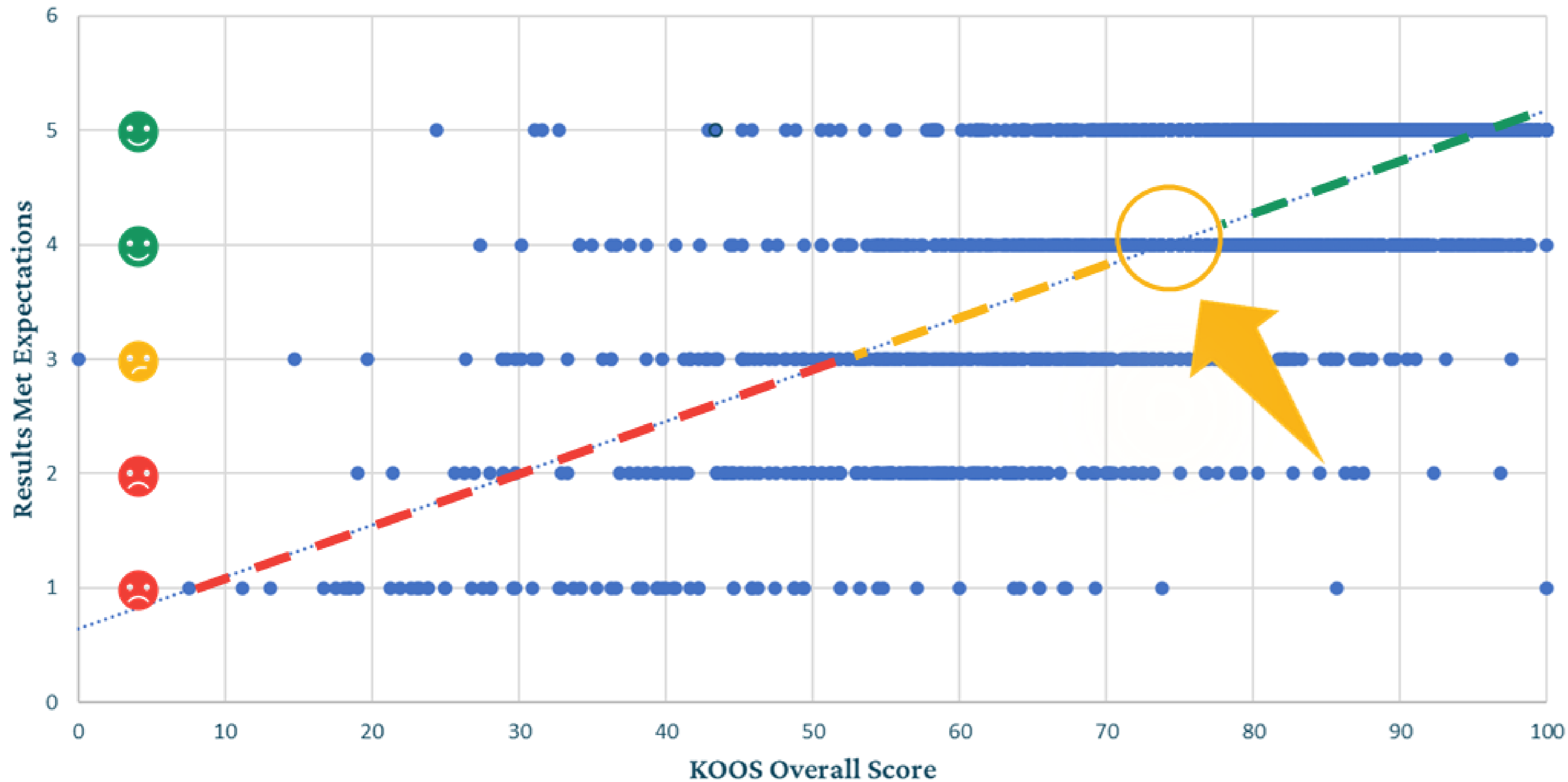
We know the functional improvement target. Let's do the same with the overall functional score.

An overall score ranging from 72-77 points is the threshold between a patient **agreeing** that the results met expectations and being **neutral** towards the procedure results.

Based on the regression line, patients with scores less than 74 points do not agree that their procedure met expectations.

Quick Recap

Scope
KOOS Scores With
Patient Experience

Target Outcome
Δ of 22 points
or more

Target Outcome
Overall score of 74
points or more

What are the barriers for achieving these target outcomes?

What Are The Barriers For Achieving Target Outcomes?

Complications | Three patient-reported complication questions administered at initial post-op survey.

1. Since your surgery, have you had additional surgery on the same knee? If yes, please select the reason.
   Yes: Fracture around the implant | Yes: Loosening of the implant | Yes: Infection | Yes: Other reason (please describe below) | No

2. Since your surgery, have you had a blood clot?
   Yes | No

3. Since your surgery, have you been readmitted to a hospital for an unexpected or unplanned reason? If yes, please describe below.
   Yes | No

So, what complications impact outcomes?

Complications and PROMs

It has been validated in the literature in THA/TKA- patients can successfully report if they had a revision surgery. Our data supports that as well. While not formally validated, we ask patients questions regarding other types of complications, and we do see it match with claims data, while not perfect it is directionally accurate.
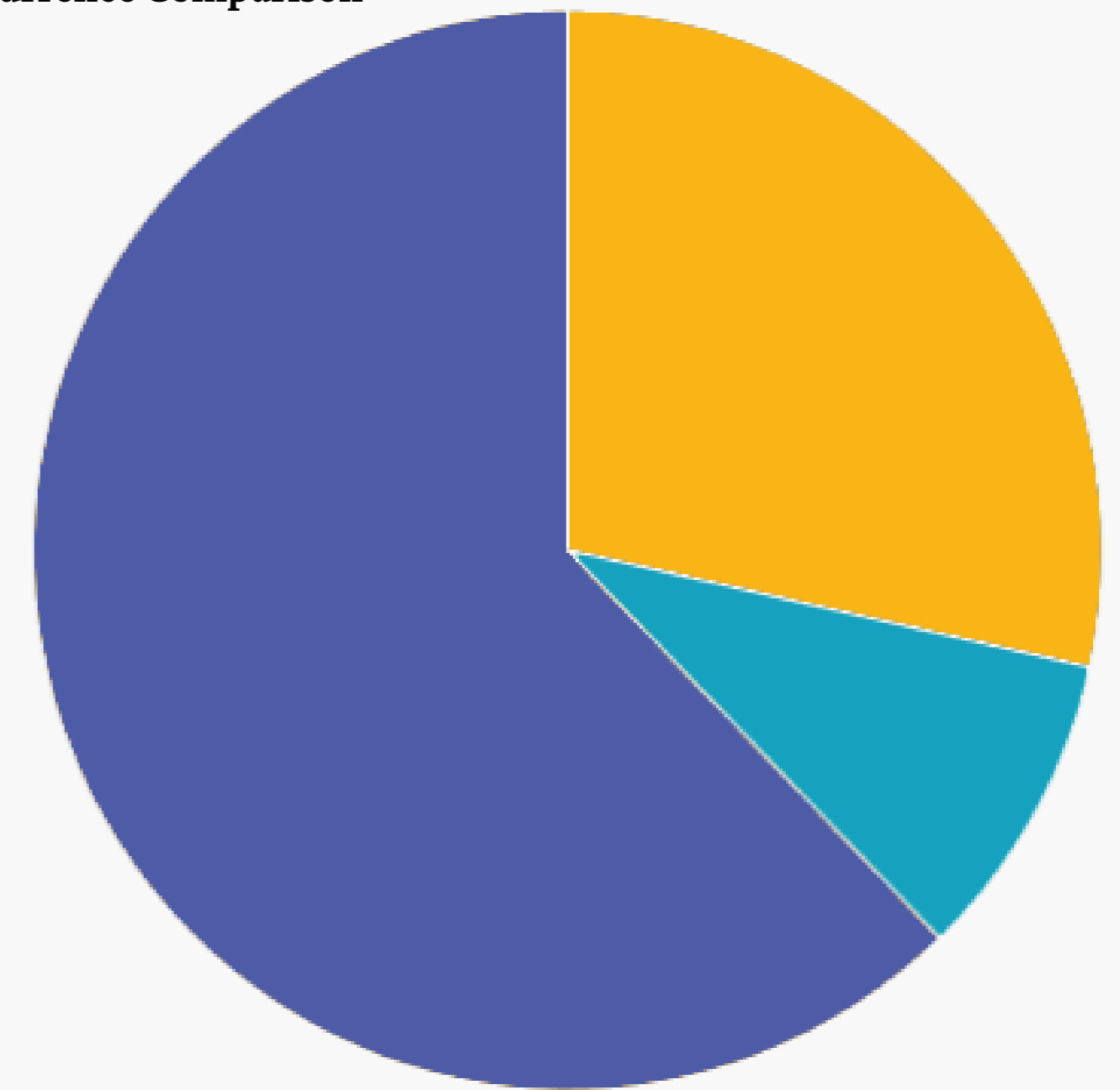
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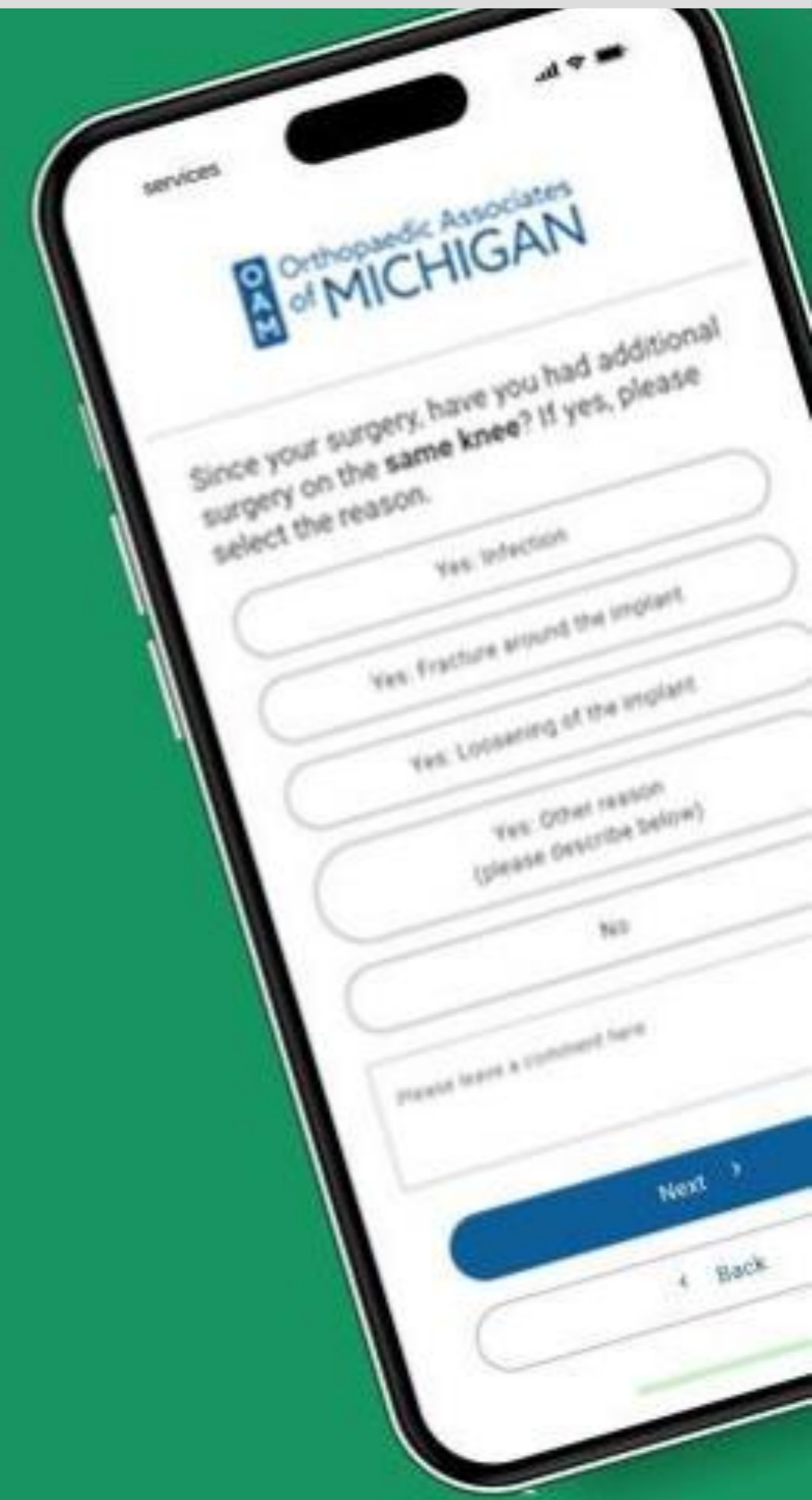
Complications vs. KOOS Overall Score

— KOOS Overall Average For No Complications   — KOOS Overall Average Target Outcome

KOOS Overall Score

- Yes: Fracture around the implant
- Yes: Infection
- Yes: Loosening of the implant
- Yes: Other Reason
- Yes: Clot
- Yes: Unplanned Visit
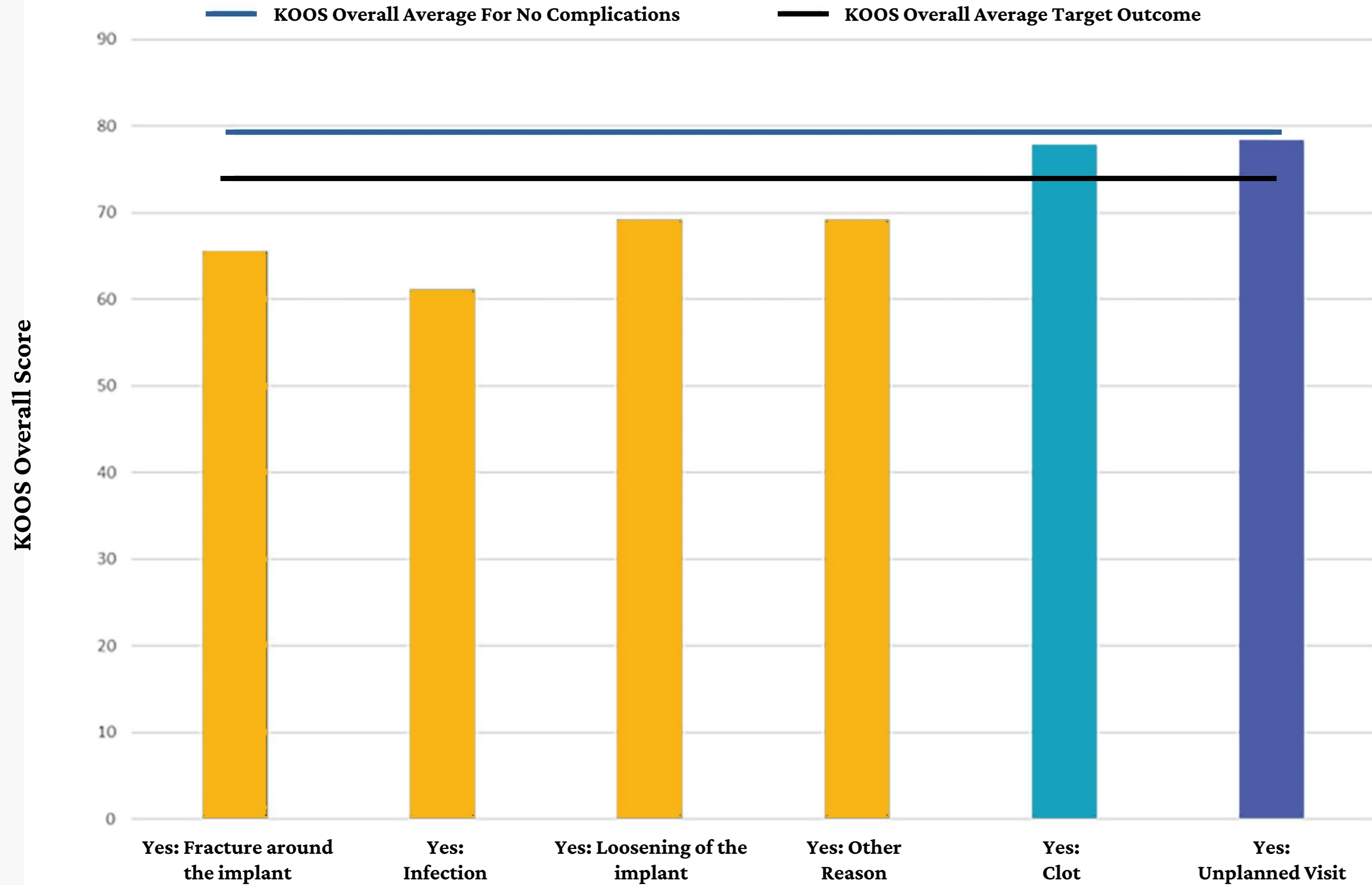
Complications defined as clots or unplanned visits do not significantly lower KOOS overall functional scores at one year—KOOS scores stay comparable to those with no complications whatsoever.
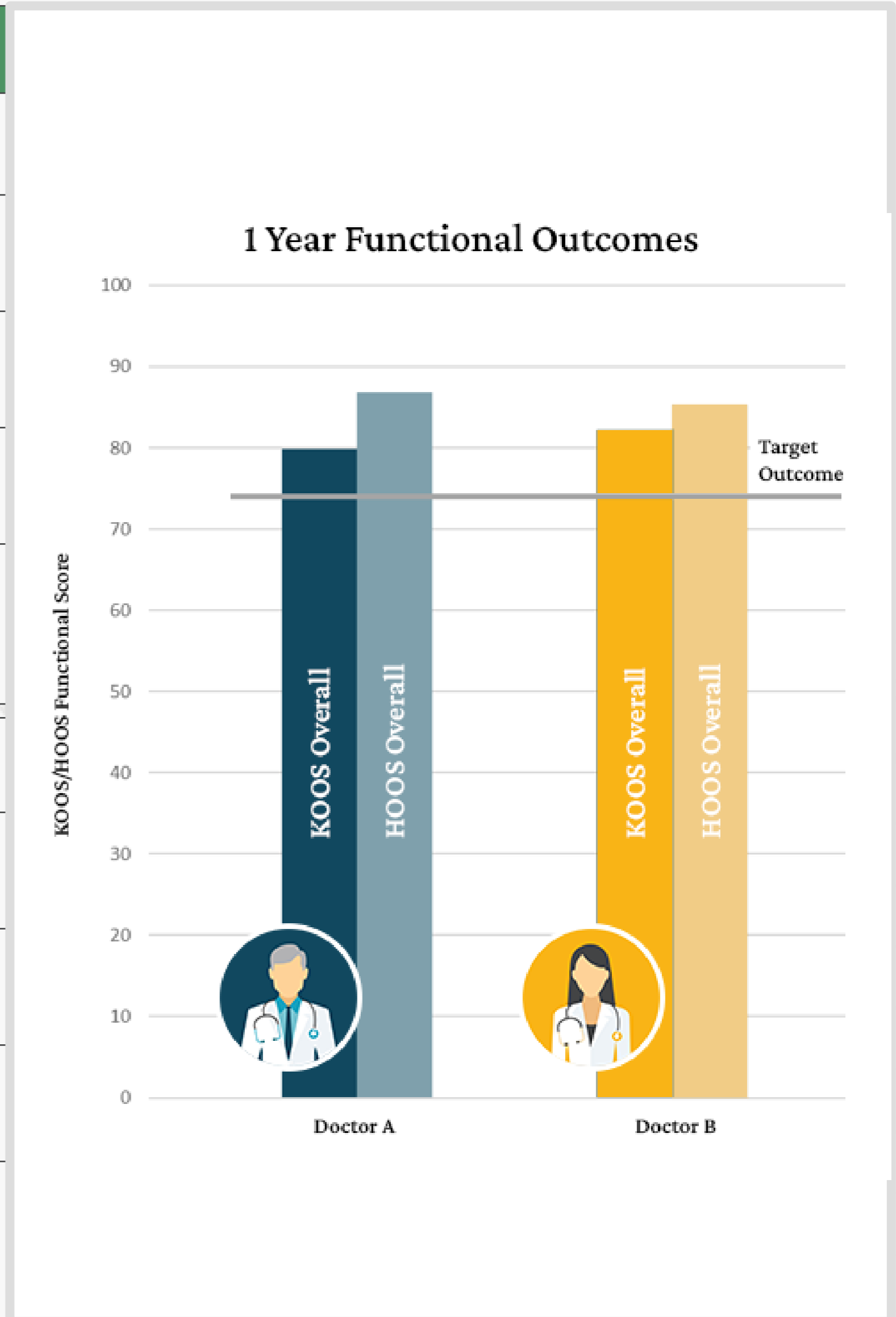
Complications Break Down

Occurrence Comparison

	Care Journey		Embold Health		CODE Technology
−	Complication By episode	+	Surgical Revision	+	Surgical Revision
−	ER Visits By 1,000 Episodes	+	Complication Rate After TJ	+	Other Complication
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+	Average LOS (Days of Institutional Long Term)			+	% Recommend To Friends And Family
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1 Year Functional Outcomes

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Value of PROs

Demonstrate Value And Quality Of A Surgical Procedure Independent Of Cost And Complications

Provide Real-time Actionable Data That Practices And Providers Can Utilize To Iterate And Improve

Define Value In A Language That Patients Themselves Understand

Give Oversight Of Items That Can Drive Up Cost And Drive Down Quality

Tell Your Practices' Story With A Patient-Inclusive Voice That Promotes The Goals Of Orthopedic Practice

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Clinical & Operational Utilization of PROs

Understanding impact of change on your practice

Case study highlights:

- Care navigators
- Staff changes – patient expectations
- Opioid Rx

Comparison Of Readmissions Before And After Eliminating Nurse Navigators

Survey Question | Since your surgery, have you been readmitted to a hospital for an unexpected or unplanned reason?

Patient Reported Readmit Rates Up Since Nurse Navigator Role Eliminated

Facility	With Nurse Navigators	Without Nurse Navigators
Facility One	6.34%	7.16%
Facility Two	4.64%	0%
Facility Three	3.36%	5.54%
Facility Four	1.65%	20%
Facility Five	4.43%	7.5%
Facility Six	7.92%	5.13%
Facility System	4.87%	6.87%
CODE Registry	6.33%	7.35%
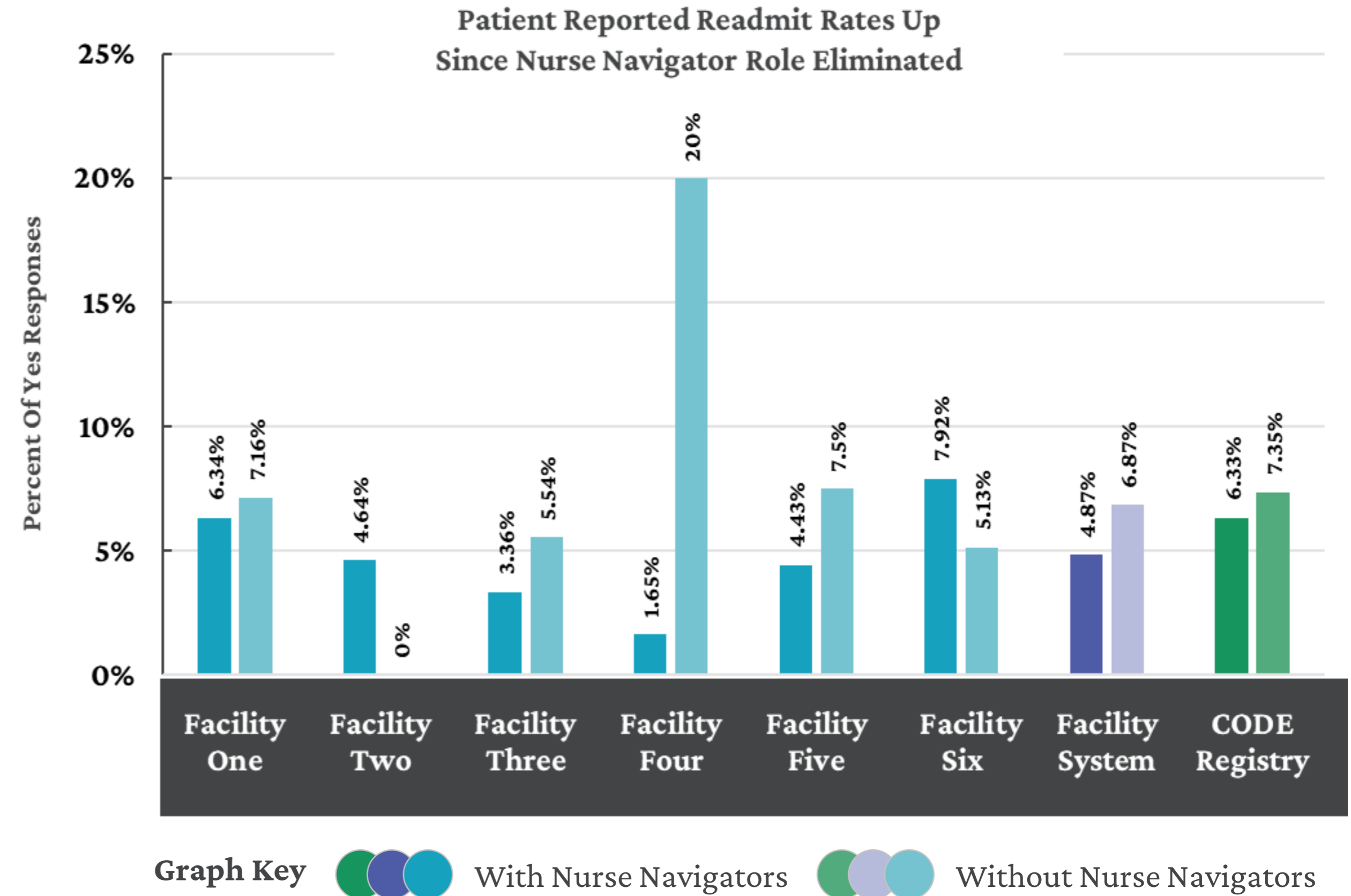
How OAM Will Leverage PRO Data Moving Forward

- Quality and Peer Review Committee – improvement opportunities
  - Share data with individual physicians
  - Review workflows & opportunities for staff education
  - HCC coding – get credit for complex patients
  - "Canary in the coal mine"
- Payer conversations
- Employer conversations
- Marketing and PR

Moral of the Story...

Patients are being directed using your data

Collect your own PRO's data so you can
OWN YOUR STORY!

Get familiar with your data from all public sources

The data is out there and being used. Get in front of it,
understand it and partner with companies like
EMBOLD and Care Journey to help them understand
the operations behind the data.

Let's Get In Touch

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