AAOS Registry Program: Opportunities for Data Re-use

www.aaos.org/registries
Introductions

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At the Core of Academy Strategy

Registry Effort Goals

- Collect unique clinical information demonstrating *real-world practice*
- Enable *performance measurement* by physicians for physicians
- Facilitate national registry-driven *quality improvement* programs
- Support novel scientific *research*
AAOS Family of Registries

AAOS Board of Directors

Registry Oversight Committee (ROC)

Collaborative Registries

- Collaborative Registry with AANS & AAOS American Spine Registry (ASR)
  - Cervical Degenerative Spine
  - Lumbar Degenerative Spine
  - Accepts data from 2016 - present

- Shoulder & Elbow Registry (SER)
  - Shoulder Arthroplasty
  - Rotator Cuff Repair
  - Elbow Arthroplasty
  - Accepts data from 2016 - present

- American Joint Replacement Registry (AJRR)
  - Hip Arthroplasty
  - Knee Arthroplasty
  - Accepts data from 2012 - present

AAOS Registries

- Musculoskeletal Tumor Registry (MsTR)
  - Orthopaedic Oncology
  - Accepts data from 2016 - present
Registry Participation

Over 1,600 participating sites contracted and 12,200 registered surgeons across all 50 states.

Data representing over 2,090,000 procedures capturing over 40% of all US TJA volume annually.
Registry Informed Advocacy

- Real-world data about orthopaedic care
- Participation in both Fee-for Service (FFS) and Fee-for-Value (FFV) based payment models
- Providing for data re-use opportunities
American Joint Replacement Registry
AJRR Data Element Overview

**Procedure**

**Patient**
- Name, Date of Birth, SSN
- Diagnosis (ICD-9/10, CPT)
- Gender
- Race/Ethnicity
- Height + Weight/BMI
- Payer Status

**Site of Service**
- Name and Address (TIN, NPI)

**Surgeon**
- Name (NPI)
- Trainee

**Procedure**
- Type (ICD-9/10, CPT)
- Date of Surgery, Length of Stay
- Surgical Approach
- Surgical Technique
- Laterality
- Implants (Manufacturer, Lot #)
- Anesthesia

**Comorbidities and Complications**
- Comorbidities (ICD-9/10, CPT)
- CJR Risk Variables
- Height + Weight/Body Mass Index
- Length of Stay
- American Society of Anesthesiologists Score
- Charlson Index
- Operative and Post-operative Complications

**Patient-reported Outcomes**

*Recommended:*
- PROMIS-10 Global
- VR-12
- HOOS Jr. /KOOS, Jr.

*Also Accepted:*
- SF-36 v1
- HOOS/KOOS
- Oxford Hip and Knee Scores
- Knee Society Knee Scoring System
- Harris Hip Score
- WOMAC (Modified via HOOS and KOOS)
- SF-12, EQ-5D, WOMAC (only accepting final scores)

**Two Modules Available**
- Hip Arthroplasty
- Knee Arthroplasty

This page is a summary of the AJRR data elements and is not all inclusive.
ASR Data Element Overview

**Procedure**
- **Patient**
  - Name (Last, First), Date of Birth, SSN
  - Diagnosis (ICD-10, CPT)*
  - Gender
  - Race/Ethnicity

- **Site of Service**
  - Name and Address (TIN/NPI)

- **Surgeon**
  - Name (NPI)

- **Procedure**
  - Type (ICD-10, CPT)*
  - Date of Surgery
  - Spinal Approach
  - Implants and Grafts
  - Comorbidities (ICD-10, CPT)
  - Height + Weight/Body Mass Index
  - Length of Stay
  - American Society of Anesthesiologists Score

* Vanguard sites utilize an operative form for additional procedural & diagnosis detail

**Post-Operative**
- Operative and Post-operative Complications
- Secondary Surgical Procedures
- Anticoagulation

**Patient-reported Outcomes***

- **Recommended**
  - Numeric Rating Scale (NRS)
  - PROMIS Physical Function or Oswestry Disability Index (ODI) / Neck Disability Index (NDI)
  - PROMIS-10 or VR-12

- **Additional Options Accepted**
  - PROMIS-29 or PROMIS-CAT
  - PROMIS Emotional Distress – Depression
  - PROMIS Emotional Distress – Anxiety
  - PROMIS Pain Interference
  - EQ-5D

* Vanguard sites pursue longer PROMs post-operative follow-up (min 1 year) compared to standard sites (min 90 days)

Two Modules Available
- Cervical
- Lumbar

This page is a summary of the ASR data elements and is not all inclusive.
Shoulder & Elbow Registry
SER Data Element Overview

**Procedure**

**Patient**
- Name, Date of Birth, SSN
- Diagnosis (ICD-10, CPT)
- Gender
- Race/Ethnicity
- Height + Weight/Body Mass Index
- Payer Status

**Site of Service**
- Name and Address (TIN, NPI)

**Surgeon**
- Name (NPI)
- Trainee

**Procedure**
- Type (ICD-10, CPT)
- Date of Surgery, Length of Stay
- Surgical Approach
- Surgical Technique
- Laterality
- Implants (Manufacturer, Lot #)
- Anesthesia

**Module-specific Procedural Elements**
- Shoulder Arthroplasty Module: Includes codes for replacements, revisions, and fractures
- Elbow Arthroplasty Module: Ulnar Nerve Management
- Rotator Cuff Repair Module: Expanded ICD-10 and CPT options for shoulder, including muscle, tendon, and arthroscopy codes

**Comorbidities & Complications**
- Comorbidities (ICD-10, CPT)
- Height + Weight/Body Mass Index
- Length of Stay
- American Society of Anesthesiologists Score
- Charlson Index
- Operative and Post-operative Complications

**Patient-reported Outcome**
- PROMIS-10 Global
- VR-12
- SANE
- ASES

**Three Modules Available**
- Shoulder Arthroplasty
- Elbow Arthroplasty
- Rotator Cuff Repair

This page is a summary of the SER data elements and is not all inclusive.
Musculoskeletal Tumor Data Element Overview: Baseline

Patient
• Name, Date of Birth, SSN
• Diagnosis (ICD-10, CPT)
• Gender
• Race/Ethnicity
• Height + Weight/Body Mass Index
• Payer Status

Site of Service
• Name and Address (TIN, NPI)

Surgeon
• Name (NPI)
• Trainee

Surgical Intervention
• Procedure Type (ICD-10, CPT)
• Date of Surgery
• Implants
• Details surrounding surgery type
• Comorbidities (ICD-10)

Non-Surgical Intervention
• Chemotherapy
• Radiation
• Clinical Trial

Tumor Baseline
• Size
• Metastasis at diagnosis
• Margins
• Tissue Type
• Biopsy Type

One Module Available
• Orthopaedic Oncology

This page is a summary of the MsTR data elements and is not all inclusive.
Musculoskeletal Tumor Data Element Overview: Encounters & PROs

**Encounters**

- Comorbidities (ICD-10, CPT)
- Hospital Admission
- Procedure (ICD-10, CPT)
- Diagnosis (ICD-10, CPT)
- Recurrence
- Chemotherapy
- Radiation

**Patient-reported Outcomes**

- PROMIS-10 Global
- VR-12
- MSTS
- TESS

**Patient**

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

**Site of Service**

- Name and Address (TIN, NPI)

**Surgeon**

- Name (NPI)
Integration of Medicare Data

Access to Medicare claims inclusive of inpatient (148 data elements), outpatient (122 data elements) & National Death Index

2012-2018 for all patients represented in Registry with Medicare records

Participants have access to custom reports that compare their site to the national Annual Report analyses, inclusive of survivorship curves
Qualified Clinical Data Registry

- AAOS maintains a QCDR designation
- Specialty society driven participation in the Merit-Incentive Based Payment System (MIPS)
- QCDR provides participants access to Promoting Interoperability (PI) and Quality Payment Program (QPP) credit
- Additional opportunities for alternative reporting for the bundled payment through BPCI-A episodes
<table>
<thead>
<tr>
<th>Steps to a Successful Start</th>
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<tbody>
<tr>
<td><strong>Contract &amp; Welcome</strong></td>
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<tr>
<td>• Execute contract</td>
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<tr>
<td>• Schedule a Welcome call to identify your sites key contacts and roles with the Registry</td>
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<tr>
<td><strong>Data Collection &amp; File Build</strong></td>
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<tr>
<td>• Walkthrough file development and file build</td>
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<tr>
<td>• File submission (SFTP/HTTPS) account creation</td>
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<tr>
<td><strong>Test File Submission</strong></td>
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<tr>
<td>• Two rounds of test file submissions</td>
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<tr>
<td><strong>Live File Submission</strong></td>
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<tr>
<td>• Final production set up and first live data submission</td>
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<tr>
<td><strong>RegistryInsights® Walkthrough</strong></td>
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<tr>
<td>• Once data has been submitted, sites will have a walkthrough with staff to review dashboards, reports, PROMs and other platform functionality</td>
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Submission Best Practices

Most participants submit monthly

Ideally, uploads are automated

Monitor uploads through RegistryInsights®
Decrease Data Collection 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.
Three Ways to Access Data

- Custom Reports
- RegistryInsights® Dashboards
- Registry Analytics Institute®
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.
RegistryInsights® Dashboards

- On-demand practice specific dashboards
- Compare your practice to national performance benchmarks
- Unlimited surgeon accounts with access to system, site, and surgeon level dashboards

All Procedures - Nationally

Total Procedures: 2.05M
Gender Distribution:
- Male: 1.20M, 58.3%
- Female: 0.85M, 41.7%
Mean Age: 67.1
Primary Procedures:
- Total: 1.87M, 91.4%
- Knee: 0.75M, 36.7%
- Hip: 0.49M, 23.6%

Top 10 ICD-10 Procedure Codes
- Procedure: Procedure Code
- Rank: Rank
- Total: Total
- %: %

Top 10 ICD-10 Diagnosis Codes
- Procedure: Procedure Code
- Rank: Rank
- Total: Total
- %: %
Surgeon Dashboards

Authorized Surgeon Users

- View their procedural, post-operative and PROM data
- National benchmarks for comparison measures
- Request custom reports
- Submit data for quality initiatives (e.g. ABOS MOC, ABNS CC, QPP, BPCI-A)
### Procedure Reports

- Count of Components by Type
- Count of Procedures by ICD-10 Procedure Codes
- Count of Procedures With Components
- Shoulder Procedures With Components
- Count of Procedure Components

### Patient Reported Outcomes Reports

- Assessment Summary
- Patient Status Report

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**Registry Program**

*Improving Orthopaedic Care Through Data*
The goal of the AAOS Registry Analytics Institute is to provide a resource to the scientific community to further understand and improve orthopaedic and musculoskeletal care by making data available to examine outcomes related to orthopaedics.

- The Institute provides clinicians and clinician-scientists the opportunity to submit proposals for analytic insight that are contained within its various registries.
- Selected awardees receive statistical support, data analyses, and potential monetary support.
Why Do Sites Participate?

- Compare your practice 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 & Centers of Excellence
- Qualify for national distinction programs such as the Joint Commission Advanced Certification & AAAHC
- Use for reporting to quality improvement programs such as MIPS, BPCI-A, ABOS MOC & ABNS CC
- Early access to surveillance alerts for poorly performing implants
- Improve the value of care delivered to Patients

Registry Program
Improving Orthopaedic Care Through Data

American Academy of Orthopaedic Surgeons
Data Reuse Opportunities

Participation in the American Academy of Orthopaedic Surgeons (AAOS) Registry Program offers a wide variety of data reuse opportunities including requirements for quality initiatives and state collaboratives.

- AAOS RegistryInsights® Platform Standard Reports and personalized dashboards
- AAOS RegistryInsights National Benchmarks
- Accreditation Association for Ambulatory Health Care (AAAHC) Advanced Orthopaedic Certification
- Aetna Institutes of Quality (IOQ) Orthopaedic Surgery
- American Board of Neurological Surgery (ABNS) Continuous Certification (CC)
- American Board of Orthopaedic Surgeons (ABOS) Maintenance of Certification (MOC) Program
- BlueCross BlueShield Blue Distinction Specialty Care
- Blue Shield of California waiver of prior authorization
- Bree Collaborative
- CMS Merit-based Incentive Payment System (MIPS) Promoting Interoperability (PI) and Quality Payment Program (QPP)
- Centers for Medicare & Medicaid Services (CMS) Bundled Payments for Care Improvement Advanced (BPCI-A)
- CMS Comprehensive Care for Joint Replacement (CJR) Model
- Cigna Surgical Treatment Support Program
- DNV GL Orthopaedic Center of Excellence
- The Alliance QualityPath
- The Joint Commission Advanced Certification for Total Hip & Knee Replacement
Commitment To Quality

Partnerships/Collaborations

- The Joint Commission
- DNV-GL
- ASCA
- OrthoForum
Upcoming Registry Program Events

- An Introduction to the AAOS Registry Analytics Institute (James I. Huddleston III, MD, FAAOS, the Vice Chair of the AJRR Steering Committee)
  - Date: 10/12/20
  - Webinar Times: 8:15 pm to 9:15 pm ET; 7:15 to 8:15 pm CT

- AAOS Registry Insights 101: An Overview of the Academy’s Registry Platform
  - Date: 10/20/20
  - Time: 1:00 pm to 2:00 pm ET; 12:00 to 1:00 pm CT

Sign up here: AAOS Course Calendar
Questions?

RegistryEngagement@aaos.org

www.aaos.org/registries