FTR POWERED BY PATIENTIQ

The Stanford Medicine Story

May 15, 2024

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I (and/or my co-authors) have nothing relevant to disclose.

Detailed disclosure information is available via:

AAOS Disclosure Program on the AAOS website at
http://www.aaos.org/disclosure

AAOS
American Academy of Orthopaedic Surgeons

FTR FRACTURE & TRAUMA REGISTRY

SPEAKERS

Michael J. Gardner, MD, FAAOS
Stanford Medical
FTR Steering Committee Chair

Matthew Gitelis
Founder, CEO
PatientIQ

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AGENDA

1. **Introduction**
   - FTR Overview
   - Stanford FTR Participation Goals & Challenges
   - FTR powered by PatientIQ Solution
2. **Stanford FTR Implementation**
   - Automated Data Collection
   - Implementation Success
3. **How to Get Started**
4. **Q&A**

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INTRODUCTION

FRACTURE & ORTHOPAEDIC TRAUMA REGISTRY

- **Mission:** To improve orthopaedic fracture care through the collection, analysis, reporting, and research of traumatic fractures of the extremities and pelvis

- **Vision:** To be a National Registry that empowers quality improvement and research for orthopaedic trauma of the extremities and pelvis in order to optimize patient care

AAOS
American Academy of Orthopaedic Surgeons

OTA
Orthopaedic Trauma Association

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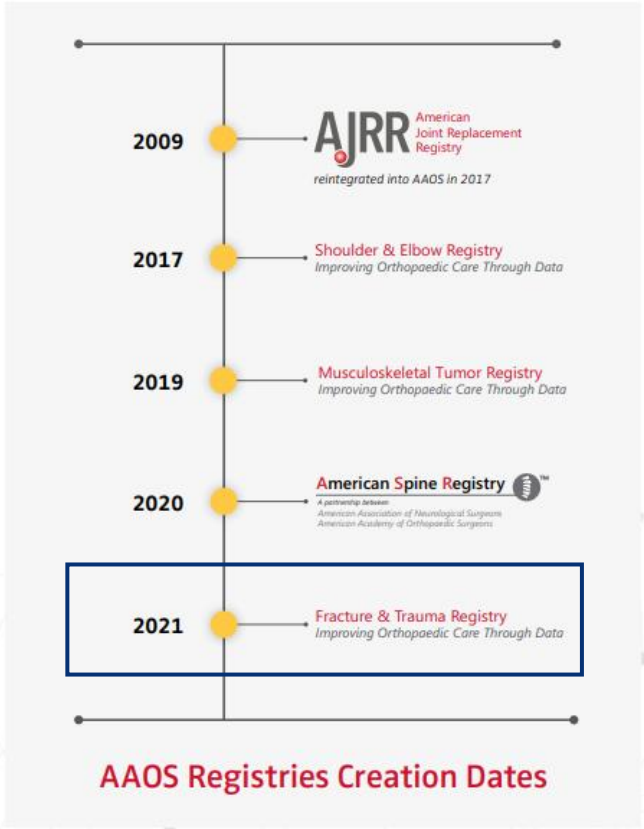
American Academy of Orthopaedic Surgeons

FTR
Fracture & Trauma Registry

FRACTURE & ORTHOPAEDIC TRAUMA REGISTRY



AAOS Registries Creation Dates

ESTABLISHED IN 2021, PUBLIC LAUNCH IN 2022

- **35+ sites actively contracted**
- **17,000+ procedures**

5 MODULES

- Ankle Fracture
- Distal Femur Fracture
- Distal Radius Fracture
- Hip Fracture
- Proximal Humerus Fracture

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FTR STEERING COMMITTEE

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- Case Western Reserve University

DATA COLLECTED BY THE FTR

Patient	Fracture Classification	Procedure	Comorbidities and Complications	Patient-Reported Outcomes

• Name (Last, First)
• Date of Birth
• Social Security Number
• Diagnosis (ICD-10)
• Gender
• Race/Ethnicity
• Residential Setting
• Ambulatory Status
• Pre-operative Modified Frailty Index (MFI-5)
• Delirium Score
	• AO/OTA Classification
	• Fracture Type
	• Fracture Group
		• Type (ICD-10, CPT)
		• Date of Surgery
		• Injury Data
		• Regional Block
		• Osteoporosis Screening
		• Calcium/Vitamin D Supplementation
		• Implants and Grafts
			• Comorbidities (ICD-10)
			• Height + Weight/Body Mass Index
			• Length of Stay
			• American Society of Anesthesiologists Score
			• Charlson Comorbidity Index (CCI)
			• Operative and Post-operative Complications
			• COVID-19 as a prior diagnosis
				• PROMIS-10 Global or VR-12
				• PROMIS Physical Function
				• Anatomic-specific PROMs for each module
				• **Also Accepted:**
				  • PROMIS-29
				  • PROMIS Anxiety
				  • PROMIS Depression
				  • PROMIS Pain Interference
				  • PROMIS-CAT (only accepting summary scores)

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ADVANCED DATA ELEMENTS

Ankle	Anesthesia Type	1-6 (1=General; 2=Spinal; 3=Epidural; 4=Nerve block: Femoral/Sciatic/Adductor/etc; 5=Monitored Anesthesia Care (MAC), 6=Not reported or NR). NOTE: A com be used if there is more than one technique "1, 2" for general, spinal).
Ankle	Associated Articular Impaction	1-3 (1=Yes; 2=No; 3=Not Reported or NR)
Ankle	Injury Type	1-6 (1=Lateral Fracture; 2=Posterior Fracture Fracture,4=Syndesmotic Injury, 5=Medial De Reported) NOTE: a comma separation may more than one
Ankle	Fixation Type	1-9 (1=Lateral Treatment, 2=Lateral Adjunct Malleoulus Treatment, 4=Medial Treatment Fixation, 6=Other Treatment, 7=Ankle Arthr 8=AdjunctTreatment, 9=Not Reported or NF
Ankle	Ankle Dislocation	1-3(1=Subluxation; 2=Dislocation; 3=Not Re
Ankle	Fracture Open/Close Status	1-3(1=Open; 2=Closed; 3=Not Reported or N
Ankle	Closed Reduction	1-3 (1=Yes; 2=No; 3=Not Reported or NR)
Ankle	Staged from External Fixation	1-3 (1=Yes; 2=No; 3=Not Reported or NR)
Ankle	Modified 5-Item Frailty Index C	Total; 0-5, Not reported or NR

Distal Radius	Anesthesia Type	1-4 (1=General; 2=Nerve Block: Interscalene 3=Monitored Anesthesia Care (MAC); 4=No NOTE: A comma separation may be used if one technique administered (e.g., "1, 2" for
Distal Radius	Fracture Type	1-4 (1=Extraarticular Fracture (2R3A), 2=Par (2R3B), 3=Complete Articular Fracture (2R3 NR)
Distal Radius	Fracture Status	1-3 (1=Open; 2=Closed; 3=Not reported or
Distal Radius	Pre-Op Closed Reduction	1-3 (1=Yes; 2=No; 3=Not reported or NR)
Distal Radius	Angulation Type	1-3 (1=Dorsal; 2=Volar; 3=Not reported or N
Distal Radius	Shear Type	1-3 (1=Dorsal; 2=Volar; 3=Not reported or NR)
Distal Radius	Scaphoid Fracture	1-3 (1=Yes; 2=No; 3=Not reported or NR)
Distal Radius	Ipsilateral Ulnar Fracture	1-5 (1=None; 2=Styloid; 3=Head; 4=Shaft; 5=Not reported or NR)
Distal Radius	Fixation Type	1-4 (1=ORIF; 2=External Fixation; 3=CR/pinning; 4=Not reported or NR)
Distal Radius	TFCC Repair	1-3 (1=Yes; 2=N
Distal Radius	DRUJ Stabilization	1-5 (1=Splint, 2 Reported)
Distal Radius	Modified 5-Item Frailty Index C	Total; 0-5, Not

Distal Femur	Anesthesia Type	1-6 (1=General; 2=Spinal; 3=Epidural; 4=Nerve block: Femoral/Sciatic/Adductor/etc; 5=Monitored Anesthesia Care (MAC), 6=Not reported or NR). NOTE: A comma separation may be used if there is more than one technique administered (e.g., "1, 2" for general spinal).
Distal Femur	Fracture Type	1-5 (1=Extraarticular Fracture (33A), 2=Partial Articular Fracture (33B), 3=Complete Articulate Fracture (33C), 4= Periprosthetic, 5=Not Reported or NR)
Distal Femur	Fixation Type	1-6 (1=Lateral Locking Plate, 2=Retrograde Nail, 3=Nail Plate Combination, 4=Dual Plates, 5=Distal Femur Replacement (DFR), 6=Not Reported or NR)
Distal Femur	Bone Defect	1-3 (1=Yes; 2=No; 3=Not reported or NR)
Distal Femur	Bone Cement	1-3 (1=Yes; 2=No; 3=Not reported or NR)
Distal Femur	Modified 5-Item Frailty Index C	Total; 0-5, Not reported or NR

Hip	Anesthesia Type	1-7 (1=Genera Plexus/Psoas/ Femoral/Sciati Care (MAC) ; 7=Not reported or NR); PLEASE NOTE: a comma separation may be used if there is more than one technique administered (e.g., "1, 4").
Hip	Surgical Approach	1-5 (1=Anterior (any type); 2=Lateral (any type); 3=Posterior (any type); 4=Other; 5=Not Reported or NR)
Hip	Surgical Technique	1-4 (1=Hemiarthroplasty; 2=Total Joint Arthroplasty; 3=Fixation; 4= Not Reported or NR)
Hip	Fracture Type	1-4 (1=Intertrochanteric Fracture (31A); 2=Femoral Neck Fracture (31B); 3=Subtrochanteric Fracture, 4=Not Reported)
Hip	Fracture Stability	1-3 (1=Stable; 2=Unstable; 3=Not Reported)
Hip	Modified 5-Item Frailty Index C	Total; 0-5, Not reported or NR

Proximal Humerus	Anesthesia Type	1-4 (1=General; 2=Nerve Block: Interscalene/Axillary/etc; 3=Monitored Anesthesia Care (MAC); 4=Not reported or NR). NOTE: a comma separation may be used if there is more than one technique administered (e.g., "1, 2" for general with nerve block).
Proximal Humerus	Fracture Type	1-4 (1=Extraarticular, unifocal, 2-part fracture (11A), 2=Extraarticular, bifocal, 3-part fracture (11B), 3=Articular or 4-part fracture (11C), 4=Not Reported or NR)
Proximal Humerus	GH Dislocation	1-3 (1=Yes; 2=No; 3=Not Reported or NR)
Proximal Humerus	Full RCT	1-3 (1=Yes; 2=No; 3=Not Reported or NR)
Proximal Humerus	Shoulder Osteoarthritis	1-3 (1=Yes; 2=No; 3=Not Reported or NR)
Proximal Humerus	Inflammatory Arthritis	1-3 (1=Yes; 2=No; 3=Not Reported or NR)
Proximal Humerus	Surgical Approach	1-5 (1=Deltopectoral; 2=Deltoid Split/Anterolateral; 3=Percutaneous; 4=other; 5=Not reported or NR)
Proximal Humerus	Surgical Technique	1-6 (1=Hemiarthroplasty; 2=Reverse Shoulder Arthroplasty; 3=IM Nailing; 4=Locked Plating; 5=Percutaneous Pin Fixation; 6= Not Reported or NR)
Proximal Humerus	Modified 5-Item Frailty Index C	Total; 0-5, Not reported or NR

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BENEFITS OF ADVANCED DATA

The overall quality, accuracy, and completeness of Registry data will be enhanced by capturing a broader array of advanced clinical information through clinician-entered elements.

Enriched Data Set

Comprehensive and detailed datasets support more robust analyses, leading to better-informed decision-making, research outcomes, and quality improvement initiatives

Accuracy

Clinician-entered data is often more accurate and reflective of the actual patient encounter. Clinicians can verify and validate the information they input, ensuring data accuracy and integrity.

Completeness

Help fill gaps and ensure that all pertinent clinical details are documented in real-time, minimizing the risk of data gaps or omissions that could compromise the completeness of the dataset.

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STANFORD GOALS

Stanford was motivated to participate in the AAOS Fracture & Trauma Registry

Improved Patient Outcomes

- Benchmark against national data
- Implement evidence-based practices

Quality Improvement

- Track performance metrics
- Identify and close care gaps

Clinical Research

- Access comprehensive data for research
- Develop and test new surgical protocols

Personalized Patient Care

- Utilize patient-reported outcomes
- Enhance patient engagement

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STANFORD CHALLENGES

Stanford faced challenges collecting patient and surgical data

- **Clinical burden to collect surgical and patient-reported outcomes data**
- **IT burden to extract, aggregate, format and submit data each month**
- **Lack of advanced data available in the EHR for registry-specific use cases**

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FTR POWERED BY PATIENTIQ SOLUTION

To reduce the burden on Stanford's clinical and IT teams, PatientIQ:

1. Automates collection of all procedure and patient-reported outcomes data
2. Embeds forms in Epic to collect clinician-entered, advanced data
3. Aggregates and translates data to meet registry specifications
4. Submits data to FTR monthly

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STANFORD FTR IMPLEMENTATION

AUTOMATED PATIENT ENROLLMENT

Patients are automatically enrolled into the appropriate FTR project when a visit is scheduled

1 INTEGRATE

2 IDENTIFY

3 ENROLL

1 ELIGIBLE PATHWAY DETECTED

Visit Location: OR #1

Surgery Type: Hip Arthroplasty

Attending Provider: Dr. Gardner

FTR Ankle Fracture Project	Enroll
FTR Distal Radius Project	Enroll
FTR Hip Fracture Project	Enrolled

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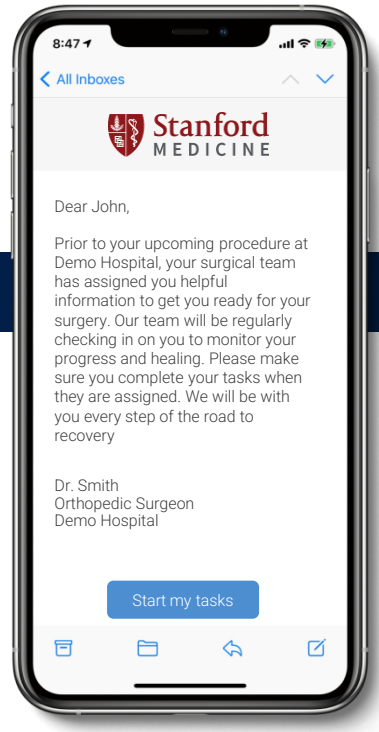
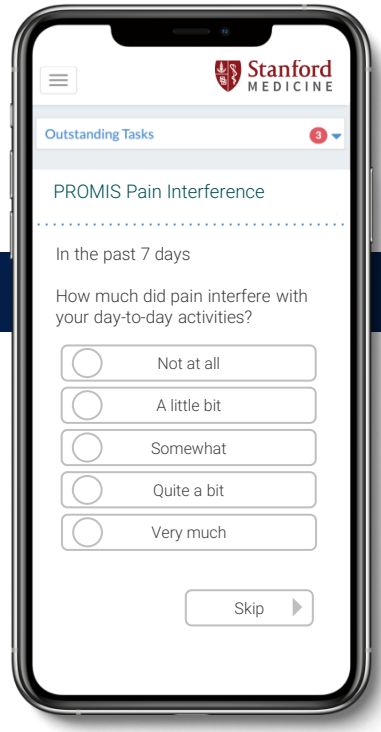
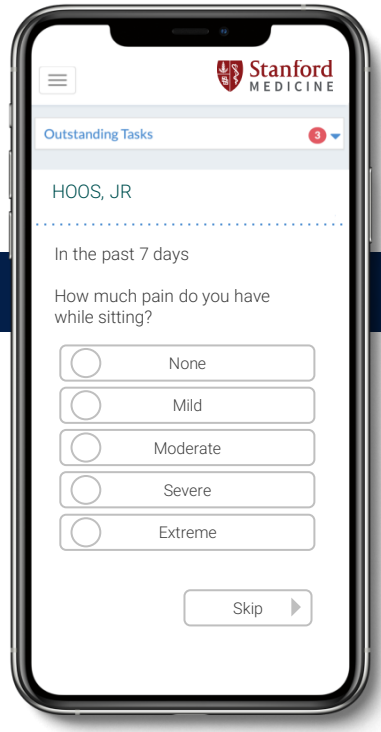
AUTOMATED PRO DATA COLLECTION

Patients receive automated engagements to collect patient-reported outcomes data







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AUTOMATED PROCEDURE DATA COLLECTION

FTR forms are embedded directly in Epic and auto-populated with all data required for submission

patient IQ onFHIR

Patient Demographics
- First & Last Name
- Date of Birth
- Date of Death
- Race, Ethnicity, & Sex
- Email & Phone Number

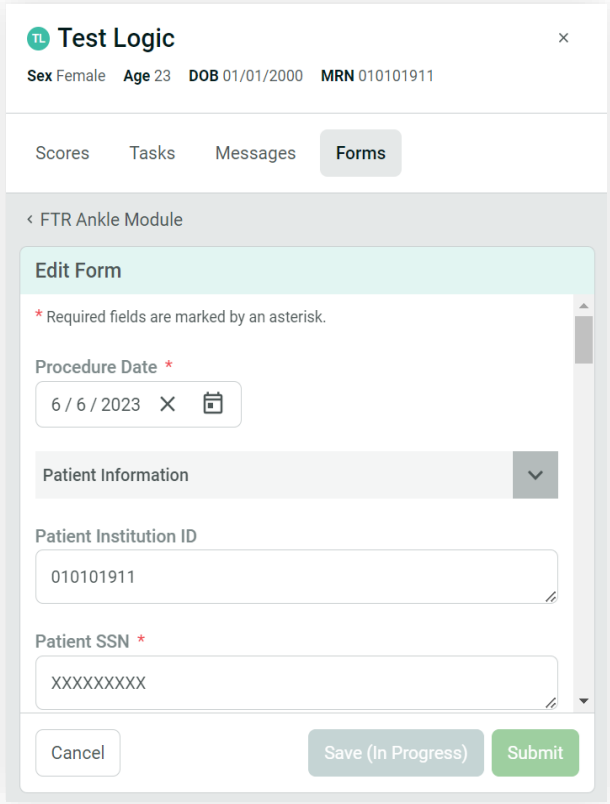
Vitals
- Blood pressure
- Heart rate
- Height & weight
- Body Mass Index

Encounter Information
- Date & Location
- Provider
- Diagnosis (ICD 10)
- Procedures (CPT)

Procedures
- Performer
- Date & Time
- Body site

Health Insurance
- Coverage Status & Type
- Member & Group ID

Implants
- Universal Device Identifier
- Manufacturer



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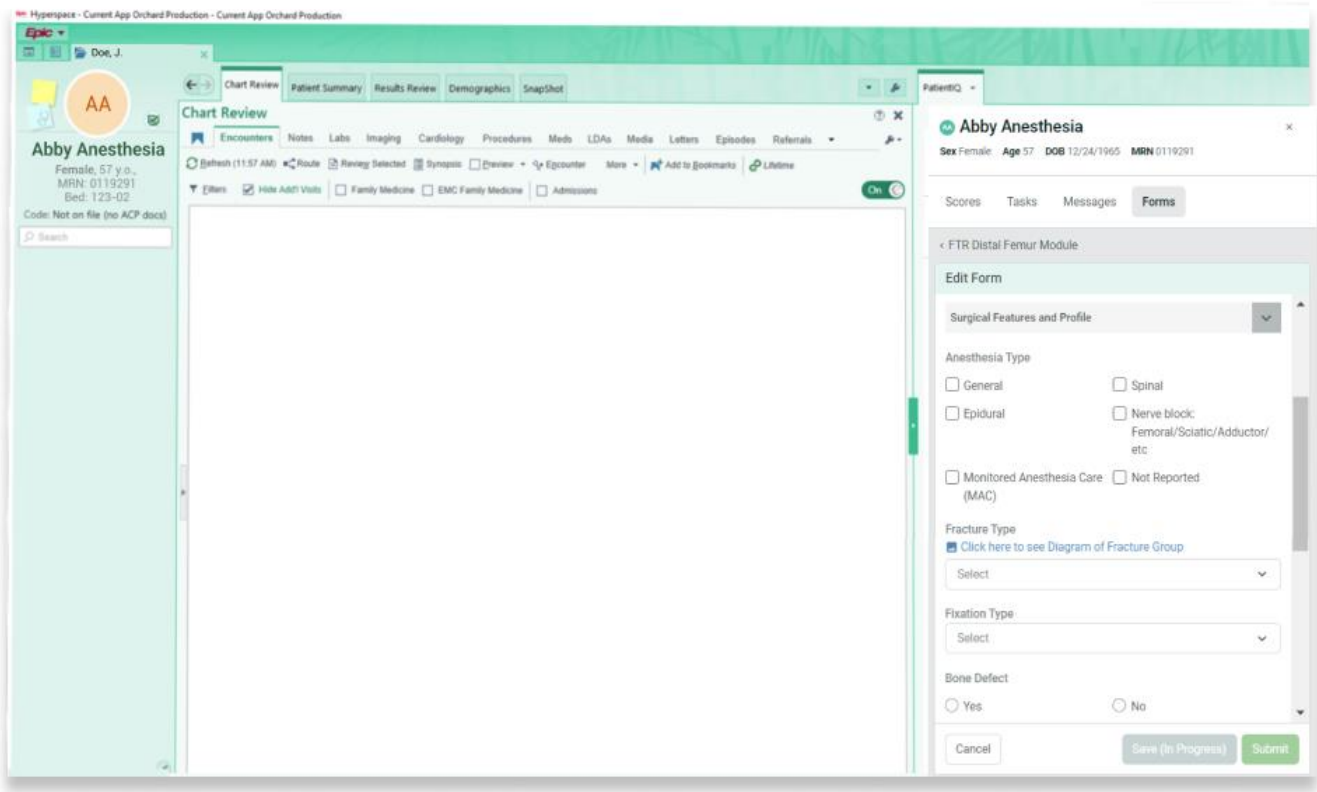
CLINICIAN-ENTERED ADVANCED DATA

Stanford can easily populate advanced surgical information at the point of care

Forms Populated Directly in Epic

- Stanford collects advanced data that is not available as structured fields in the EHR or accessible for extraction



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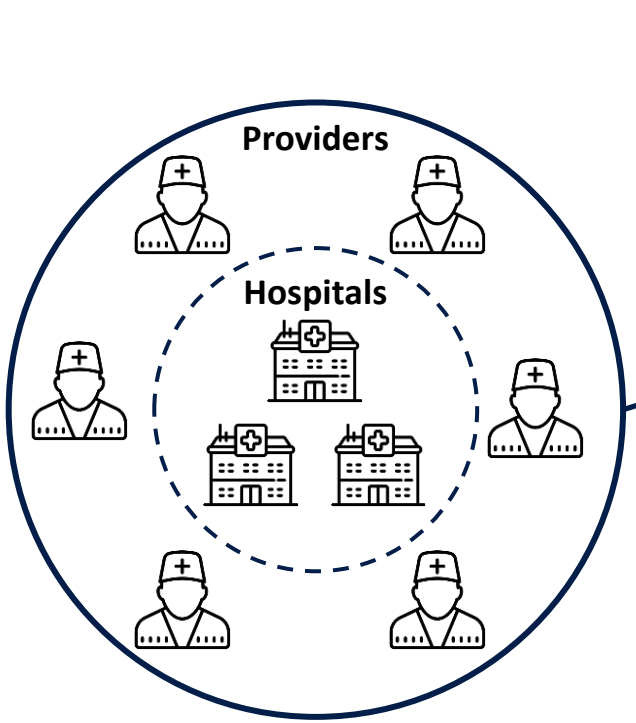
AUTOMATED SUBMISSION TO FTR

PatientIQ aggregates, validates, formats and submits all data to FTR monthly



Patient Data

pIQ

FTR Submission

- Ankle Fracture
- Distal Radius Fracture
- Distal Femur Fracture
- Hip Fracture
- Proximal Humerus Fracture

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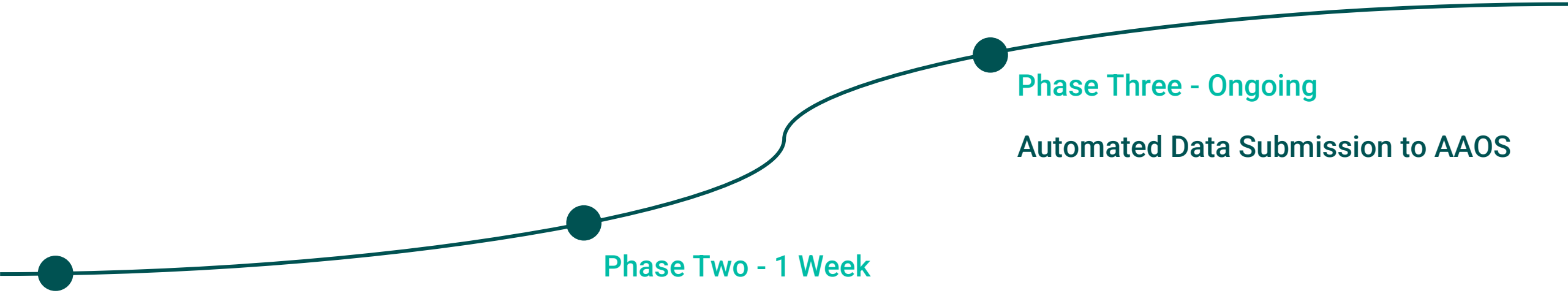
IMPLEMENTATION SUCCESS



Phase One – 3 Weeks

Project Kickoff, Requirements
& Platform Setup

Phase Two - 1 Week

Surgeon Training
& Advanced Data Collection Go-Live

Phase Three - Ongoing

Automated Data Submission to AAOS

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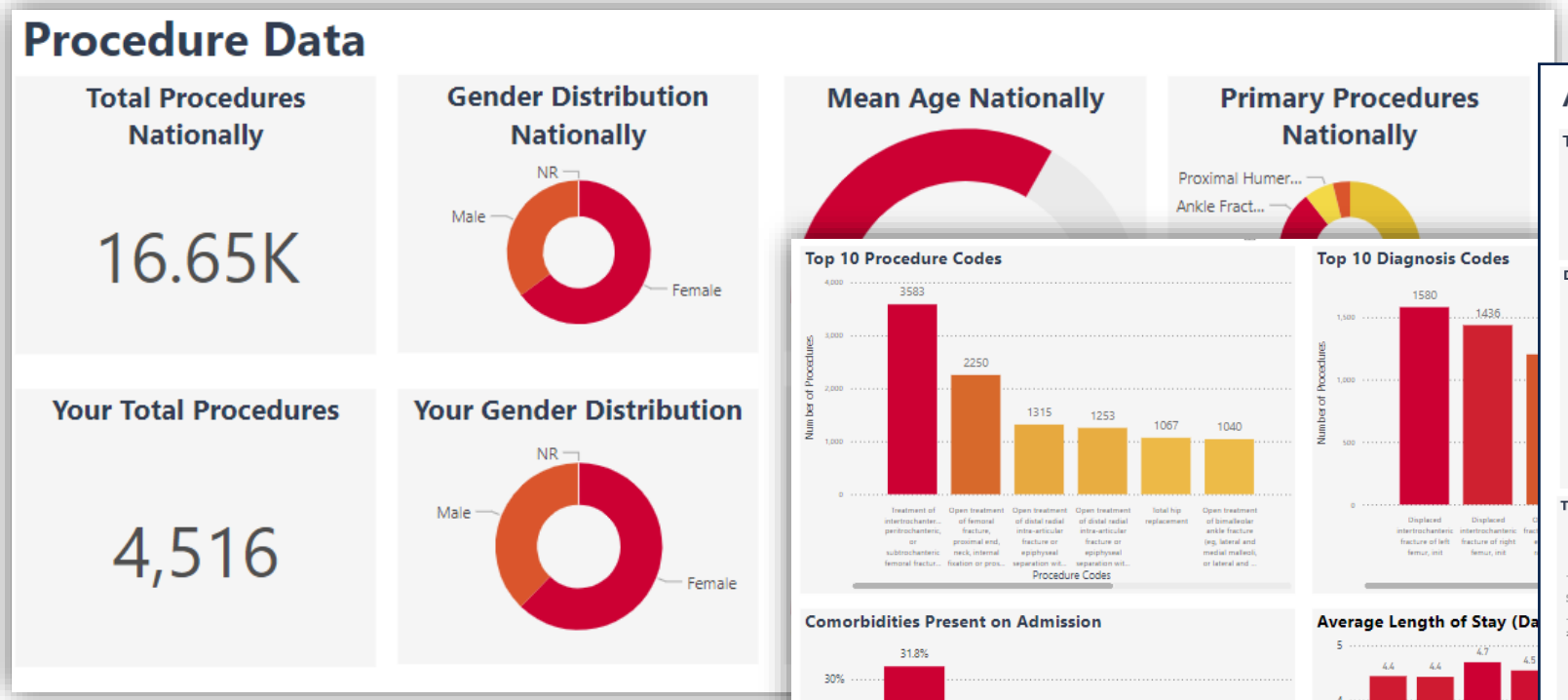
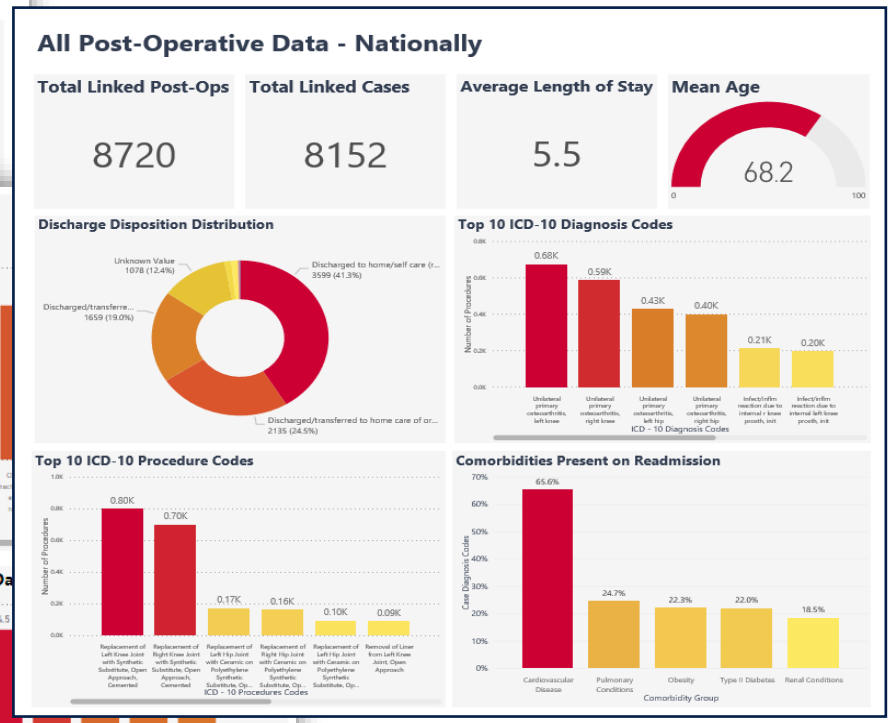
VALUE DELIVERED

Stanford now has access to rich benchmarking and reporting via the AAOS Registry Insights portal





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GETTING STARTED WITH FTR

PARTICIPATION OPTIONS

AAOS and PatientIQ offer the most effortless way to practice evidence-based medicine

FTR Participation Options	Standard FTR Participation	AAOS FTR powered by PatientIQ*
1. Automated collection of procedure data		✓
2. Automated collection of patient-reported outcomes data		✓
3. EHR-embedded forms to collect clinician-entered, advanced data		✓
4. Data aggregation and translation to meet registry specifications		✓
5. Automated monthly submission to AAOS		✓

**Pricing available upon request, option to leverage PatientIQ for larger patient-reported outcomes solution or for registry participation only*

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GETTING STARTED

1. Contact the AAOS Registry Engagement team (registryengagement@aaos.org)
2. Schedule an introductory meeting with AAOS & PatientIQ
3. Kick off implementation & EHR integration
4. PatientIQ sets up platform and begins submitting data to FTR

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QUESTIONS?