

AAOS Registry Program

Benefits for ASCs and Private Practices

September 19th 2019

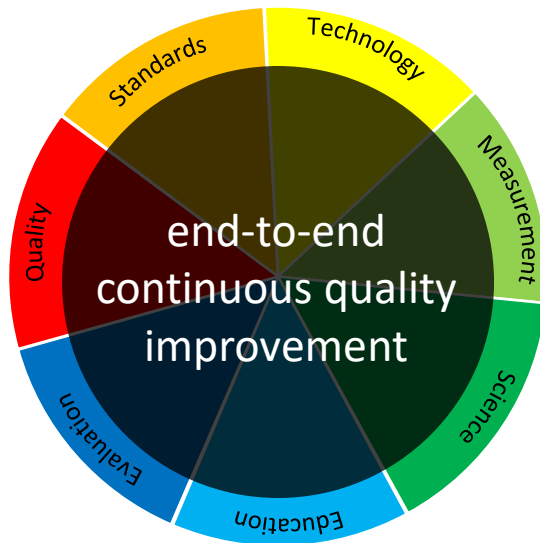
Agenda

- Introductions
 - Phil Dwyer, Registry Engagement Manager
 - Mariah Matesi, Senior Registry Engagement Associate
 - Kristine Sizemore, Registry Engagement Associate
- Review of AAOS Registry Program
- Benefits
- Q & A

The AAOS Registry Program

Overview

Quality Vision

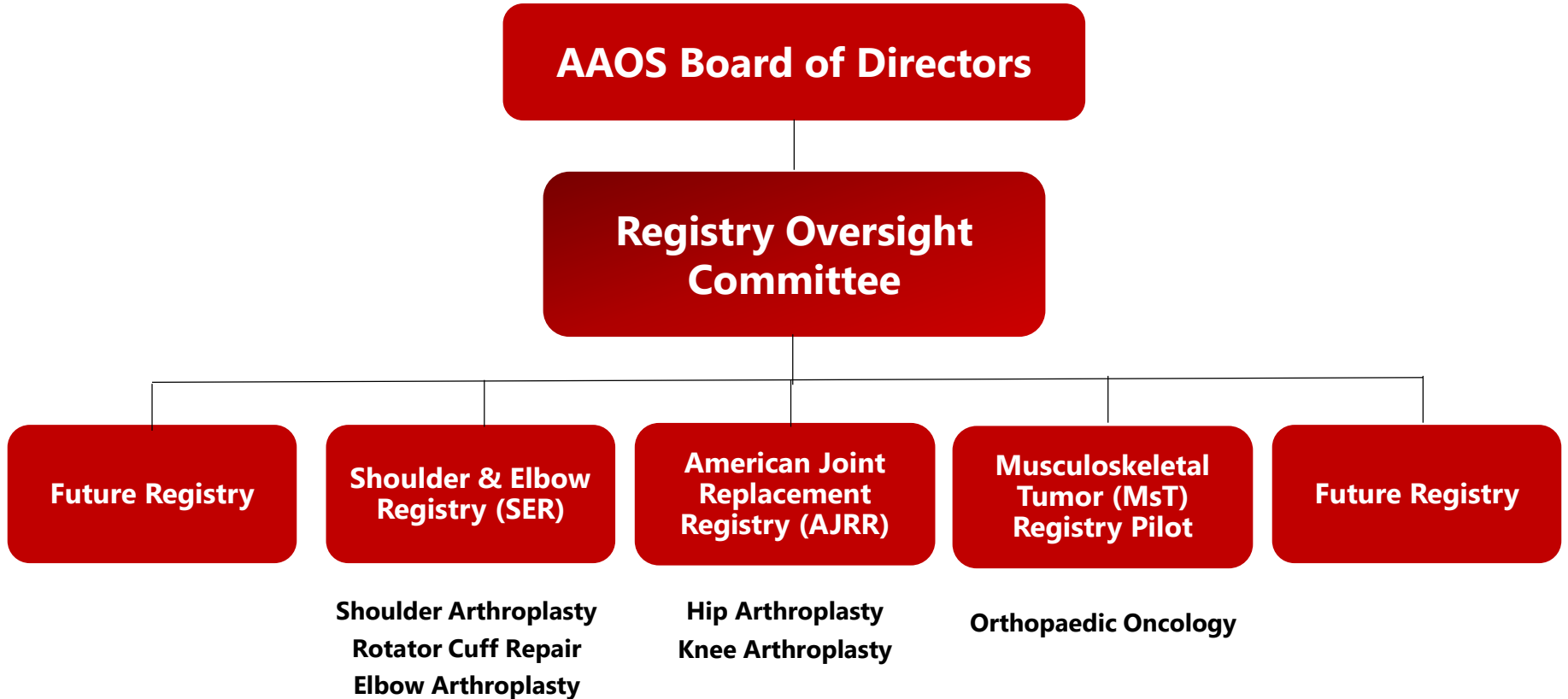


Registries

- **component of a larger quality vision**
- **provide data to inform AAOS guidelines and test performance measures**
- **provide feedback to providers to continuously improve their practice and healthcare outcomes**
- **allow AAOS to define what quality means in a value-based system**
- **reduce the reporting burdens on physicians**
- **help inform gaps in knowledge or areas for further education**

"If you can't measure it, you can't improve it" ~ Drucker

AAOS Family of Registries



AAOS Registry Leadership

Registry Oversight Committee

William J. Maloney, MD, Chair
David Halsey, MD
Kevin J. Bozic, MD
Steven D. Glassman, MD
Gerald Williams, Jr., MD
David S. Jevsevar, MD
Ronald A. Navarro, MD
Kurt P. Spindler, MD
Michael J. Gardner, MD

SER Steering Committee

Gerald R. Williams Jr., MD – Chair
Joaquin Sanchez-Sotelo, MD
Ronald A. Navarro, MD
John E. Kuhn, MD
Stephen F. Brockmeier, MD
Patrick St. Pierre, MD
Grant E. Garrigues, MD
Mark Baratz, MD

Musculoskeletal Tumor Registry Pilot

Benjamin Miller, MD, Lead

AJRR Steering Committee

Kevin J. Bozic, MD, MBA, Chair
Bryan Springer, MD, Vice Chair
David Lewallen, MD, Medical Director
James R. Banks
James A. Browne, MD
James L. Huddleston III, MD
Robert Krebs
Gregory B. Krivchenia II, MD
David E. Mino, MD
Brian S. Parsley, MD
James D. Slover, MD
Scott Sporer, MD
Rick Seiden, Esq.
Paul Voorhorst, MS

Additional AJRR Committees

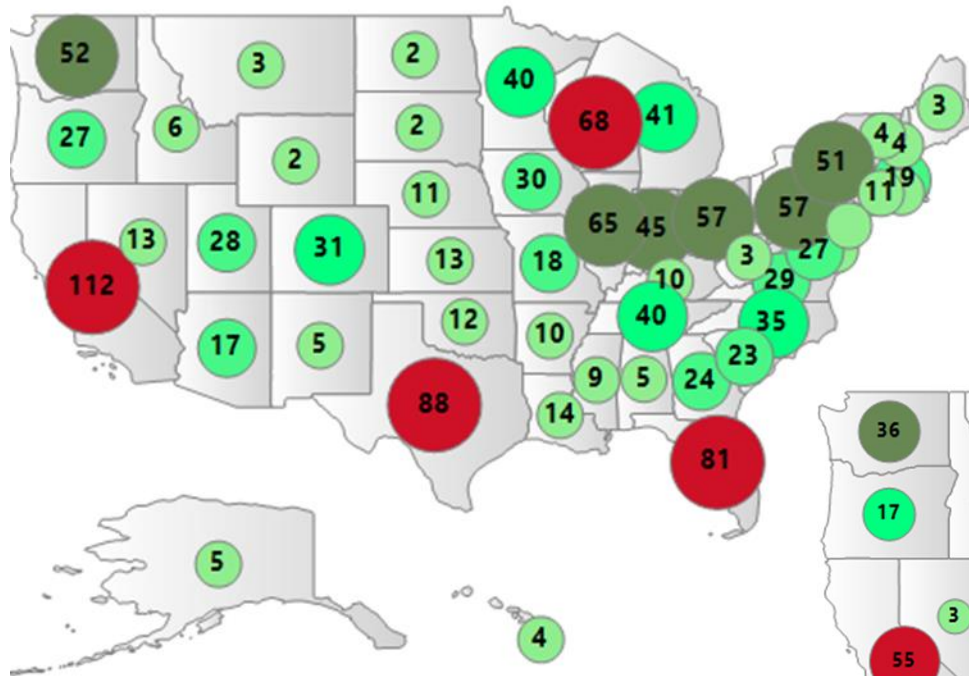
Bryan Springer, MD, *Chair, Data Committee*
James A. Browne, MD, *Chair, Publications Subcommittee*
Scott M. Sporer, MD, *Chair, Data Elements Subcommittee*
Richard L. Illgen, II, MD, *Chair, Research Subcommittee*
James I. Huddleston, III, MD, *Chair, California State Registry Committee*

Public Advisory Board

Rick Seiden, Esq., Chair

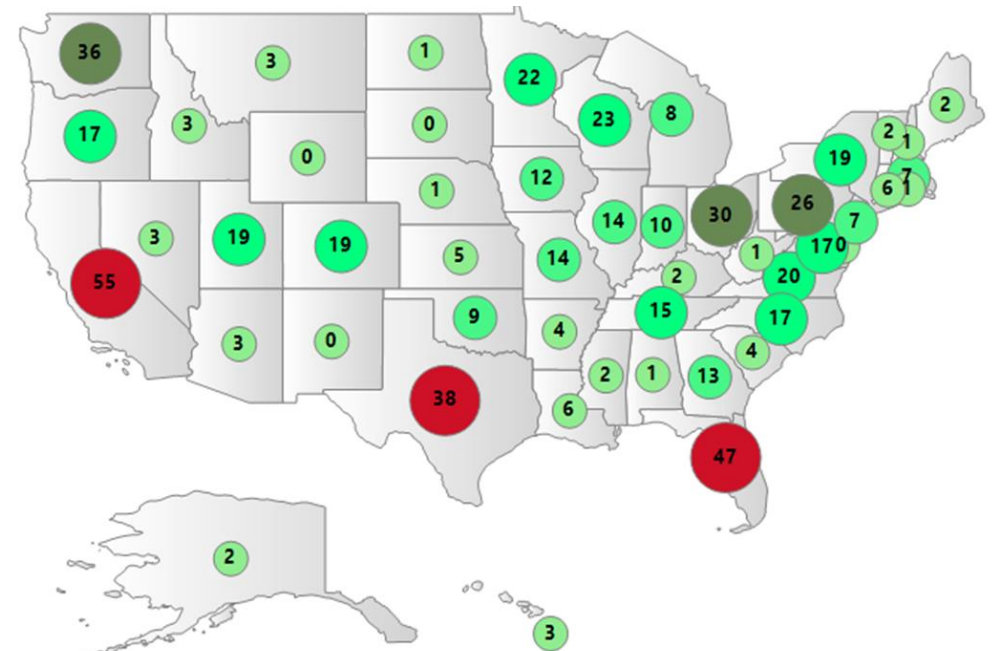
AAOS Participation

Contracted Sites by State



Over 1,300 contracted sites across all 50 states and the District of Columbia.

Submitting Sites by State



Sites have submitted data representing 9,145 surgeons and nearly 1.8 million procedures. Capturing 30% of all US TJA volume annually.

Registry Program Highlights



- AJRR was re-integrated into AAOS, the Shoulder & Elbow Registry (SER) & Musculoskeletal Tumor Registry (MsT) Pilot were developed and launched
- Investment in **technical infrastructure** to optimize user and multi-stakeholder experience
 - Development of **PROM dashboards**, data **access directly to AAOS surgeons**, and increased value of Registry Insights™
- Developed partnerships with **ABOS, Joint Commission, CMMI** for use of data in **MOC, COE, MIPS, and more**

Registry Program Highlights



- Launched **Registry Analytics Institute** to foster further dissemination of Registry Program data in literature, conferences, and across trainees
- Obtained **access to Medicare claims** data for linkage
- Selected for National Eval System for health Technology Coordinating Center (NESTcc) grant to participate in **feasibility pilot for data linkage from private payers**
- Developed partnership with **ASCA** and **Ortho Forum**
- Announced the **ASR** (American Spine Registry) as our next rollout

Registry Program Development Strategy

- Recruitment of new sites, expanding to more ambulatory surgical center (ASCs) and private practices
- Expansion of partnerships to bring re-use of data to participants
- Opportunities for collaboration around payer and certifying body incentive programs.
- Strategy for growing participation and building a self-sustaining program

The AAOS Registry Program

Benefits of Participation

Why Do Sites Participate?

- Compare your site to **national performance benchmarks**
- Access to on-demand practice specific **quality reports and dashboards**
- Facilitate tracking and monitoring of **longitudinal patient outcomes**
- Facilitate site, practice-specific, **payer-incentivized performance improvement** programs such as Blue Distinction and COE
- Qualify for **national distinction programs** such as the Joint Commission Advanced Certification and AAAHC
- Use for reporting **to quality improvement programs** such as MIPS & MOC
- Early access to **surveillance alerts** for poorly performing implants
- Improve the **value of care** delivered to patients

The Joint Commission Partnership



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American Academy of Orthopaedic Surgeons and The Joint Commission collaborate to help further standardize care and quality improvement in hip and knee replacement surgeries

ROSEMONT, Ill. (September 26, 2018)—The [American Academy of Orthopaedic Surgeons](#) (AAOS) has announced collaboration with [The Joint Commission](#) to incorporate AAOS clinical expertise into standards development and performance measurement requirements for [Total Hip and Knee Replacement](#) (THKR) Certification. The Joint Commission established the voluntary advanced certification in 2016 for accredited hospitals, critical access hospitals and ambulatory surgery centers (ASCs) seeking to elevate the quality, consistency and safety of their services and patient care.

Through the new collaboration, the AAOS and The Joint Commission will jointly oversee scientific issues, performance measurement, quality improvement activities, education, data sharing and research related to the certification—with continued commitment to constantly assessing and evaluating quality for the safety and benefit of orthopaedic patients. This includes, as of January 1, 2019, implementation of a new THKR certification requirement for hospitals and ASCs to participate in a national registry, like the American Joint Replacement Registry (AJRR), to further help standardize care and quality improvement in hip and knee replacements.

Awarded for a two-year period, the THKR certification addresses the growing number of patients undergoing total hip or total knee replacement surgeries, and increases focus on clinical evidence-based patient care as it relates to pain management, quality of life issues, functional limitation in mobility and return to normal daily activities. It provides hospitals and ASCs performing orthopaedic procedures with a framework and pathway for improving patient outcomes by:

- Recently announced AAOS & TJC Partnership
- AJRR serves to meet the requirements of the advanced certification for hip & knee
- Effective July 1, 2019, the AJRR became the sole pathway for meeting The Joint Commission's THKR certification registry requirement.

Free Subscription to AAOS Registry Program Blog

The screenshot shows the AAOS Registry Program Blog website. At the top, there is a navigation bar with links for Publications, Events & Webinars, User Group, State Registries, Newsroom, Blog, Contact, and Registry Login. Below this is a secondary navigation bar with links for About Us, Enroll With Us, Supporters & Testimonials, Quality Initiatives & Tools, For Patients, and Request A Demo. The main content area features a post dated Jun 26, 2019 3:36:19 PM with social media sharing options (Tweet, Share, Like 29, Share). The post title is "Presidio Surgery Center Earns Joint Commission Advanced Certification for Total Hip and Total Knee Replacement". Below the title is a photograph of two healthcare professionals in blue scrubs looking at a tablet. A large red arrow points from the photo towards the subscription form on the right. The subscription form includes an "Email*" field, a "Notification Frequency*" section with radio buttons for "Weekly" and "Monthly", and a yellow "SUBSCRIBE" button. Below the form is a "Data Snapshot" section with text about joint replacement trends.

[Subscribe here.](#)

Presidio Surgery Center, The Joint Commission, and AJRR

View Presidio Surgery Center's Registry and Joint Commission Certification story on the [Registry Program blog](#).

"I think it surprised a lot of hospitals in the area that we were certified [Joint Commission Advanced THKR Certification] – and they weren't."
Jessie Scott, Presidio Surgery Center Administrator.

Presidio Surgery Center

A California Pacific Medical Center Affiliate

The AAOS Registry Program

Getting Started

Getting Started

1. Contract with AAOS
2. Accounts are set-up
 - Site administrator
 - Data submission
 - Surgeon users
 - PROM administrators
3. Data Submission
 - Technical set-up
 - Test data submission
 - Live data submission
4. Use of data
 - Dashboards
 - Canned reports
 - Custom reporting



Registry Data Elements

Procedural

Patient

- Name (Last, First)
- Date of Birth
- Social Security Number
- Diagnosis (ICD-9/10)
- Gender
- Race/Ethnicity

Hospital

- Name and Address

Surgeon

- Name (National Provider Identifier)

Procedure

- Type (ICD-9/10)
- Date of Surgery
- Laterality
- Implants

Other

- Comorbidities (ICD-9/10)
- Height & Weight/Body Mass Index
- Length of Stay
- American Society of Anesthesiologists Score
- Operative Complications

Post-Op

Patient, Hospital, Surgeon, and Procedure Data Elements needed for matching

Post-operative Complications

90-day Re-admission

- Re-admission Diagnosis (ICD-9/10)
- Re-admission procedure type (ICD-9/10)
- Re-admission date/discharge date

PROMs

Patient, Hospital, Surgeon, and Procedure Data Elements needed for matching

Patient-reported Outcomes

Recommended:

- PROMIS-10 Global
- VR-12
- HOOS/KOOS, JR.
- CJR Risk Variables
- SANE
- ASES

PRO Tracking

- Collection Interval
- Completion Date

Submission Best Practices

- Most participants submit monthly, active submission is at least every 90 days
- Ask your site's IT about setting up automated reports
- You can monitor data submission uploads and address errors by logging into [RegistryInsights™](#)
- To learn more about correcting cases with issues, follow the instructions in the [How-To Guide: Fix Rejected Data in Uploaded Files to AJRR](#)



Decreasing Data Burden

- AAOS has partnered with technology vendors to facilitate the data submission process
- Re-use data that already exists in medical record, practice management and PRO systems
- Direct data submission and management can be handled by a technology provider with sites able to fix rejected files

AAOS Registry Program
Authorized Vendor

American Joint Replacement Registry
Shoulder & Elbow Registry

AAOS
AMERICAN ACADEMY OF
ORTHOPAEDIC SURGEONS

Registry Program
Improving Orthopaedic Care Through Data

VALIDCARE
wellbe.
OM1
Surgical Outcomes System™
VitalHealth
SOFTWARE
outcomeMD
The Approach to Excellence
CONSENSUS MEDICAL
SYSTEMS INC.
OR TECH

CODE
TECHNOLOGY
RATCHET
HEALTH
aver.
XForce
InVivoLink
amkai
SOLUTIONS
Q-Centrix™
tonic
READY SURGERY
-Safe Surgery Surgery-
Cerner
Epic
kermit™

[m]pirik
berd™
visiontree
healthcare solutions
vdx telehealth
ORTHOSENSOR™
CARESENSE
DuetHealth
A MedData Company
Clarify
wellpepper
gives your health a kick

Ease of Use



- Easy enrollment into additional registries: AJRR, SER, MST and future registries
- Use the same Platform-RegistryInsights™
- Access to the same resources as AJRR
 - Registry Support
 - Analytics

The AAOS Registry Program

Accessing Your Data

Three ways to access data

RegistryInsights™ Dashboards

Registry Analytics Institute (RAI)

Custom Reports

Standard Reports

Procedure Reports

Count of Components by Type

Count of Procedures by ICD-9 Procedure Codes

Count of Procedures by ICD-10 Procedure Codes

Count of Procedures by CPT Procedure Codes

Procedures With Component Information (ICD-9)

Procedures With Component Information (ICD-10)

Knee Procedures Submitted to AJRR (ICD-9)

Knee Procedures Submitted to AJRR (ICD-10)

Hip Procedures Submitted to AJRR (ICD-9)

Hip Procedures Submitted to AJRR (ICD-10)

Count of Procedures By Surgeon

Patient Reported Outcomes Reports

Assessment Summary

Patient Status Report

All Patients Due For Survey Report

Patient Compliance Report

Entries

Results 1-10 of 395

EDURE	LATERALITY	PROCEDURE DATE	ICD10 REMOVAL CODE	ICD10 REMOVAL DESCRIPTION	ICD10 REPLACEMENT CODE	ICD10 REPLACEMENT DESCRIPTION	PROCEDURE TYPE	ICD10 DIAGNOSIS CODE	ICD10 DIAGNOSIS DESCRIPTION
	Right	5/31/2016			0SRROJZ	Replacement of Right Hip Joint, Femoral Surface with Synthetic Substitute, Open Approach	Replacement	M80.851K	Other osteoporosis with current pathological fracture, right femur, subsequent encounter for fracture with nonunion
	Left	5/31/2016			0SRDOJ9	Replacement of Left Knee Joint with Synthetic Substitute, Open Approach, Cemented	Replacement	M17.12	Unilateral primary osteoarthritis, left knee
	Left	6/30/2017			0SRDOJ9	Replacement of Left Knee Joint with Synthetic Substitute, Open Approach, Cemented	Replacement	M17.12	Unilateral primary osteoarthritis, left knee
	Left	7/28/2017			0SRDOJ9	Replacement of Left Knee Joint with Synthetic Substitute, Open Approach, Cemented	Replacement	M17.12	Unilateral primary osteoarthritis, left knee
	Left	7/31/2017			0SRDOJ9	Replacement of Left Knee Joint with Synthetic Substitute, Open Approach, Cemented	Replacement	M17.12	Unilateral primary osteoarthritis, left knee

National Dashboards & Benchmarks

- Procedural Dashboards
- Post Op Complications
- PRO Dashboards

AAOS AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS | **registry insights™** | AJRR # | Welcome _X_Authorized User (impersonating AuthUserProAdmin Demo) | UNET Community | Feedback & Support | Sign out

HOME | SEARCH | **PRE-REGISTRATION** | DASHBOARD & REPORTS | TOOLS & RESOURCES | DATA MANAGEMENT | ADMINISTRATION

All | Pre-Registration Form | Pre-Registration Upload | All | All | 1/1/2001 | 12/31/2019 | 10/19/2015 | 2/25/2019

Post-Operative Visits Per Case: All

All Post-Operative Data - Nationally

Total Linked Post-Ops 5560	Total Linked Cases 5099	Average Length of Stay 6.0	Mean Age 69.1
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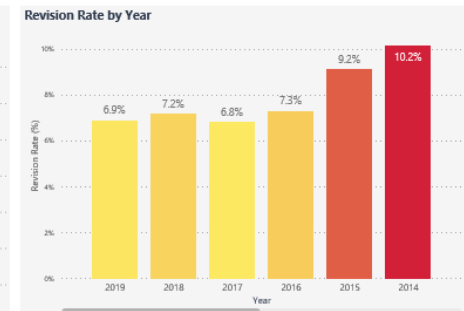
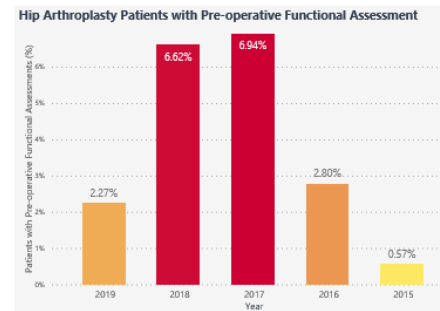
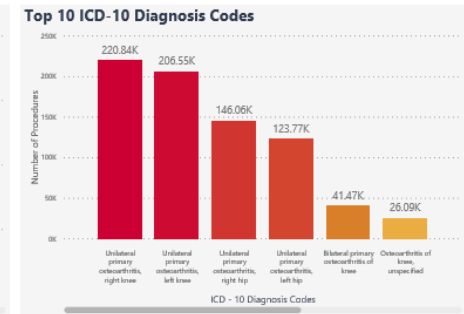
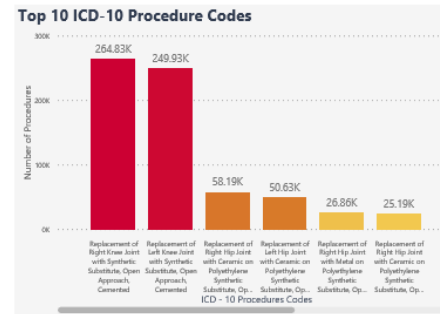
Discharge Disposition Distribution

Unknown Value	Discharged/transferred to...
474 (8.5%)	2565 (46.1%)
Discharged/transferred to...	Discharged/transferred to home care of or...
1076 (19.4%)	1255 (22.6%)

Top 10 ICD-10 Diagnosis Codes

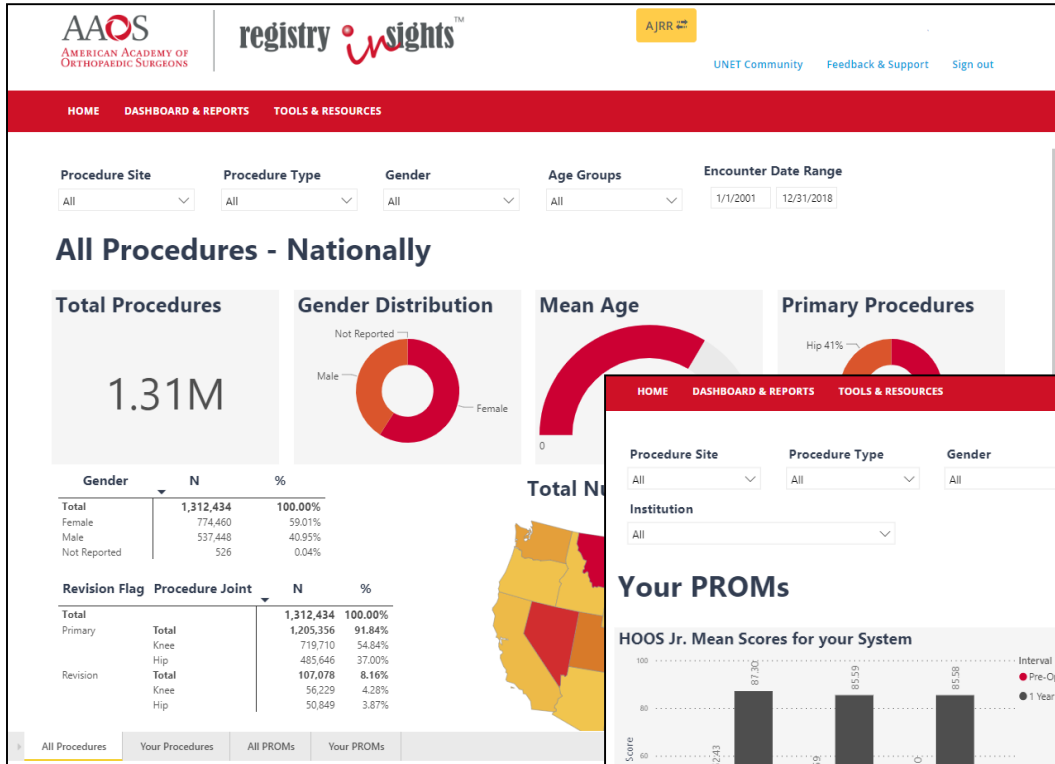
Unilateral primary osteoarthritis, left knee	0.26K
Unilateral primary osteoarthritis, left hip	0.24K
Unilateral primary osteoarthritis, right hip	0.23K
Unilateral primary osteoarthritis, right knee	0.23K
Aftercare following joint replacement surgery	0.15K
Infect/infl reaction due to internal left hip prosth, int	0.13K

Navigation: All Procedures | Your Procedures | **All Post-Operative Data** | Your Post-Operative Data | All PROMs | Your PROMs



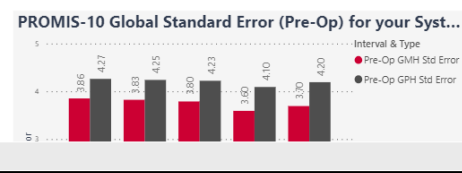
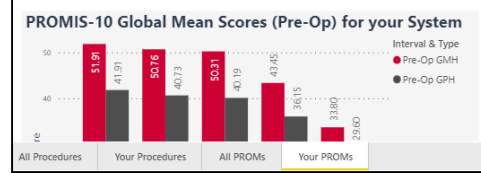
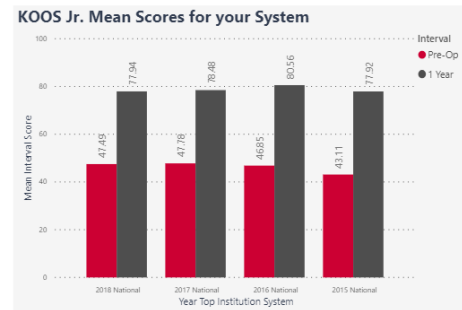
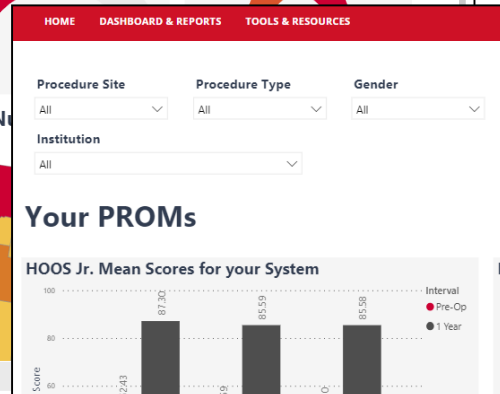
*For this performance measurement, 0.0% means that there is qualifying procedure but no assessments vs when nothing shows up there were no qualifying procedures.

Surgeon Dashboards



Surgeons have accounts where they are able to:

- see their procedural, post-operative and PROM data
- compare themselves to national benchmarks
- request custom reports
- opt to submit data for quality initiatives (e.g. MOC, QPP)



Registry Analytic Institute (RAI)



A resource to the scientific community to further understand and improve orthopaedic and musculoskeletal care



The Institute gives clinicians and clinician-scientists the opportunity to submit proposals to answer hypothesis



For more information visit the [RAI](#) site



Any questions and applications sent to: Analyticsinstitute@aaos.org

Custom Reports

Custom reports created by our analytics team to help understand and package your site data in an actionable format

Custom reports can include site specific metrics and shape continuous improvements to the canned dashboards provided

Aggregated Reports and national benchmarks for every metric across all data submitted including procedural, post-operative and PROMs data can be provided at your site level

The AAOS Registry Program

PROMs Portal

AAOS Registry Program RegistryInsights™ Platform

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ORTHOPAEDIC SURGEONS

registry insights™

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HOME SEARCH PRE-REGISTRATION DASHBOARD & REPORTS TOOLS & RESOURCES ADMINISTRATION

PROM HOME

Quick Links

- VIEW UPCOMING ASSESSMENTS
- VIEW PAST DUE ASSESSMENTS
- VIEW PRE-OP ASSESSMENTS

Participating Pro Institutions

INSTITUTION NAME	RESPONSE RATE PRE-OP	RESPONSE RATE POST-OP	RESPONSE RATE ALL
AJRR Test Hospital 1	0.4%	0.1%	0.1%
AJRR Test Hospital 2	23.9%	0%	10.2%
AJRR Test Hospital 3	0%	0%	0%
AJRR Test Hospital 4	20.9%	3.7%	14.1%
AJRR Test Hospital 5	0%	11.1%	5.6%

Stats

Registry Total Assessments
298.18 K

Your Total Assessments
65

Your Pre vs Post Completions

- Pre (82.5%)
- Post (17.5%)

Actual Cases
Earliest Procedure
10/20/2005
Latest Procedure
2/28/2018

Assessments Due in next 7 Days [MORE](#)

PATIENT ID	LAST NAME	FIRST NAME	CASE ID	ASSESSMENT NAME	INTERVAL	DUE DATE
7911	Last122444	First2387	PRC8097	CollaboRATE	Yearly	3/6/2019
7911	Last122444	First2387	PRC8097	KOOS	Yearly	3/6/2019

- View PRO benchmarks
- Assign and manage patient assessments
 - Time intervals
 - Type of assessment
- Preregister patients

PROM Management

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HOME / REPORTS

Procedure Reports Patient Reported Outcomes Reports

Count of Components by Type Assessment Summary

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HOME / REPORTS / PROM PATIENT STATUS REPORT

Entries 10 Results 1-10 of 120,06

ACCOUNT ID	HOSPITAL/ASC NAME	PATIENT ID	PATIENT LAST NAME	PATIENT FIRST NAME	PATIENT DATE OF BIRTH	PATIENT EMAIL ADDRESS	PATIENT PHONE TYPE	PATIENT PHONE NUMBER	PROCEDURE	LATERALITY	PLANNED SURGERY DATE	SURGEON NPI
1041062	SER Test Hospital 1	PRP30258	atAAOS	johnny	1/1/1980				Shoulder Arthroplasty	Left	1/24/2019	
1041062	SER Test Hospital 1	PRP30258	atAAOS	johnny	1/1/1980				Shoulder Arthroplasty	Left	1/24/2019	
1041061	SER Test Hospital 5	PRP30261	Bobby	Ricky	7/16/2019				Rotator Cuff Repair	Left	2/28/2019	1619012200
1041061	SER Test Hospital 5	PRP30261	Bobby	Ricky	7/16/2019				Rotator Cuff Repair	Right	2/28/2019	1619012200
1041062	SER Test Hospital 1	PRP30246	Brown	Charlie	1/1/1980				Shoulder Arthroplasty	Left	1/20/2019	
1041062	SER Test Hospital 1	PRP30246	Brown	Charlie	1/1/1980				Shoulder Arthroplasty	Left	1/20/2019	
1041062	SER Test Hospital 1	PRP30235	butkus	dick	1/1/1980				Shoulder Arthroplasty	Left	1/20/2019	

PRE-REGISTRATION FORM PRE-REGISTRATION UPLOAD

This form allows AJRR Users to pre-register patients prior to surgery for pre-operative, patient-reported outcome measures (PROMs) data collection. Once the form has been submitted, a patient pre-operative case will be added to the Registry. The pre-registration process permits users to collect PROMs from patients via the AJRR platform through the patient kiosk or through manual entry of a patients' PROMs responses into the platform if collected by paper or clinician/surrogate administration.

PART 1: Patient demographic details

Please complete all applicable required and optional fields of the patient demographic section. Note: Email is conditionally required, however if you are administering assessments via email you must provide a patient email or the system will not be able to send the email to the patient.

If the Patient Social Security Number (SSN) is not available, please select the 'Not Available' option next to the Social Security field. Please note that the Registry also accepts the last 4 digits of the SSN. Patient SSN assists the Registry with achieving its mission through the ability to track longitudinal device information.

Social Security*

 Not Available
 Email

PART 2: Pre-Operative Case Information

Please complete all applicable required and optional fields of the pre-operative case section. Case information is required for all cases to be added to the Registry. Please note that all case data requested pertains to future procedures.

Planned Proc Date

Procedure Site

 Shoulder
 Elbow

Institution

Surgeon

Payer Info

Access to PRO Instruments

Patients see PROMs survey questions asked in an easy to answer format



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Patient Gautam Jaiswal **Laterality** Left **Procedure Site** Knee **Surgeon**
Assessment KOOS JR **Version** 1 **Interval** 1 Year

General

How was this captured?

When was this captured?

Stiffness

The following question concerns the amount of joint stiffness you have experienced during the **last week** in your knee. Stiffness is a sensation of restriction or slowness in the ease with which you move your knee joint.

1. How severe is your knee stiffness after first wakening in the morning?

NONE	MILD	MODERATE	SEVERE	EXTREME
------	------	----------	--------	---------

Pain

What amount of knee pain have you experienced the **last week** during the following activities?

2. Twisting/pivoting on your knee

NONE	MILD	MODERATE	SEVERE	EXTREME
------	------	----------	--------	---------

3. Straightening knee fully

NONE	MILD	MODERATE	SEVERE	EXTREME
------	------	----------	--------	---------

4. Going up or down stairs

NONE	MILD	MODERATE	SEVERE	EXTREME
------	------	----------	--------	---------

5. Standing upright

NONE	MILD	MODERATE	SEVERE	EXTREME
------	------	----------	--------	---------

Function, daily living

The following questions concern your physical function. By this we mean your ability to move and activities please indicate the degree of difficulty you have experienced in the **last week** due to yo

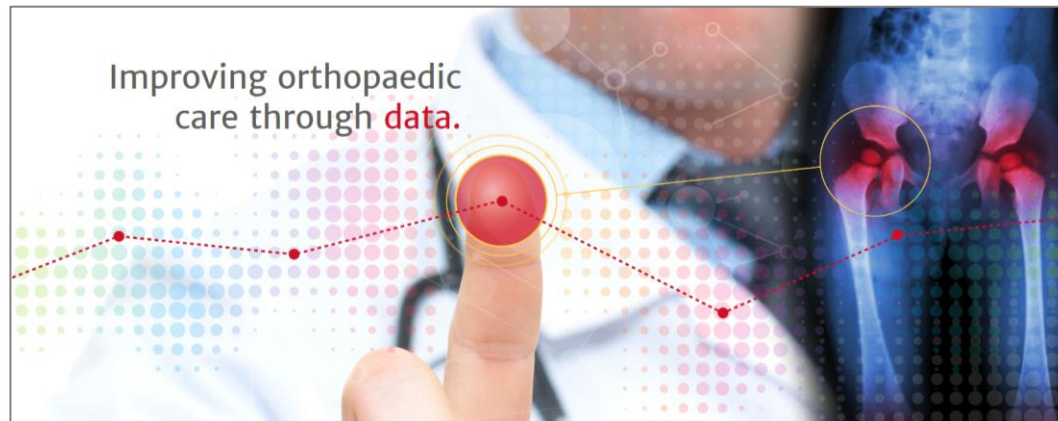
6. Rising from sitting

NONE	MILD	MODERATE	SEVERE	EXTREME
------	------	----------	--------	---------

7. Bending to floor/pick up an object

NONE	MILD	MODERATE	SEVERE	EXTREME
------	------	----------	--------	---------

THANK YOU!



Contact us:

RegistryEngagement@aaos.org

www.aaos.org/registries | RegistryInfo@aaos.org