AAOS
American Academy of Orthopaedic Surgeons

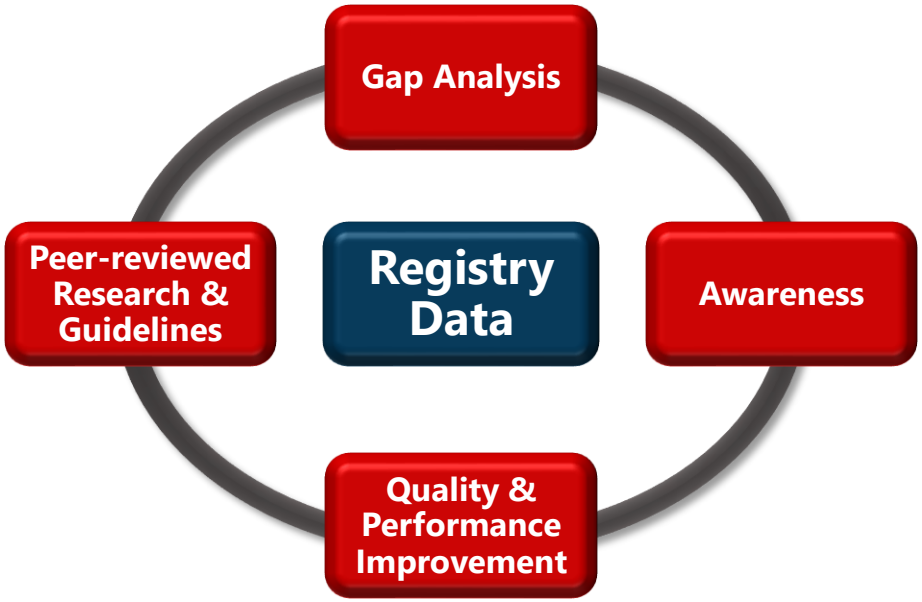
Shoulder & Elbow Registry
Improving Orthopaedic Care Through Data

SER Introduction

Gerald R. Williams Jr., MD
SER Steering Committee Chair

www.aaos.org/registries/ser

At the Core of Academy Strategy

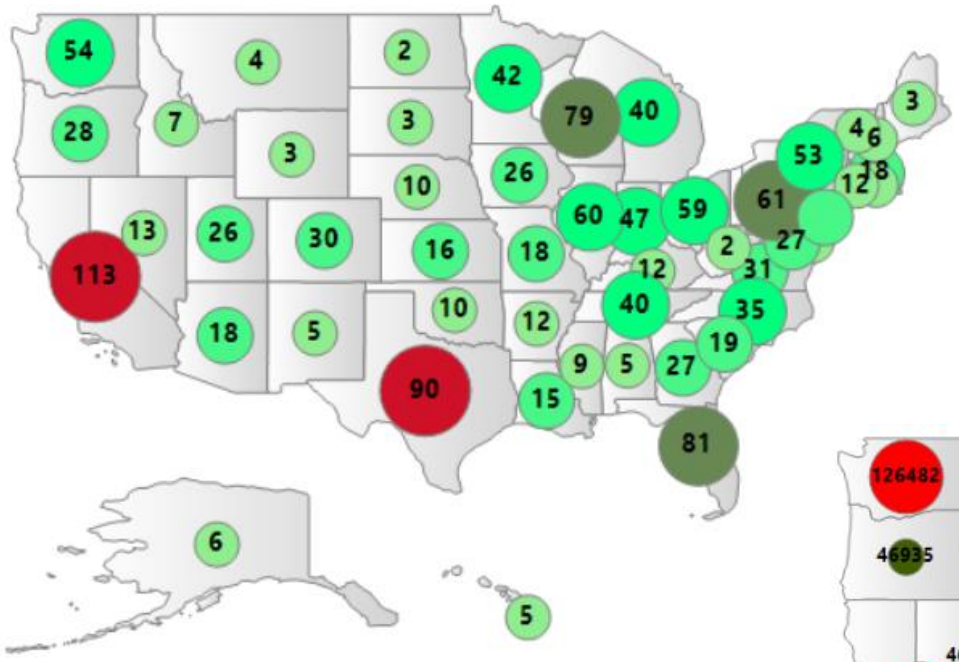


Registry Effort Goals

- ✓ 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***

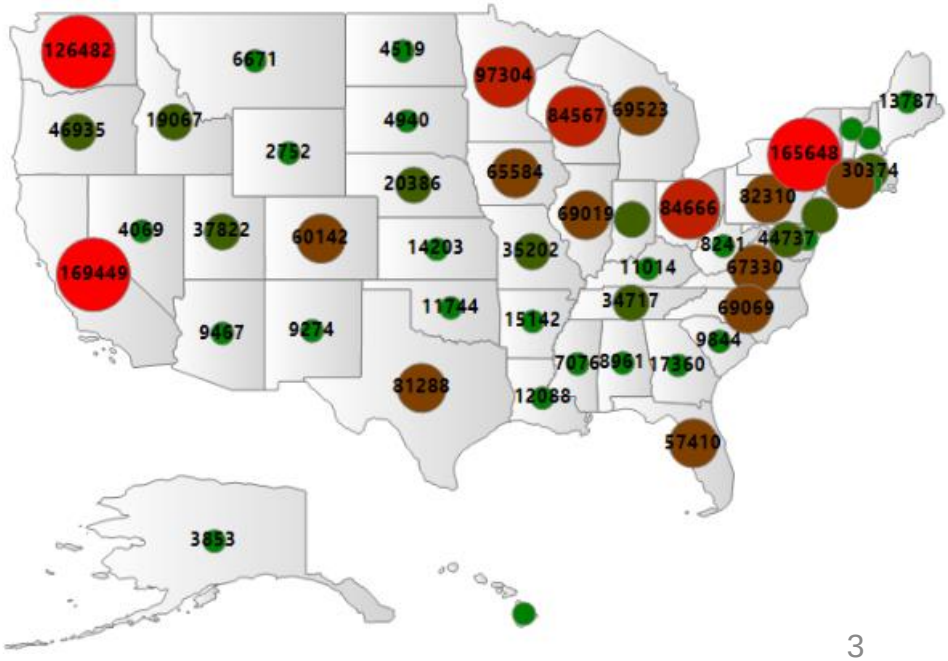
Participation Across the Registries

Sites by State



The portfolio of registries has over 1,600 participating sites contracted and 12,100 registered surgeons across all 50 states.

Procedures by State



Within the family of registries, data representing over 2,000,000 procedures capturing over 40% of all US TJA volume annually.

About SER

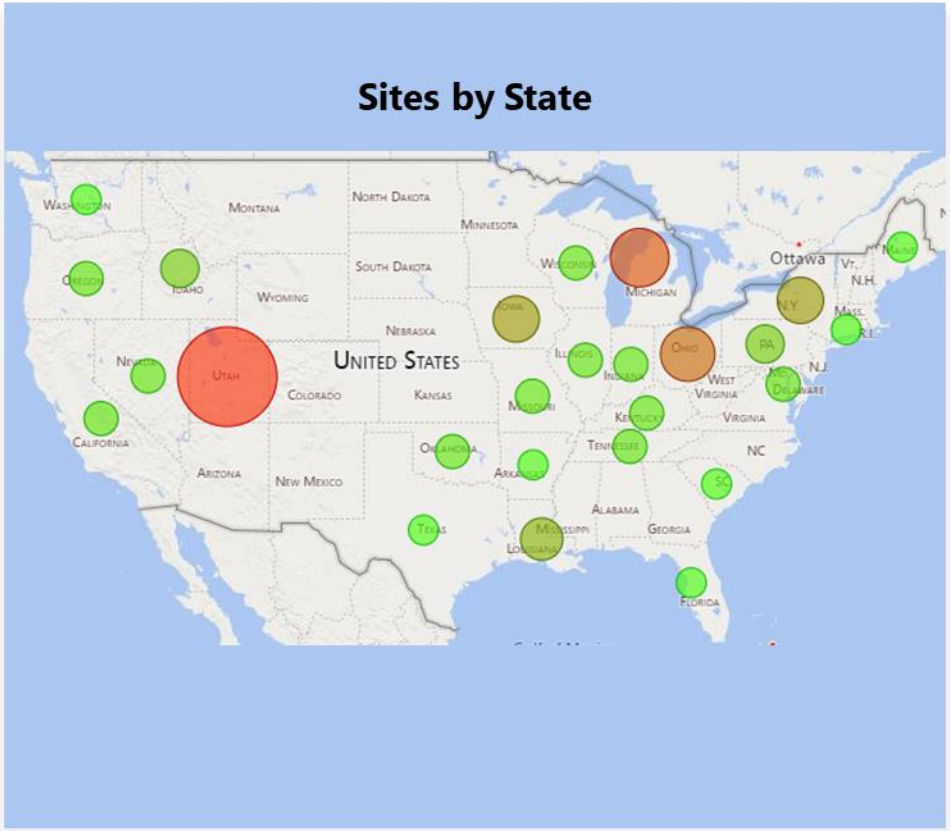
- Working in collaboration with the specialty societies, the Academy created this Registry to collect shoulder and elbow procedural data across the United States.
- National data allows for establishing survivorship curves, tracking revisions, and improving the quality of patient care.
- Individual data can be accessed and used for performance improvement and quality initiatives on RegistryInsights® for site/surgeon users.

SER Steering Committee

- **Gerald R. Williams Jr., MD, Chair**
  The Rothman Institute
- **Mark E. Baratz, MD**
  American Society for Surgery of the Hand (**ASSH**) Representative
  Orthopaedic Specialists-UPMC
- **Stephen F. Brockmeier, MD**
  American Orthopaedic Society for Sports Medicine (**AOSSM**) Representative
  University of Virginia
- **Grant E. Garrigues, MD**
  American Shoulder and Elbow Surgeons (**ASES**) Representative
  Midwest Orthopaedics at Rush
- **John E. Kuhn, MD**
  Vanderbilt University Medical Center
- **Ronald A. Navarro, MD**
  Kaiser Permanente South Bay
- **Joaquin Sanchez-Sotelo, MD**
  Mayo Clinic
- **Richard Seiden, Esq.**
  Public Advisory Board (PAB) Representative
- **Patrick St. Pierre, MD**
  Arthroscopy Association of North America (**AANA**) Representative
  Desert Orthopedic Center
  Eisenhower Health
- **Stephen C. Weber, MD**
  The Johns Hopkins School of Medicine

SER Progress

- Over 10,000 procedures submitted across the US
- Approaching 100 contracted sites and 300 participating surgeons



SER Annual Report

- 7,834 patient procedures featured
- 60% of the 4,002 shoulder arthroplasty procedures were rTSA
- Average age of the 3,784 rotator cuff repairs procedures was 52.1 years
- Over 80% of patients were classified at pre-obese or obese for both procedure types

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

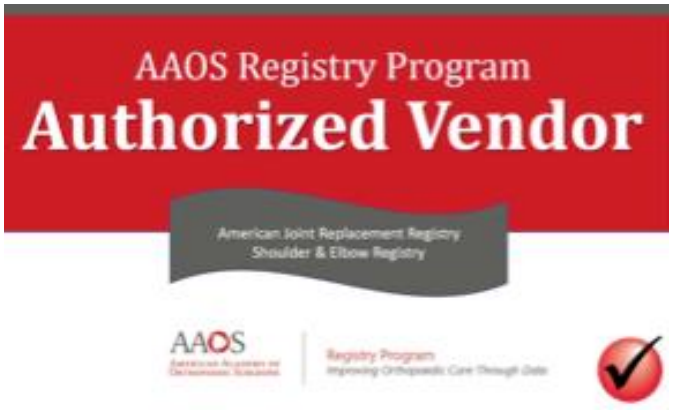
This page is a summary of the SER data elements and is not all inclusive.

Integration of Medicare Data

- Access to **Medicare claims** inclusive of inpatient (148 data elements), outpatient (122 data elements) & National Death Index
- Linked by full identifiers for longitudinal tracking
- 2012-2019 Medicare data for all patients represented in Registry with quarterly updates
  - Medicare files ~ 1 year delayed
  - National Death Index ~ 2 years delayed
  - National Inpatient Sample (NIS) integrated as reference data for representative analyses
  - NPPES dataset incorporated for NPI validation
- Access to custom reports that compare their site to the national Annual Report analyses, show migration trends, etc.

SER Partnerships

- AAOS has executed an MOU with the Ambulatory Surgical Center Association (ASCA) to complete an ASC pilot aimed at decreasing barriers and increasing ASC participation in SER
- AAOS has also executed a MOU with OrthoForum and OrthoConnect to facilitate private practice participation in SER
  - OrthoForum and OrthoConnect name SER as the recommended registry for their members



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

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

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

Three Ways to Access Data

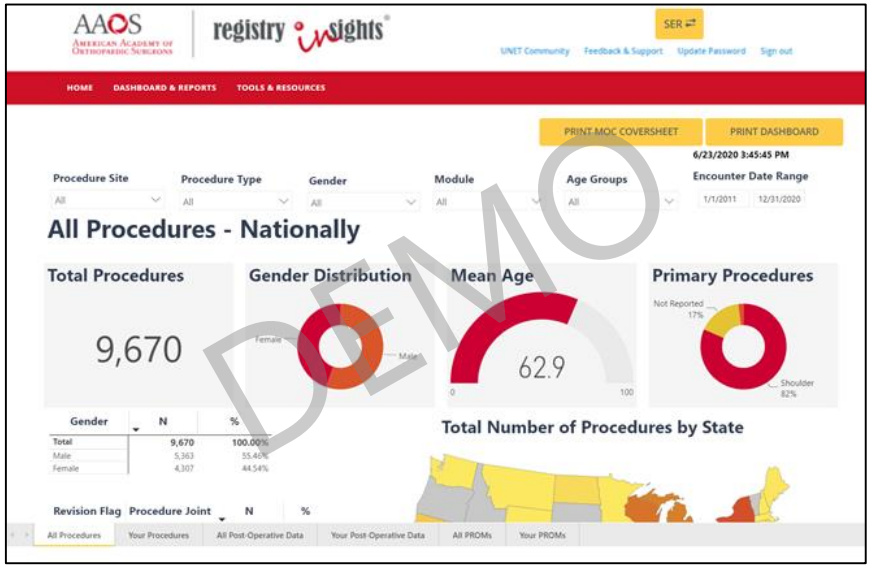
RegistryInsights®
Dashboards

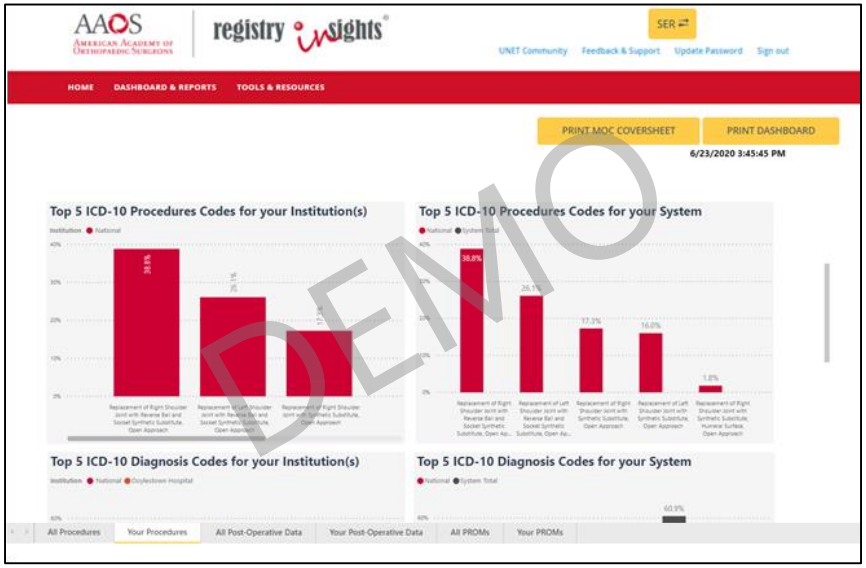
Custom
Reports

Registry Analytics
Institute®

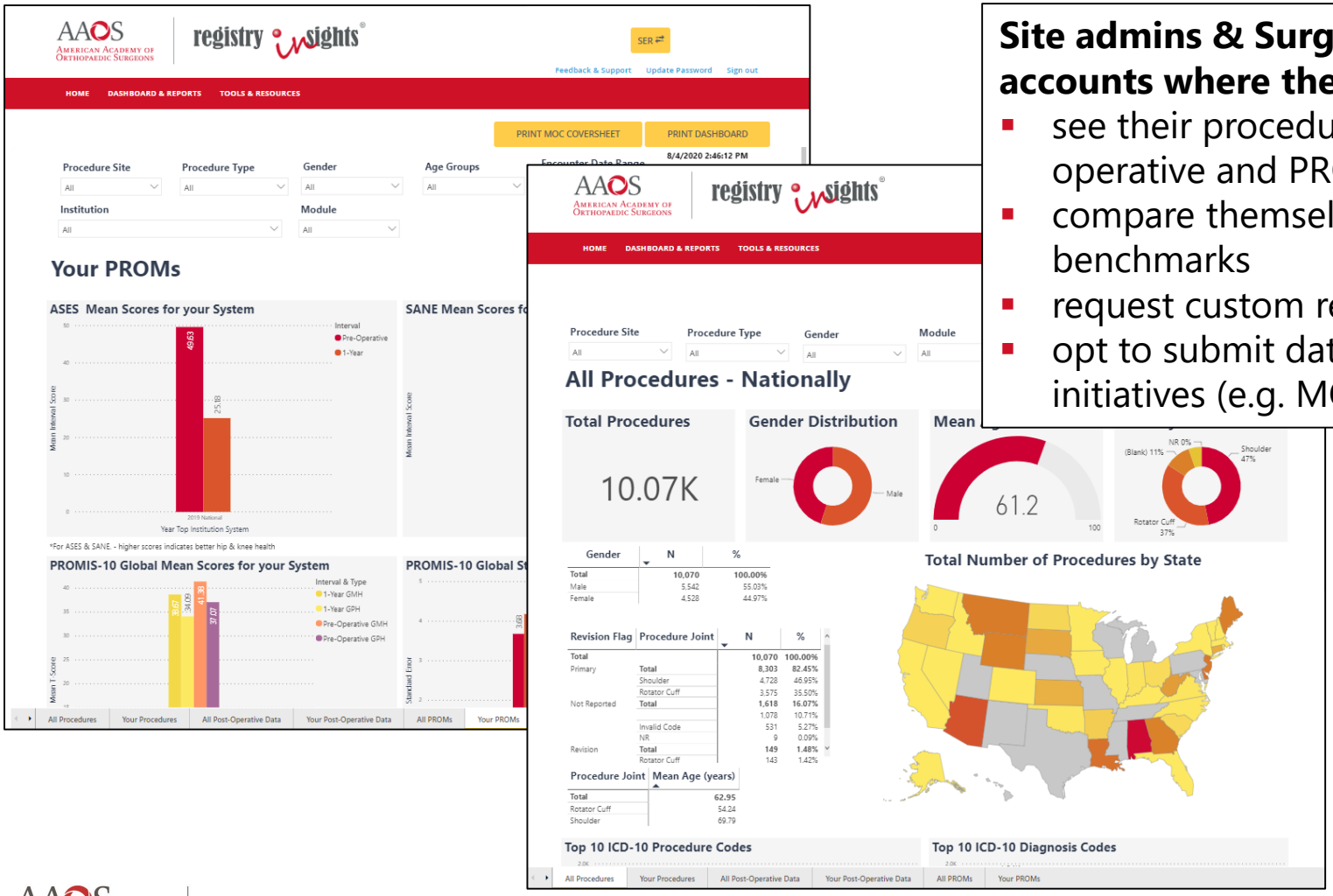
RegistryInsights® Dashboards

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





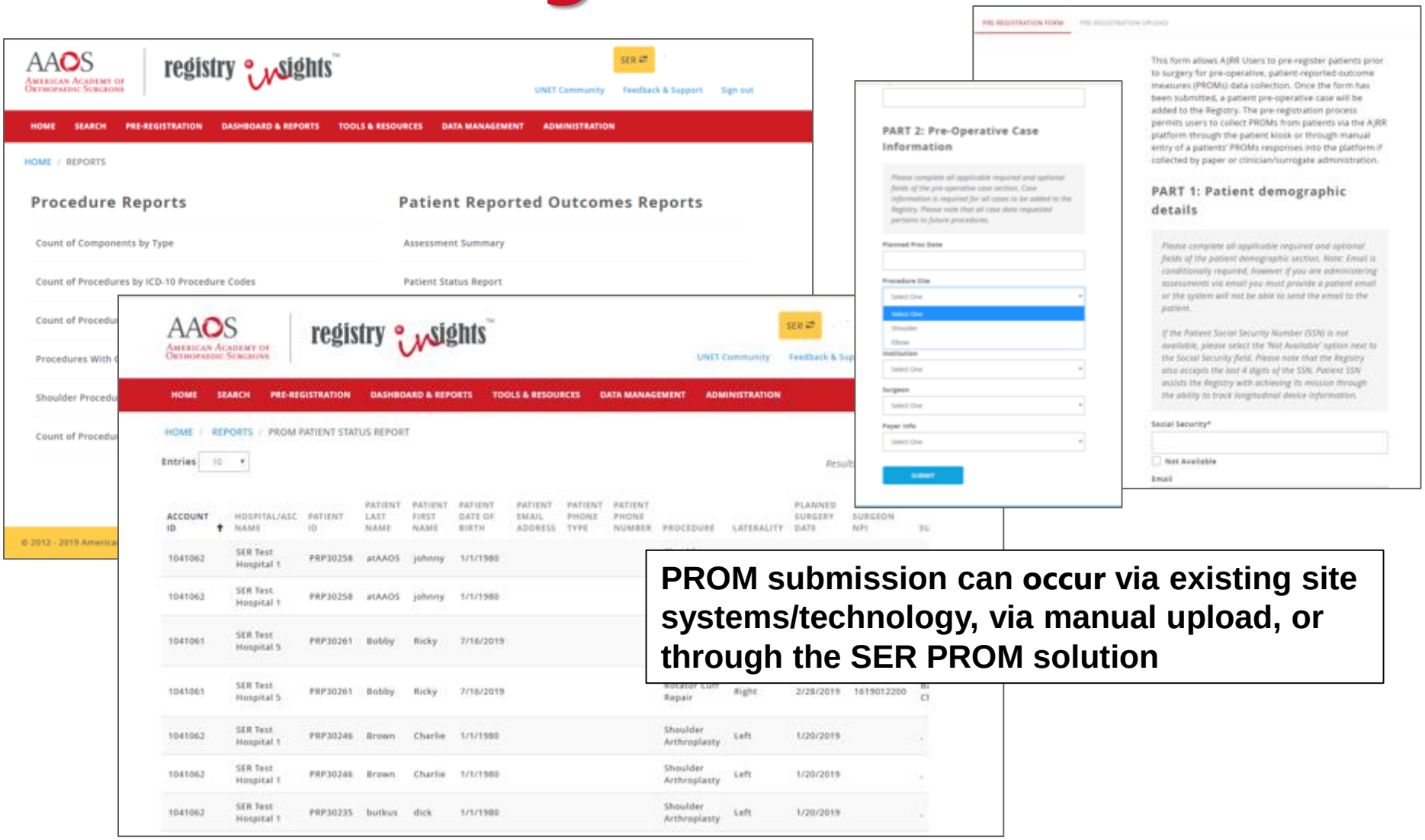
Site & Surgeon Feedback



Site admins & 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)

PROM Management



PROM submission can occur via existing site systems/technology, via manual upload, or through the SER PROM solution

Custom Reports

Custom reports created by the Registry 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

Registry Analytics Institute®

- 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 Surgeons Participate?

- Compare your practice and your own data to **national performance** benchmarks
- Utilize the Surgeon Platform's benchmarks, statistics, and interactive abilities for analytics and facilitate **internal quality improvement** efforts
- Access to on-demand practice specific **quality reports and dashboards**
- Sites will be recognized in the **Annual Report**
- Facilitate tracking and monitoring of **longitudinal** patient outcomes
- Qualify for **national distinction programs** such as the Joint Commission Certification and AAAHC
- Use for reporting **to quality improvement programs** such as MIPS, BPCI-A, and ABOS MOC
- Early access to **surveillance alerts** for poorly performing implants
- Improve the **value of care** delivered to patients

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Questions?

RegistryInfo@aaos.org

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