Optimizing Staffing for Comprehensive Orthopaedic Care

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University of Missouri, Columbia
Presentation Goals

This Presentation Will Cover

i. Building the MOI allowed for a multidisciplinary, comprehensive approach

ii. Moving from Traditional to Comprehensive orthopaedic care

iii. What caused this change?

iv. Our comprehensive service teams – spine, total joints, and sports

v. Integration of Advance Practice Providers (APPs)
The MOI and Its Comprehensive Nature

• Even after nearly 10 years in operation, very few places have emulated the Missouri Orthopaedic Institute’s comprehensive nature

• We are a full service orthopaedic HOSPITAL complete with inpatient beds, therapy services, and non-operative specialists

• We host visiting institutions and faculty from around the globe to learn our culture
Not Just a Building ... It’s Our C³ Mission

Based Around the Findings of Jim Collins’ book “Good to Great”

• Our entire workforce lent its perspective on the 3 core areas we need the MOI to represent on a daily basis

• We found our hedgehog concept!
A Brief Look at the MOI
A Brief Look at the MOI

A nearly 200,000 square foot facility

- 12 operating rooms
- 42 private inpatient rooms
- Seven digital X-rays plus EOS/CT/2 MRI
- 70 exam rooms
- A fourth floor dedicated to orthopaedic research
- A restaurant for patients and visitors plus a coffee kiosk/bistro in the main entrance lobby
- Full-service therapy center (6,755 square feet)
- Valet parking
- Pharmacy
- Provider and staff office space
- Presentation and meeting rooms
Traditional vs. Comprehensive Orthopaedics

Traditional – Our view 12 years ago
## Traditional vs. Comprehensive Orthopaedics

### Today’s Comprehensive Care Providers

<table>
<thead>
<tr>
<th>General Providers</th>
<th>PLUS</th>
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<tr>
<td>Orthopaedic Surgeons</td>
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<td>Physiatrists (PM&amp;R)</td>
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<td>Podiatrists</td>
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<td>Chiropractors</td>
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<td>Osteopathic Physicians</td>
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<td>Family and Internal Medicine Physicians</td>
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<td>Radiologists</td>
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<td>Anesthesiologists</td>
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<td>Infectious Disease Specialists</td>
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<td>Bariatric Services</td>
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<td>Behavioral Health</td>
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### PLUS

- APPs
  - APRN
  - PA
  - CNS

- ATCs
- ATC-OTCs
- RN/LPN/MAss
- Physical Therapists
- Dieticians
- Social Workers
What Was the Bellwether Signal for this Change?

Musculoskeletal Disease in the United States
Who Provides the Care?

Robert R. Karpman, MD, MBA

2001 – “Failure (to meet the demands of MSK care) ultimately may knock the orthopaedic specialty out of its unique position in the care of patients with musculoskeletal disease.”
— Robert Karpman

2016 – Population growth is increasing the demand for MSK care but we are unable to increase the number of surgeons due to restrictions on graduate medical education residency slots.
Breakdown of MSK Providers

Musculoskeletal Providers in the U.S.

- 34.2% Family Physicians
- 29.1% Orthopaedic Surgeons
- 20.2% Chiropractors
- 9.7% Physiatrists
- 3.5% Podiatrists
- 2.1% Osteopathic Physicians

Stats compiled from various 2019 MSK care provider sites
Karpman’s Seven Multi-Fold Reasons for Change

1. Advances in orthopaedic technologies have the orthopedist drawn to surgical interventions.
Karpman’s Seven Multi-Fold Reasons for Change

2. Reimbursement mechanisms have encouraged surgical intervention.
3. Referring physicians and the community perceptions that “orthopaedic surgeons” are not interested in treating “chronic” MSK conditions (non-surgical)
Karpman’s Seven Multi-Fold Reasons for Change

4. Increase in political influence on other health care providers have expanded their scope of practice.

DO
PM&R
Non-Op
Family Med
Medicine
Chiropractic
Karpman’s Seven Multi-Fold Reasons for Change

5. A consistent rise in subspecialty training in orthopaedic surgery.
Karpman’s Seven Multi-Fold Reasons for Change

6. A change in emphasis in orthopaedic residency training programs into areas of sub specialization and SURGICAL intervention.

2019-2020 Orthopaedic Surgery Resident Rotation Schedule

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<td>VA</td>
<td>Trauma</td>
<td>Sports</td>
<td>Shoulder</td>
<td>Trauma</td>
<td>Christmas</td>
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<td>Trauma</td>
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<td>Trauma</td>
<td>Sports</td>
<td>VA</td>
<td>Spine</td>
<td>Trauma</td>
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7. A desire of the general population to seek (non-surgical) alternatives to traditional medicine.
Systemwide Lack of Cooperation

- Lack of co-location and coordination of the three disciplines managing spine conditions at MUHC
- Timely access for new patient and follow-up visits
- Lack of coordination — to provide patient access to all services within MUHC for spinal care:
  - Physical Therapy
  - Mental Health
  - Non-Operative

...was a MAJOR undertaking!
MU Comprehensive Spine Center

Comprehensive Center Opened February 2015

- **Only regional hospital** to offer a multidisciplinary spine center
- **Increases care options** – allows patients access to non-operative and surgical spine physicians as well as physical therapy providers at one location
- **Onsite ancillary/procedural services** – CT, MRI, EOS imaging, and spine injections
- **Simplifies spine referral process** for patients and providers
- **Increases collaboration** between the disciplines
MU Comprehensive Spine Center

Who’s in the Teamwork Bubble?

Physicians
Surgical
- Orthopaedists
- Neurosurgeons
Nonsurgical
- PM&R
- Radiologists
- Anesthesiologists
- DOs
- Behaviorist

Chiropractors

CNS
- Clinic Triage
- Operating Room
- Spine Camp

NP
- Clinic Triage

Physical Therapy

Research
- PhDs – new techniques
- Staff and Techs – clinical trial management & PatientIQ
Spine Surgical Triage – Neuro vs Ortho

Neurosurgery vs Orthopaedics

Let me help!
The PM&R Referee – Surgical Distribution Equal/Balanced

- Takes charge of all the unassigned patients
- Keeps surgical distribution balanced
Of 8,000 patients scheduled directly with non-operative spine providers

560 were triaged & referred to surgeon

370 were deemed surgical

7,440 managed non-operatively
- Injections
- Therapy
- Referrals to Chronic Pain Clinic
- Referrals to Behavioral Health
None of This Matters ...

... Unless it Increases Quality!

- Improve patient access
- Increased patient satisfaction
- Increased provider satisfaction
- Decreased costs

☑ Safe
☑ Effective
☑ Patient-centered
## TABLE 5. Financial Impact to the Insurer Related to Comprehensive Spine Centers of Excellence Program

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<th>November 2007</th>
<th>Change</th>
<th>Percent Change</th>
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<tbody>
<tr>
<td>Surgical per member per month costs</td>
<td></td>
<td>$2.46</td>
<td>-25.1</td>
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<tr>
<td>Total spine-related per member per month costs</td>
<td></td>
<td>$2.40</td>
<td>-12.1</td>
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<tr>
<td>Average reimbursement per surgery</td>
<td>$1603</td>
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<td>+8</td>
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A 38% decrease in costs!

2017 MU’s Custom Network total spine-related per member per month costs $10.71
MU Total Joint Service Line

Who’s in the Teamwork Bubble?

Physicians
- Surgical
  • Hip and Knee
- Nonsurgical
  • Radiology
  • Anesthesiology
  • Infectious Disease
  • Bariatrics
  • Behavioral Health
  • Dieticians

Fellows
- PA-C
  • Clinic Triage
  • 1st Assist in Operating Room

NP
- Fragility Liaison Service Clinic
- Operating Room

Physical Therapy

Why is This Necessary?
- Bundle payments
- Reduce readmissions
- Hospital BMI & ASI measurements
- Other quality measures

& PatientIQ
MU Sports Medicine

Who’s in the Teamwork Bubble?

Physicians
- Surgical
  - Orthopaedists
- Nonsurgical
  - Sports Fellowship trained PM&R
  - Sports Fellowship trained Family Medicine

Chiropractic Therapy

Why is This Necessary?
- Build Market share
- Increase Access
- Sideline exposure
- Develop Brand

NP & PA
- Clinics
- Operating room

ATC, OTC
- Student Center
- Sideline
- Operating
- Existing DME

Staff and Techs – clinical trial management & PatientIQ

AOC
Academic Orthopaedic Consortium
Best Practice in Business & Leadership

Missouri Orthopaedic Institute
University of Missouri Health Care
MU Multidisciplinary Approach – Comprehensive

**Joints**
- Research Registry

**Spine**
- Neurosurgery
- Trauma
- Chiropractor
- Orthotics & Prosthetics

**Sports**
- Casting
- HPI

**Dietician Bariatrics**
- Patient IQ
- Therapy
- DME
- Radiology
- Anesthesia

**PM&R**
- Education Camp
- Infectious Disease
- Behavioral Health
• APPs are integrated through 3 main models:
  ▪ As independent provider
  ▪ As collaborative provider
  ▪ Hybrid model – most common and what MOI adopted

We Want our People to Work to the Top of Their Licenses

• APPs ensure that there is continuity of care...
  ...and can do many of the things a physician does:
  ✓ Take patient histories
  ✓ Conduct physical exams
  ✓ Triage and Post Op Exams
  ✓ Order Ancillaries
  ✓ Prescribe medication
  ✓ Make referrals to specialists or other services
  ✓ Act as first assistants during surgery
MOI Team Approach to Pre-Surgical Education

Patient completes pre-operative appointment with anesthesia, APPs do presentation, therapy completes functional measures

Total Joint Camp

Spine Camp

Shoulder Camp
  • Registry
  • Research will see study patients
Take Home Message

- We have taken care of our patients musculoskeletal needs!
- None of our moves to comprehensive care would be possible without our $C^3$ culture!
- We have:
  - Increased quality
  - Increased staff engagement
  - Increased physician satisfaction
Thank You! Questions?