

# Optimizing Outcomes: Solutions for Population Health Focused Organizations

Chris Vannello, Director of Quality  
Rothman Institute, Philadelphia, PA



# Rothman Private Practice Overview

## Providers



170 Physicians  
45 PA's & NP's

## Services

- Joints
- Spine
- Hand
- Shoulder & Elbow
- Foot & Ankle
- Sports Medicine
- Ortho-Oncology
- Trauma
- Pain Management



## Clinical Research Department



65 Researchers  
& Staff

## Ancillary Services



X-Ray; MRI;  
PT/OT;  
Orthotics,  
Nutrition

## Sports Team Coverage



4 Pro Teams  
6 Colleges  
43 High Schools

# Key Challenges in US Healthcare System

## Unsustainable Cost



**20%**

OF GDP BY 2021

**\$700B**

WASTE ACROSS US SYSTEM

**2X**

COST PER CAPITA VERSUS OECD  
NATIONS

## Variation in Quality



**45%**

CARE INCONSISTENT WITH  
RECOMMENDED GUIDELINES

**\$210B**

UNNECESSARY SERVICES

**3X**

VARIATION IN HOSPITAL DAYS  
IN  
LAST 6 MONTHS OF LIFE

## Lack of Coordination



**19.6%**

MEDICARE HOSPITAL  
READMISSIONS

**\$45B**

ANNUAL COSTS FOR AVOIDABLE  
COMPLICATIONS

**\$91B**

REDUNDANT ADMINISTRATIVE  
PRACTICES

# Episodes of Care

## What is an Episode of Care?

All clinically related services a patient receives in the course of treatment for a specific condition.



Physician



Hospital



Radiologist



Anesthesiologist



Surgeon

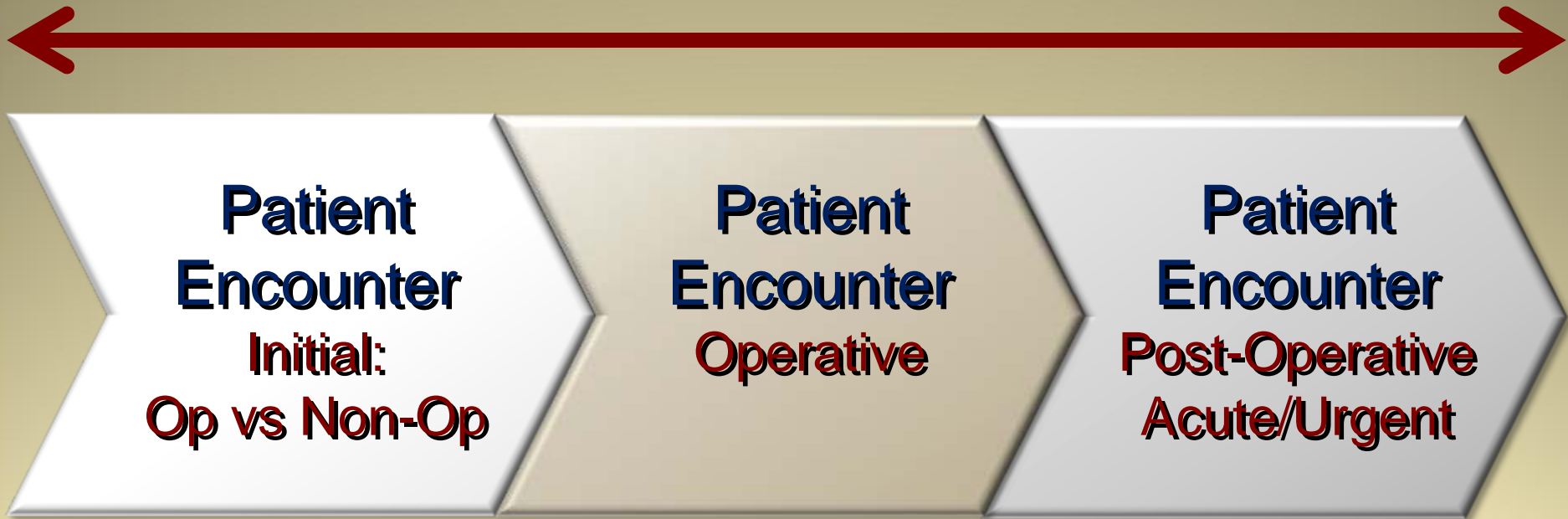


Post-Acute



# Episode of Care

## MSK POPULATION HEALTH CONTINUUM



# Rothman Contracted Bundles

- Hip Replacement
- Knee Replacement
- Knee Arthroscopy
- Low Back Pain
- Lumbar Laminectomy
- Osteoporosis
- Shoulder Replacement





# EOC Shared Savings Update

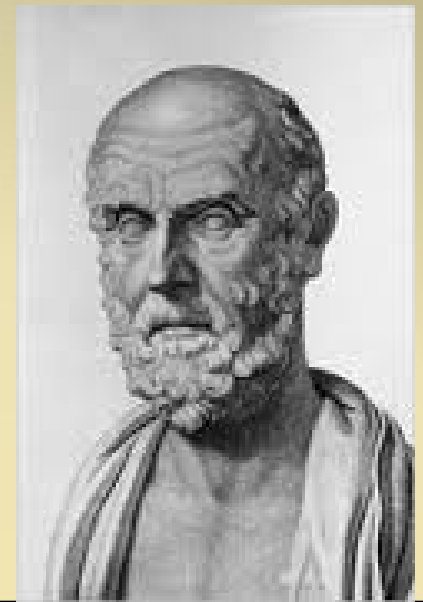
## By Payer and Episode 2015-2017

Payer	Program	2015	2016	2017 (projected)	3-Year Total
Aetna	Hip & Knee				0
Cigna	Hip			15,000	15,000
	Knee			20,000	20,000
	Knee Arthroscopy			10,000	10,000
	Lumbar Lami			5,000	5,000
CMS (FFS Medicare)	Spinal Fusion	34,033			34,033
	Hip & Knee	2,037,825	5,243,744	5,309,291	12,590,860
CMS AtlantiCare Gainshare	Hip & Knee		802,740	842,877	1,645,616
Horizon BCBS NJ	Arthroscopy - NJ		96,862	169,241	266,103
	Arthroscopy - PA		239,364	197,358	436,722
	Hip AtlantiCare	1,695,900	1,448,953	1,337,085	4,481,938
	Knee AtlantiCare	2,841,621	2,783,819	2,568,891	8,194,331
	Hip - NJ (Non AC)		120,000	160,000	280,000
	Knee - NJ (Non AC)		150,000	200,000	350,000
	Hip - PA		210,000	280,000	490,000
	Knee - PA		225,000	300,000	525,000
	LBP - NJ			100,000	100,000
	LBP - PA			100,000	100,000
	Shoulder - NJ			100,000	100,000
	Shoulder - PA			100,000	100,000
IBC	Hip & Knee	2,616,613	5,590,953	5,092,083	13,299,649
	Lumbar Lami			150,000	150,000
Gross Program Savings		9,225,992	16,911,435	17,056,826	43,194,252
Projected Payout		2,992,601	5,916,333	7,535,06	16,443,995
Calculated Share of Savings		32%	35%	44%	



# Rothman Institute Philosophy

- Do what is right for the patient
- Engage physicians to drive programs
- Success naturally follows





# Rothman Transformation



# Episode of Care Management

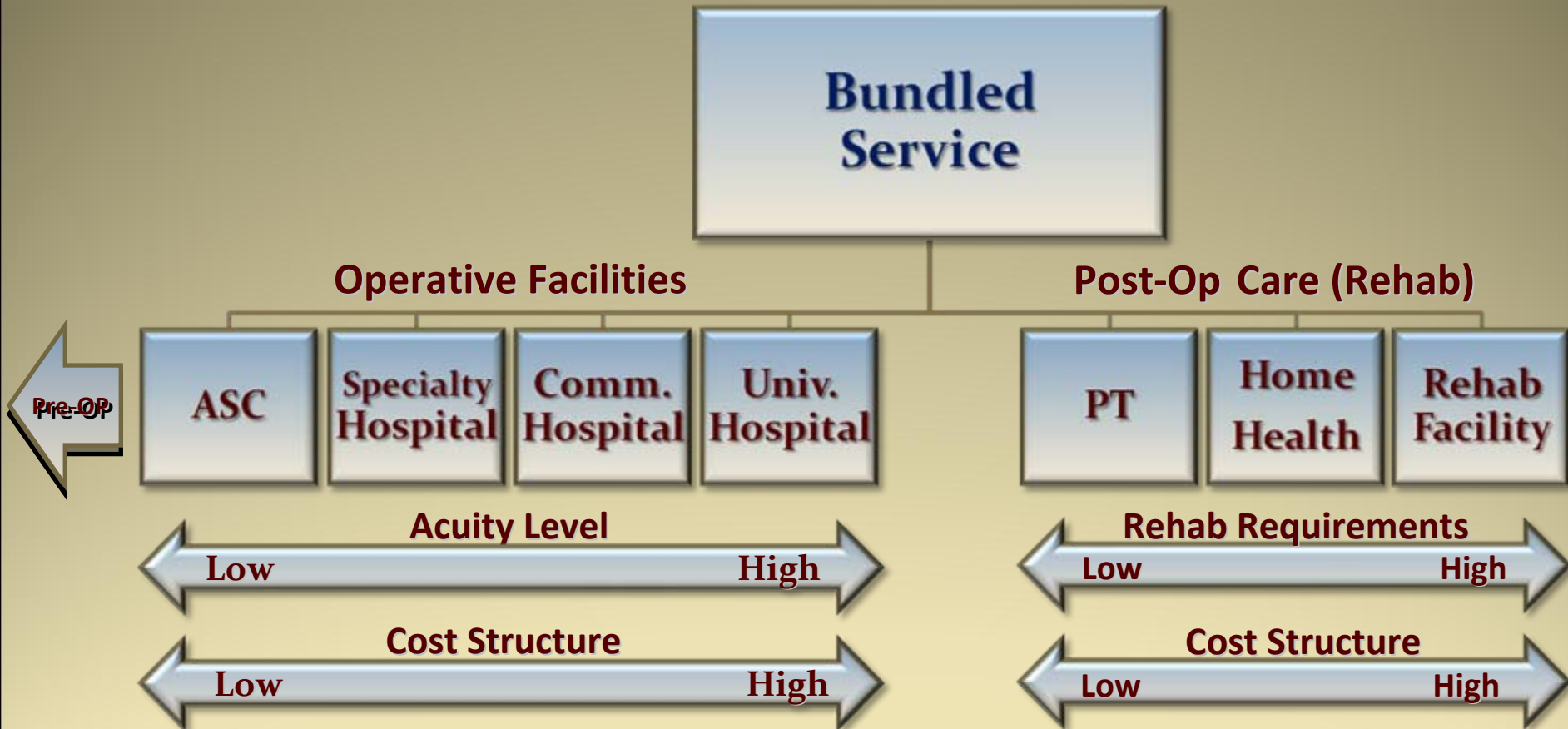
- Demand Matching
- Risk Assessment/Stratification
- Navigation System & Process
- Care Coordination Network
- Collect and Analyze Data



# Episode of Care Management

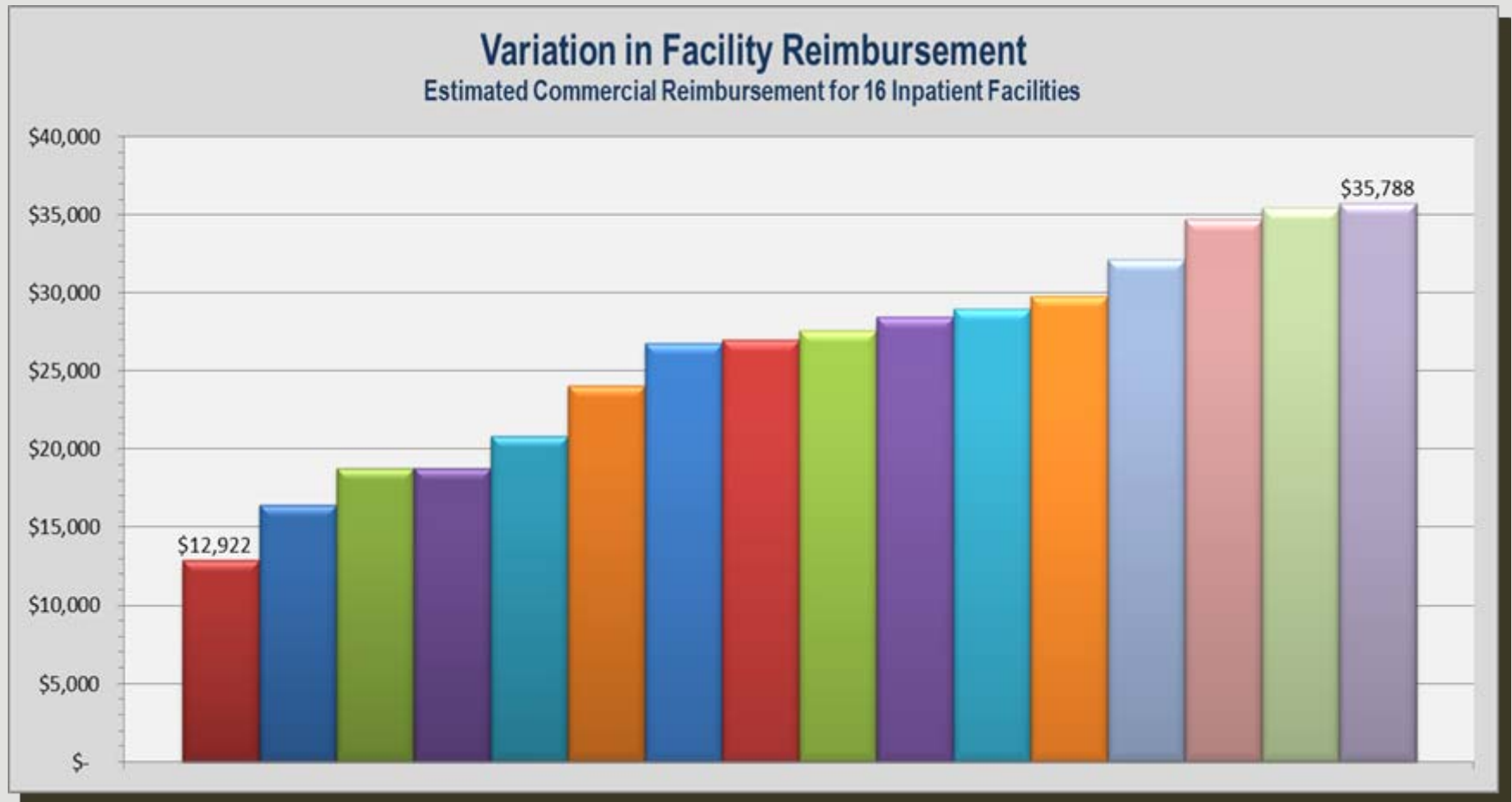
- Control pathway
- Coordinate effort
- Develop efficiencies
- Engage patient
- Maintain reimbursement

# Navigating the Episode of Care



# PAYMENT STRATEGY

## Site of Service Differential Reminder

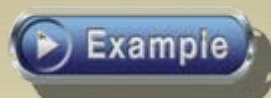


# Risk Assessment

Patient answers  
Yes/No Questions



43 Medical & 15  
Social Questions



- Do you have:
  - Diabetes?
  - Seizures?
  - Sleep Apnea?
- Do you live alone?
- Do you require assist with daily activities?

Auto-Scores Risk  
Result, Pertinent  
Positives Displayed

**RISK:**





# Ortho-Navigator

## Navigation Features: Dashboard

- Through EMR portal, patient fills out health history form

- Certain responses are used to auto-calculate Risk Assessment Score:
  - Clinical Risk Assessment
  - Social Risk Assessment

- Data feeds nightly from EMR to Navigation system

- Navigator work lists auto-populate with surgical encounters booked for their surgeon
  - Each surgeon is mapped to a navigator
  - 5-10 surgeons per navigator

LOCUS NAVIGATOR - ROTHMAN

Patients Search

Navigator Dashboard

Thursday, May 12, 2016 Michele Harding

Navigator Michele Harding

PRE-OP TASKS 418 POST-OP TASKS 472 TASKS TODAY 4 TASKS TOMORROW 15 OVERDUE TASKS 224 UNSCHED TASKS 0

Task History | Cancelled Episodes | Episodes missing risk levels | Inactive episodes

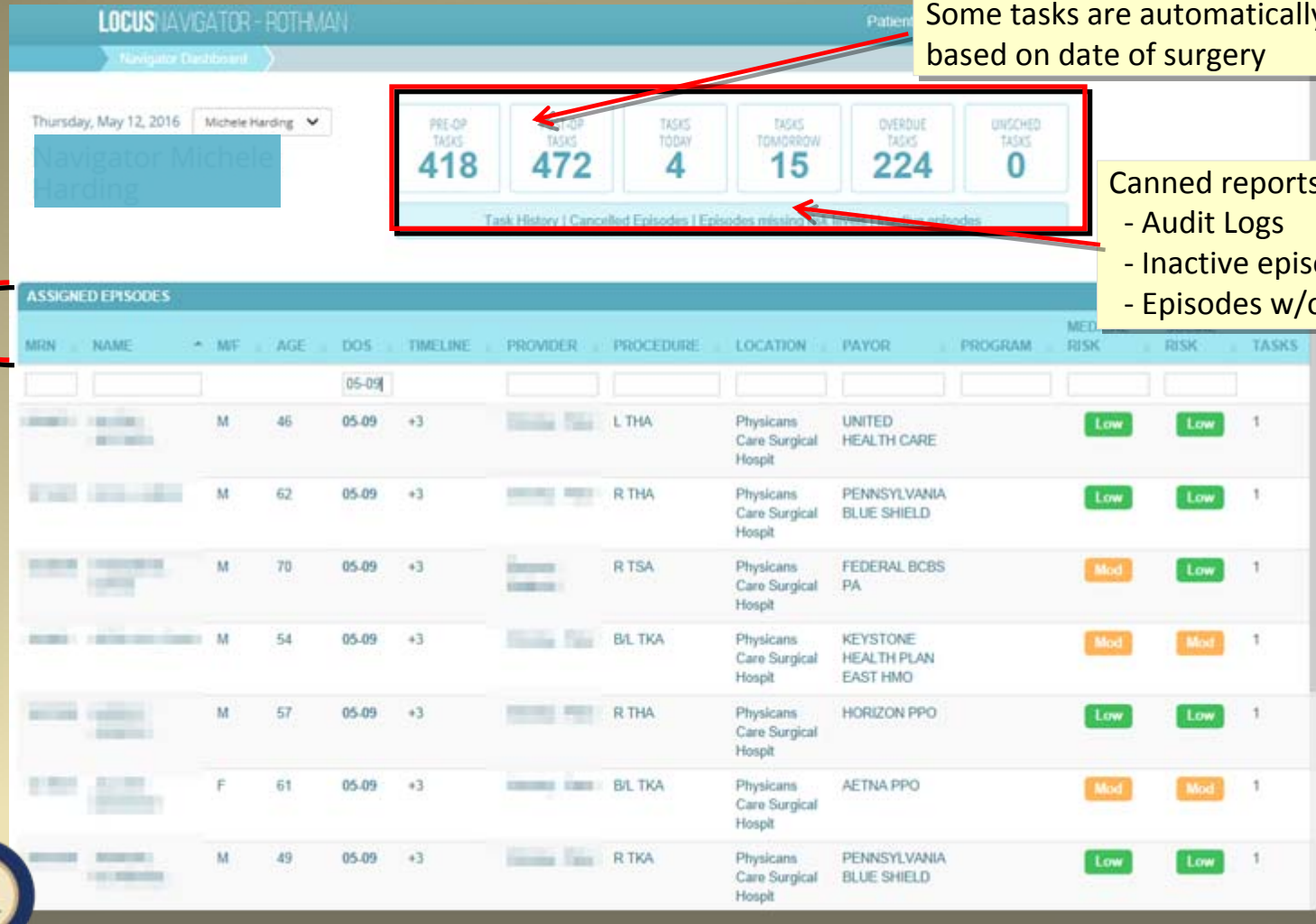
ASSIGNED EPISODES

MRN	NAME	MF	AGE	DOS	TIMELINE	PROVIDER	PROCEDURE	LOCATION	PAYOR	PROGRAM	MEDICAL RISK	SOCIAL RISK	TASKS
				05-09									
		M	46	05-09	+3		L THA	Physicians Care Surgical Hospit	UNITED HEALTH CARE		Low	Low	
		M	62	05-09	+3		R THA	Physicians Care Surgical Hospit	PENNSYLVANIA BLUE SHIELD		Low	Low	
		M	70	05-09	+3		R TSA	Physicians Care Surgical Hospit	FEDERAL BCBS PA		Mod	Low	
		M	54	05-09	+3		B/L TKA	Physicians Care Surgical Hospit	KEYSTONE HEALTH PLAN EAST HMO		Mod	Mod	
		M	57	05-09	+3		R THA	Physicians Care Surgical Hospit	HORIZON PPO		Low	Low	
		F	61	05-09	+3		B/L TKA	Physicians Care Surgical Hospit	AETNA PPO		Mod	Mod	
		M	49	05-09	+3		R TKA	Physicians Care Surgical Hospit	PENNSYLVANIA BLUE SHIELD		Low	Low	



# Ortho-Navigator

## Navigation Features: Dashboard



Some tasks are automatically scheduled based on date of surgery

Canned reports

- Audit Logs
- Inactive episodes
- Episodes w/o Risk Data

Filter & Sort



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# Quality Care Alliance Partners

## Care Coordination

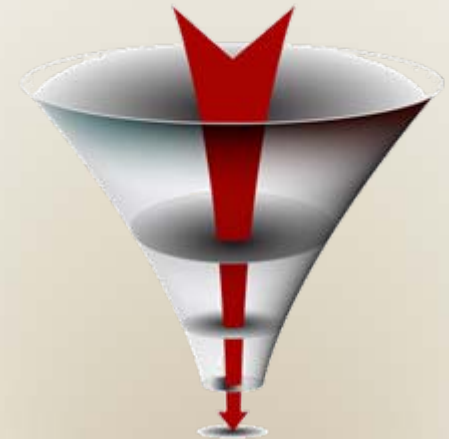
### Care Coordination Agreement



### "Value" Providers



### Virtual Narrow Network – Each Market



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# Quality Care Alliance Partners



Physical  
Therapy



Home  
Health  
Agencies  
(Nursing, Rehab)



Skilled  
Nursing  
Facilities



Inpatient  
Rehab  
Facilities



Urgent  
Care  
Centers

80 QCAP Provider Agreements already in place

# QCAP Alerts

PRE

QCAP OVERDUE  
DISCHARGES

2

POST

QCAP PLAN CHANGE  
MESSAGES

2

30

QCAP MISC.  
MESSAGES

1 | 0

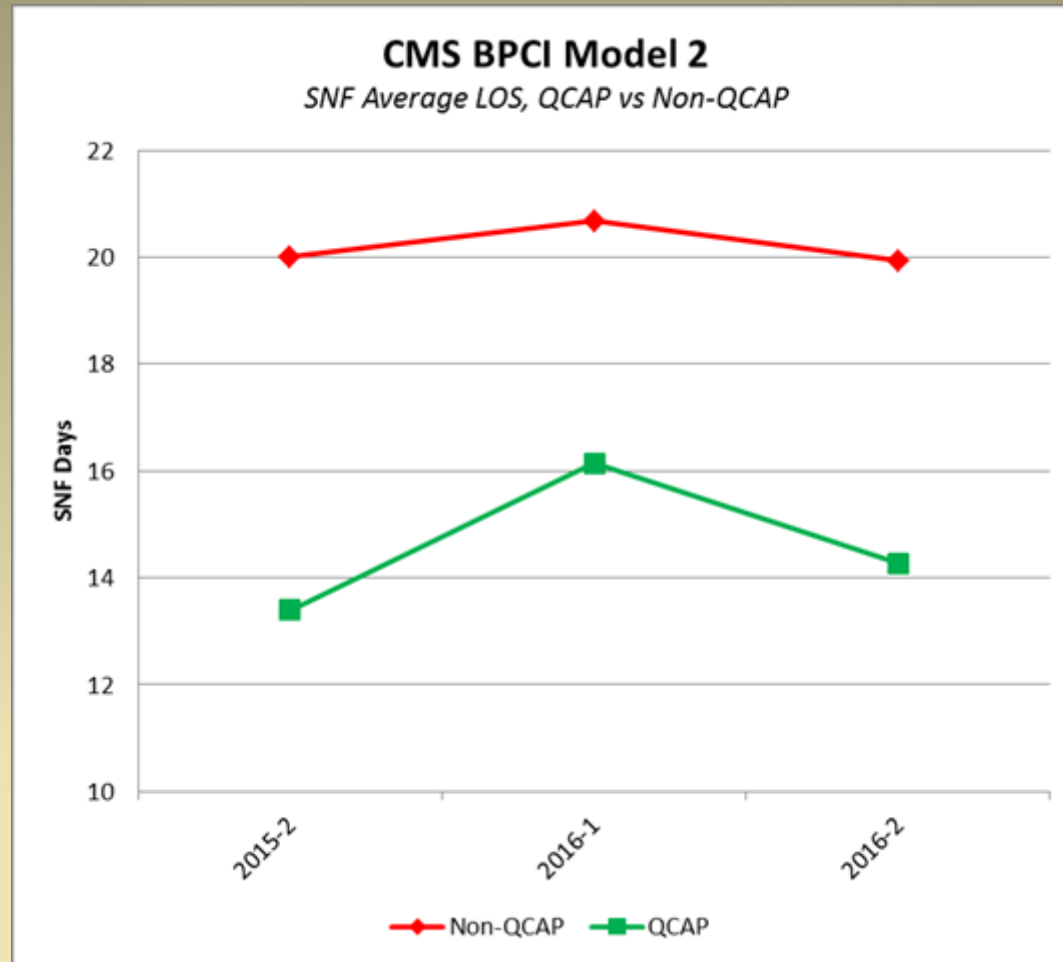
90

TASKS  
TODAY

1



# Medicare SNF LOS





# Physician Metrics Reporting

## Surgeon's Report Card Summary - Total Joint & Arthroplasty (Hip & Knee)

Includes Elective Primaries & Partial, Excludes Bilaterals & Revisions

Surgeon Name:

Reporting Period: 2016

Discharge Disposition	Joint Team	Deirmengian, Carl	
	%	#	%
Home	76.7%	363 / 493	73.6%
Home w/ Part B	3.7%	10 / 493	2.0%
Home & Home w/ Part B	80.5%	373 / 493	75.7%
HHA	9.4%	66 / 493	13.4%
SNF	9.0%	54 / 493	11.0%
IRF	0.5%	0 / 493	0.0%

Readmission Summary	Joint Team	Deirmengian, Carl	
	%	#	%
Readmission Days ≤ 30	1.8%	7 / 493	1.4%
Readmission Days 31-90	0.6%	1 / 493	0.2%
Readmission Days ≤ 90	2.4%	8 / 493	1.6%
Readmission & BMI > 40	2.3%	0 / 5	0.0%
Readmission & BMI < 40	2.3%	8 / 488	1.6%

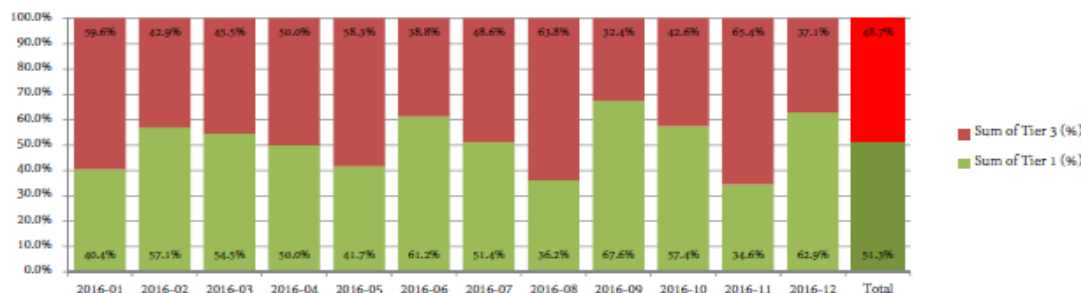
Complication Summary	Joint Team	Deirmengian, Carl	
	%	#	%
Complications	2.5%	6 / 493	1.2%
Unique Complication & BMI > 40	2.7%	0 / 5	0.0%
Complications & BMI < 40	2.4%	6 / 488	1.2%

Other Indicators	Joint Team	Deirmengian, Carl	
	%	#	%
Re-Operation	0.7%	2 / 493	0.4%
AtC>8	5.2%	0 / 42	0.0%
BMI over 40	2.4%	5 / 493	1.0%
Mortality ( 30 Day and Inpatient)	0.1%	0 / 493	0.0%

Medical Risk	Joint Team	Deirmengian, Carl	
	%	#	%
Low	59.1%	237 / 493	48.1%
Moderate	30.0%	193 / 493	39.1%
High	10.8%	63 / 493	12.8%

Social Risk	Joint Team	Deirmengian, Carl	
	%	#	%
Low	63.0%	241 / 493	48.9%
Moderate	27.2%	196 / 493	39.8%
High	9.8%	56 / 493	11.4%

## Demand Matching Efficiency 2016



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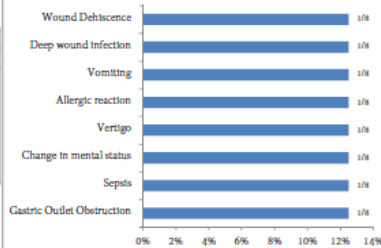
# Physician Metrics Reporting

### Surgeon's Report Card Summary

Surgeon Name:

Reporting Period: 2016

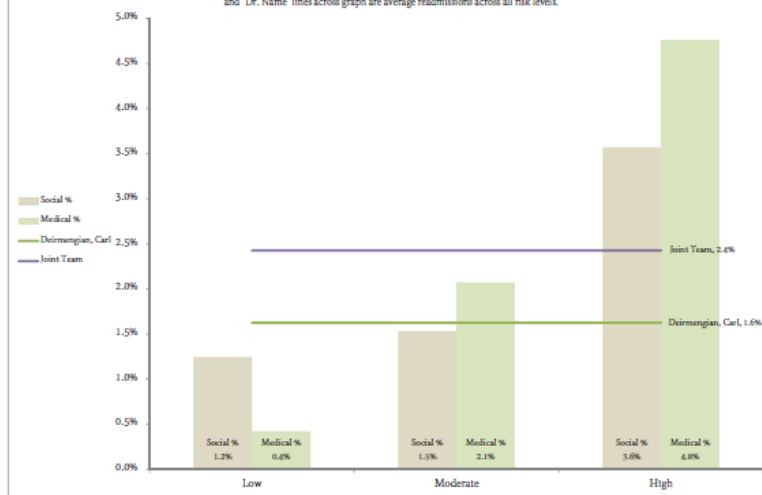
Readmissions by % of Primary Reason  
2016



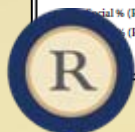
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Readmission & BMI >40	2.3%	0 / 5	0.0%
Readmission & BMI < 40	2.3%	8 / 488	1.6%

Readmissions by Social and Medical Risk - 2016

Values calculated by dividing the number of readmissions in the particular subgroup by the total number of surgeries performed in that subgroup. For example, % of low social readmissions = (number of readmissions among low risk social scored patients) / (total number of low risk social scored patients). "Joint team" and "Dr. Name" lines across graph are average readmissions across all risk levels.



Special % (Risk Level Specific)	3 / 241	3 / 196	2 / 56
Special % (Risk Level Specific)	1 / 237	4 / 193	3 / 63

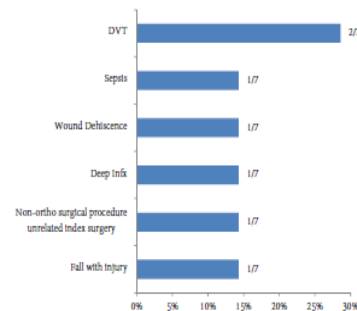
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### Surgeon's Report Card Summary

Surgeon Name:

Reporting Period: 2016

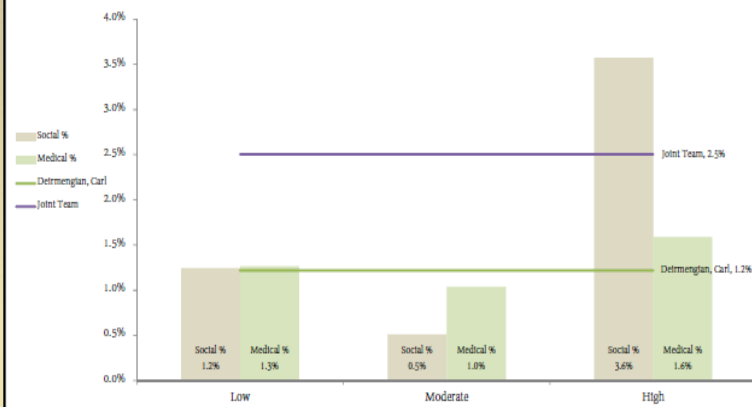
Complications by % of Reason  
2016



Complication Summary	Joint Team	Deirmengian, Carl	
	%	#	%
Complications	2.5%	6 / 493	1.2%
Unique Complication & BMI > 40	2.7%	0 / 5	0.0%
Complications & BMI < 40	2.4%	6 / 488	1.2%

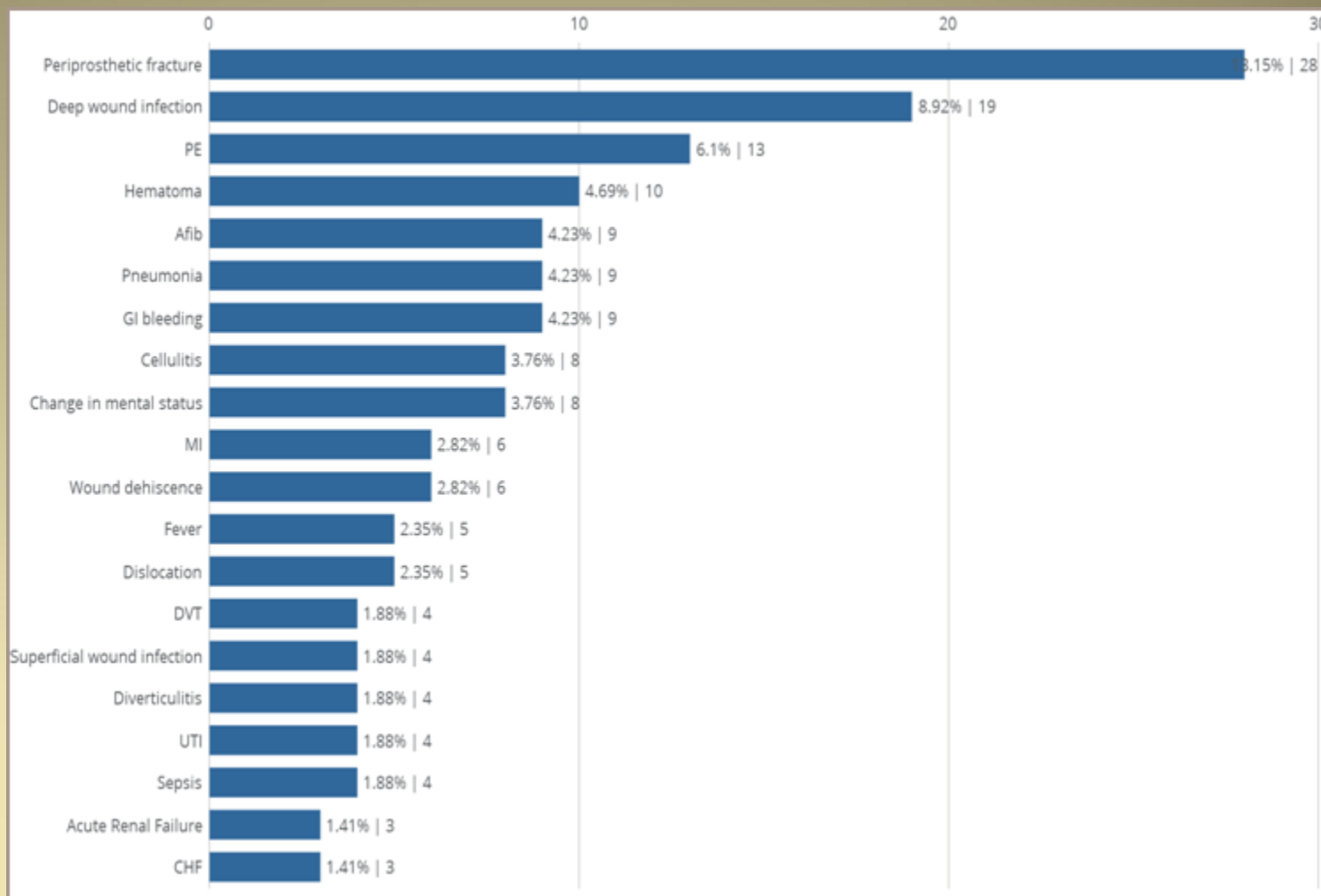
### Complications by Social and Medical Risks - 2016

Values calculated by dividing the number of complications in the particular subgroup by the total number of surgeries performed in that subgroup. For example, % of low social readmissions = (number of complications among low risk social scored patients) / (total number of low risk social scored patients). "Joint team" and "Dr. Name" lines across graph are average readmissions across all risk levels.



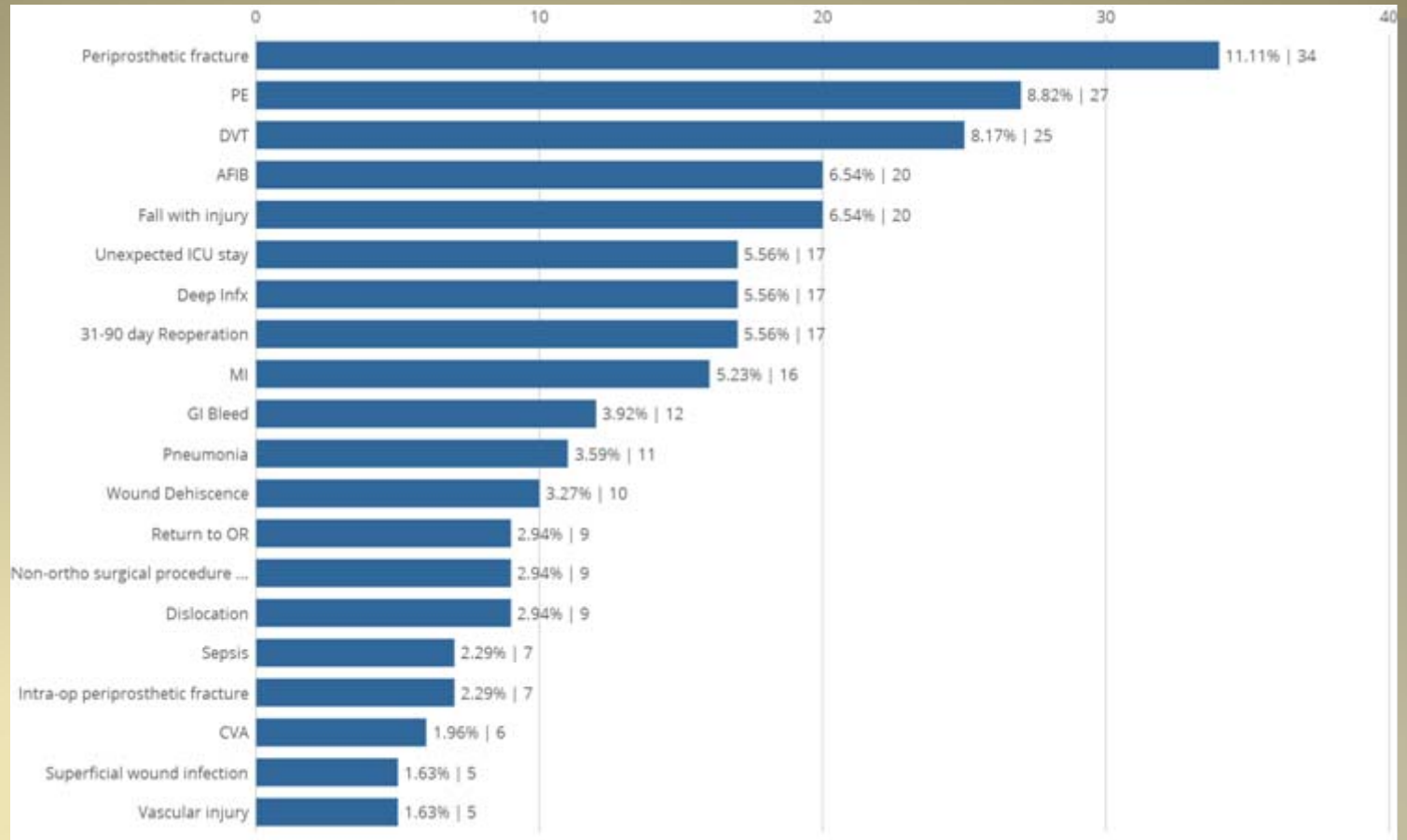
Social % (Risk Level Specific)	3 / 241	1 / 196	2 / 56
Medical % (Risk Level Specific)	3 / 237	2 / 193	1 / 63

# Readmission by Primary Reason 2016

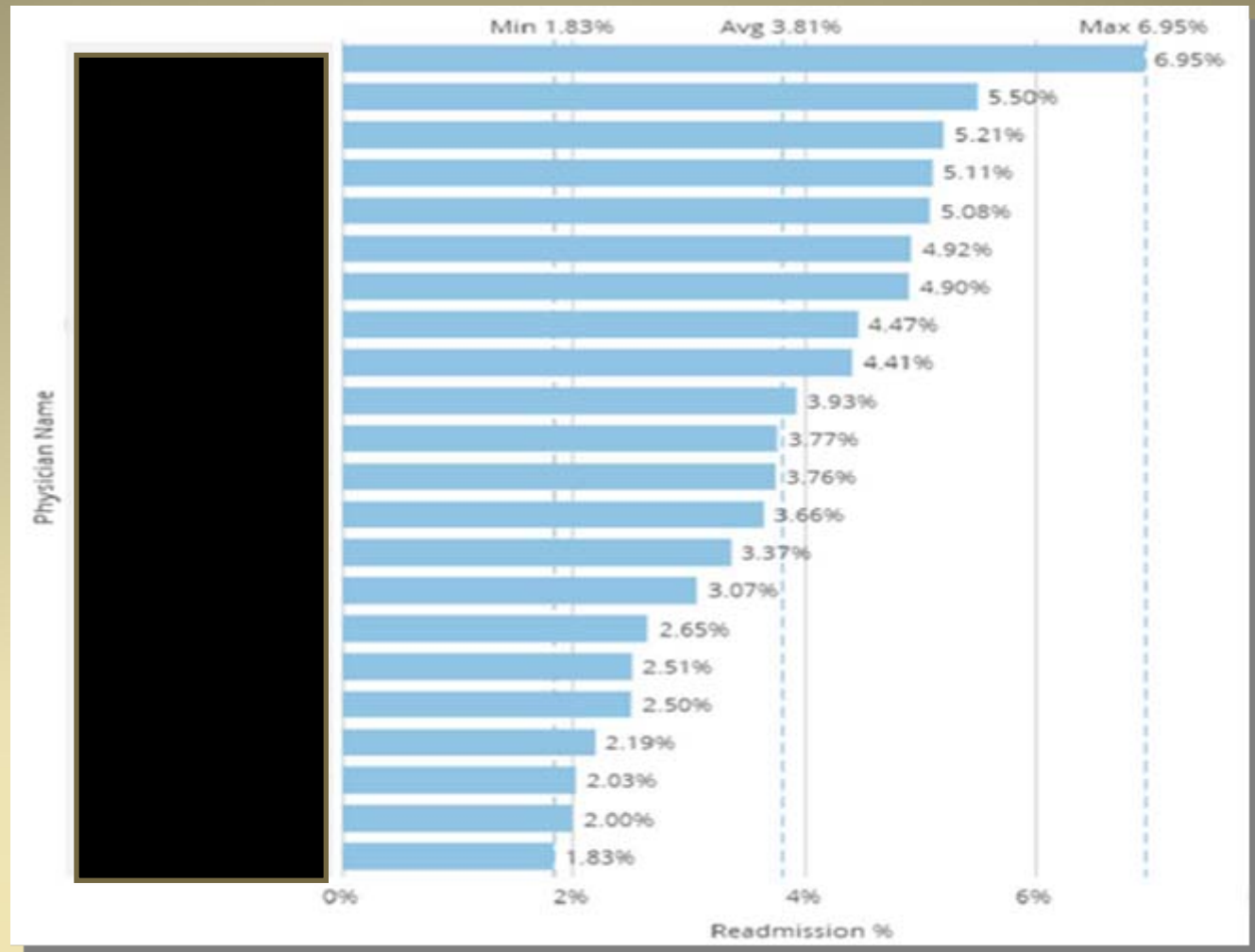


# Complication by Reason

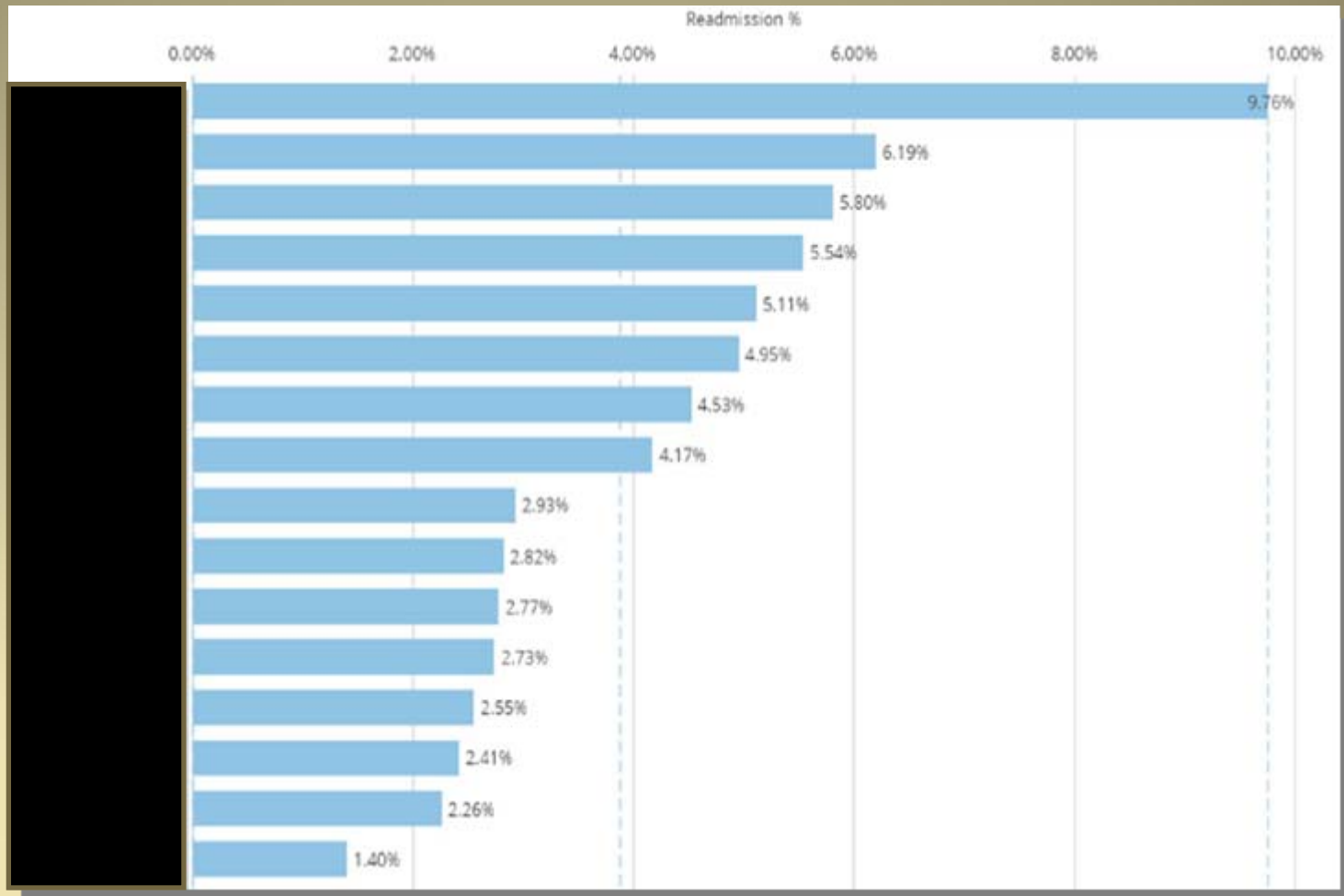
## Top 20 Reasons (2016)



# Physician Readmission Rates 2016

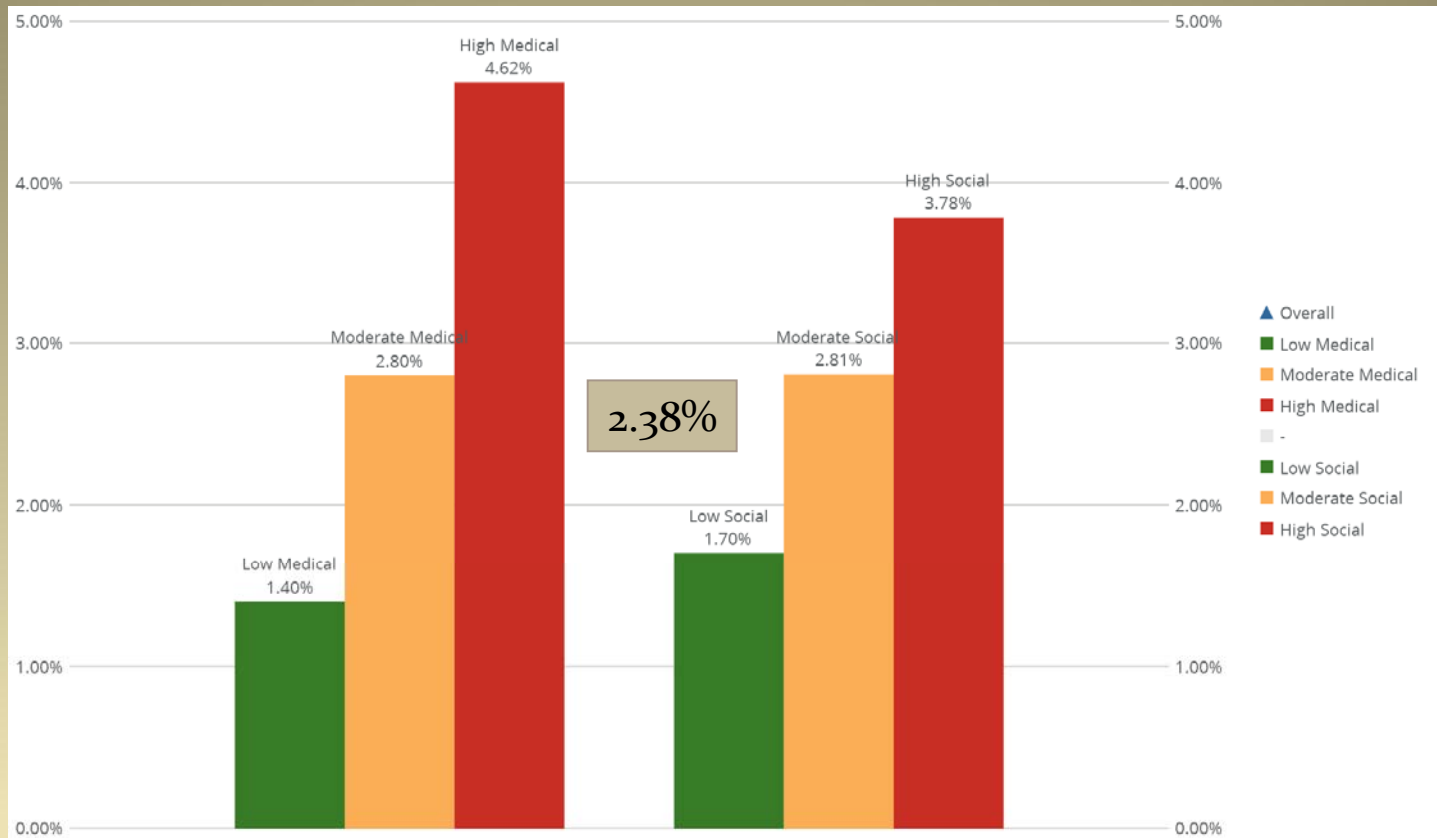


# Hospital Readmission Rates 2016



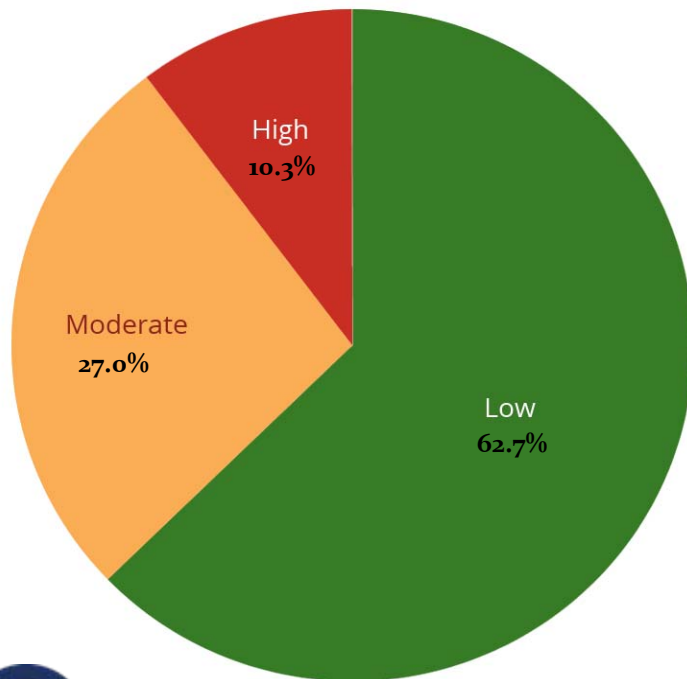


# Readmission by Risk Level 2016

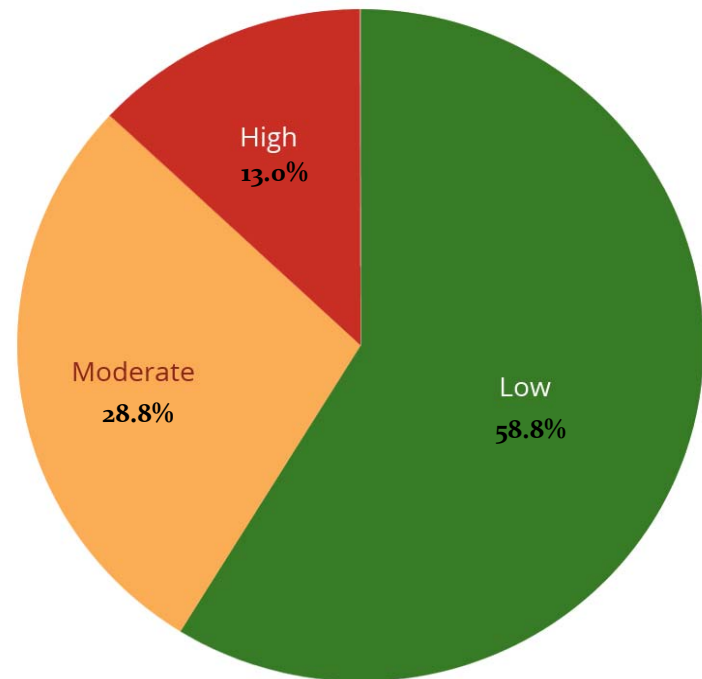


# Risk Assessment

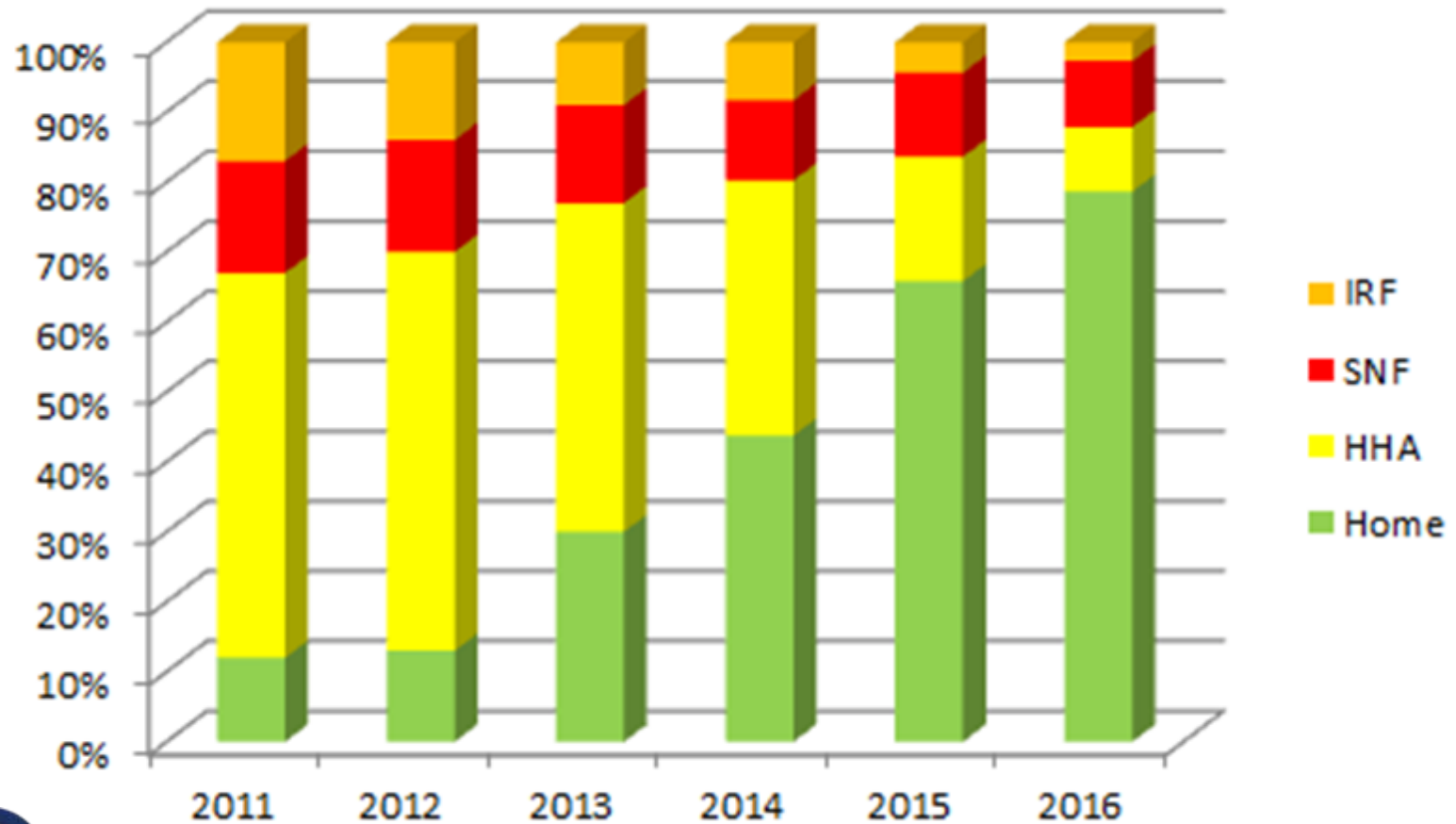
PRIMARY TJA - SOCIAL  
RISK



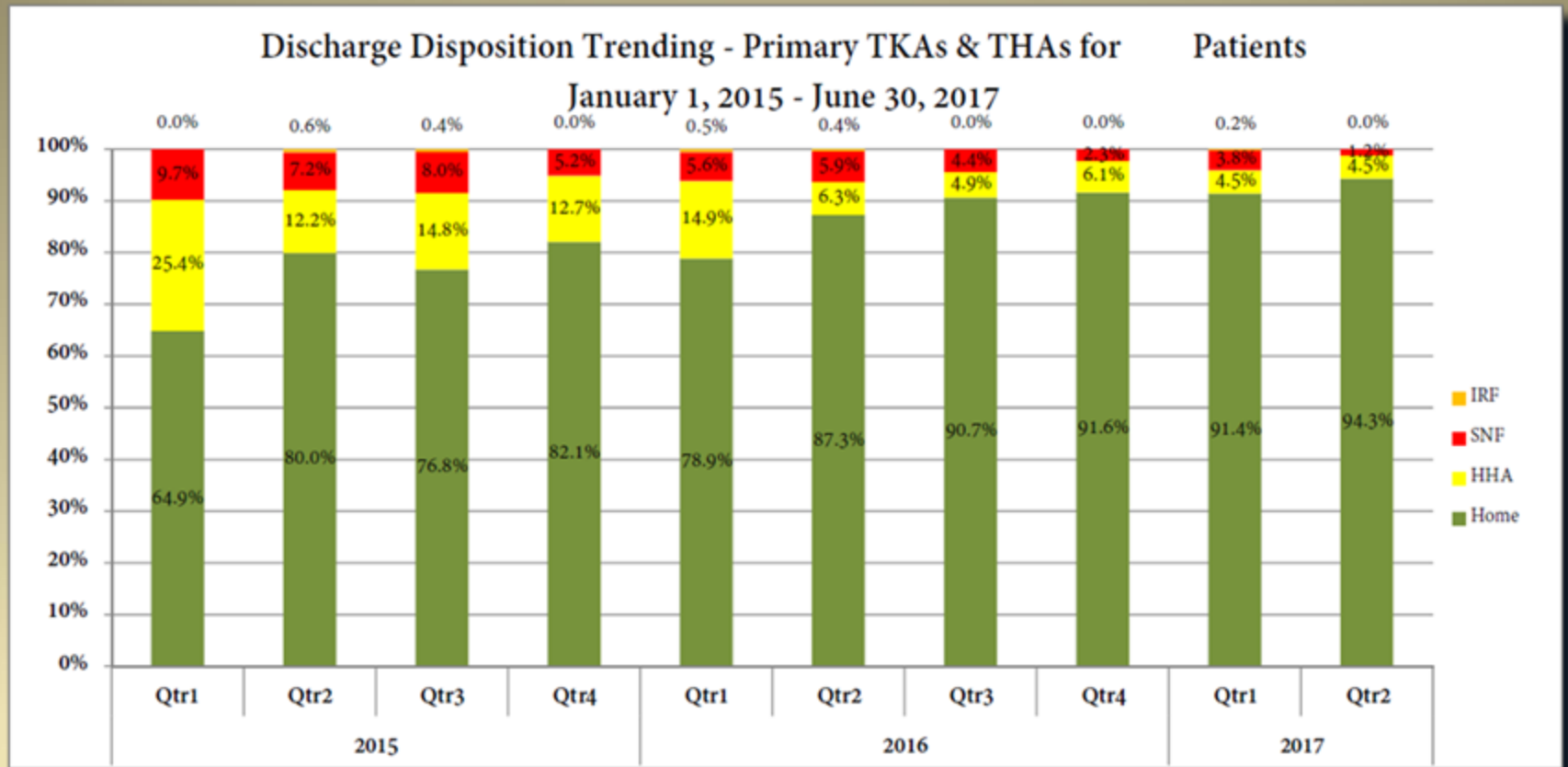
PRIMARY TJA - MEDICAL  
RISK



# Discharge Disposition



# Discharge Disposition



# Pathways

Procedure	CPT Code	Abbreviation	Medical Record Documentation Requirements of Medical Necessity	Mechanism of Injury/ Injury Description	Clinical Indication for Surgery (History + PE)	Pre-Op Dx Tests	Dx Test Positive Findings	Pre-Op Non-Op Tx Considerations	Pre-Admission Testing (Sx center protocol)	Opioid Quantity/Type	Post-Op Follow Up	PT Visits (starting day X post-op)	DME
<b>Osteochondral autograft</b>	29886	OATS	Appropriate sizing of lesion from prev. scope or diag test.	knee pain from trauma or symptomatic articular surface defect	symptomatic surface or Osteochondral lesion, not significant DJD	MRI Confirmation, standard x-ray, alignment x-ray view	MRI +/- prior knee scope	N/A	CBC, BMP, EKG (40+), Pregnancy test (Female only)	Percocet/Norco 5-325mg Max 30; 81mg aspirin BID 4 wks (Over 18yrs), Zofran 8mg	2 wks, 6 wks, 12 wks	24 & FORCE	TROM, Crutches, CPM
<b>Osteochondral allograft</b>	29887	OCA	Appropriate sizing of lesion from prev. scope or diag test.	knee pain from trauma or symptomatic articular surface defect	symptomatic surface or Osteochondral lesion, not significant DJD	MRI Confirmation, standard x-ray, alignment x-ray view	MRI +/- prior knee scope	N/A	CBC, BMP, EKG (40+), Pregnancy test (Female only)	Percocet/Norco 5-325mg Max 30; 81mg aspirin BID 4 wks (Over 18yrs), Zofran 8mg	2 wks, 6 wks, 12 wks	24 & Force	TROM, crutches
<b>Matrix-Induced Autologous Chondrocyte Implantation (MACI)</b>	27412	MACI	Appropriate sizing of lesion from prev. scope or diag test.	knee pain from trauma or symptomatic articular surface defect	defects larger than 1 cm in diameter	MRI Confirmation, standard x-ray, alignment x-ray view	MRI +/- prior knee scope	N/A	CBC, BMP, EKG (40+), Pregnancy test (Female only)	Percocet/Norco 5-325mg Max 30; 81mg aspirin BID 4 wks (Over 18yrs), Zofran 8mg	2 wks, 6 wks, 12 wks	24 & FORCE	TROM, Crutches, CPM
<b>Meniscectomy</b>	29880, 29881	PLMX, PMMX	Mechanical symptoms with joint line pain, deep flexion, failure of conservative management with continued symptoms (unless locked knee)	Deep squat knee bend, hyper flexion, rotation, impact	McMurrays, Apleys, Joint line tenderness, locking motion, probably effusion, limitation in ROM with pain on extremes	MRI, X-ray (WB View AP, Lateral)	MRI: Tear meniscus	Injection, Physical Therapy	CBC, BMP, EKG (40+), Pregnancy test (Female only)	Norco 5-325mg #15, NSAID of choice, Zofran 8mg	7-10 days, 6 wks prn if necessary	FORCE (Exceptions made) script PRN	Crutches

# Data

**QI Committees  
Guidelines  
& Protocols**

**Monitor  
Data/Performance  
Improvement**

**Active w/Hospital  
QI Committees**

**Research**

**Transparency**



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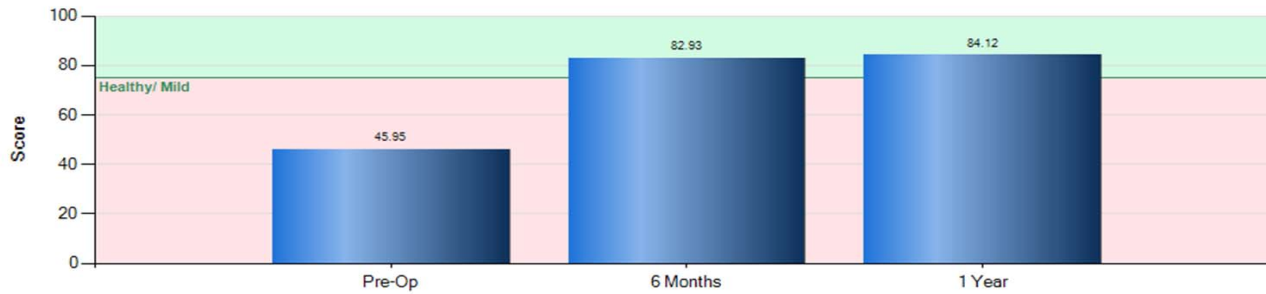
# Think Tank Benchmarking

- Patient Satisfaction
  - New Patients
  - Post-Op
- Functional Outcomes
- Clinical Outcomes

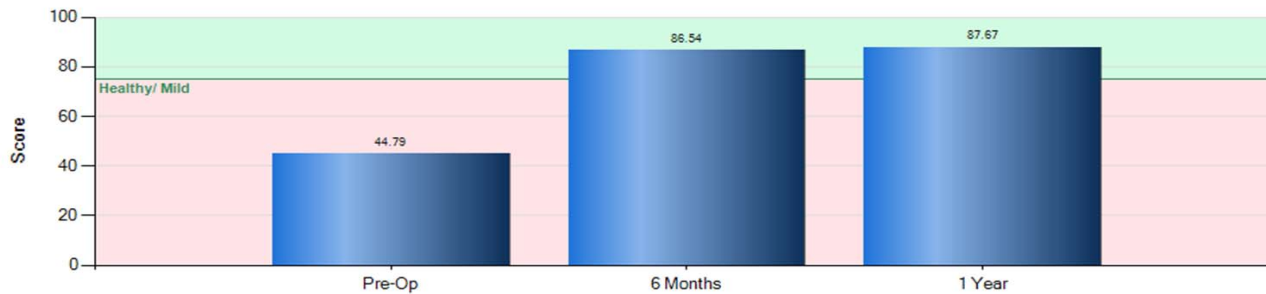


# Patient Reported Outcomes - H00S

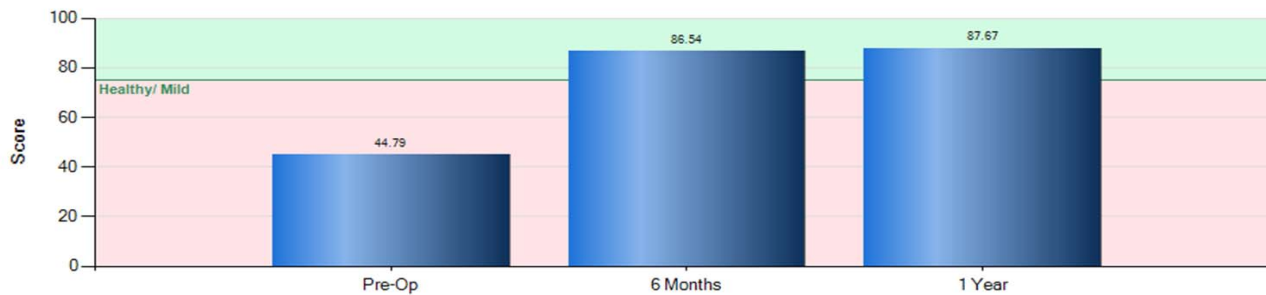
HOOS - Symptoms Patient Score (MCI +/- 9)



HOOS - Daily Living Patient Score (MCI +/- 6)

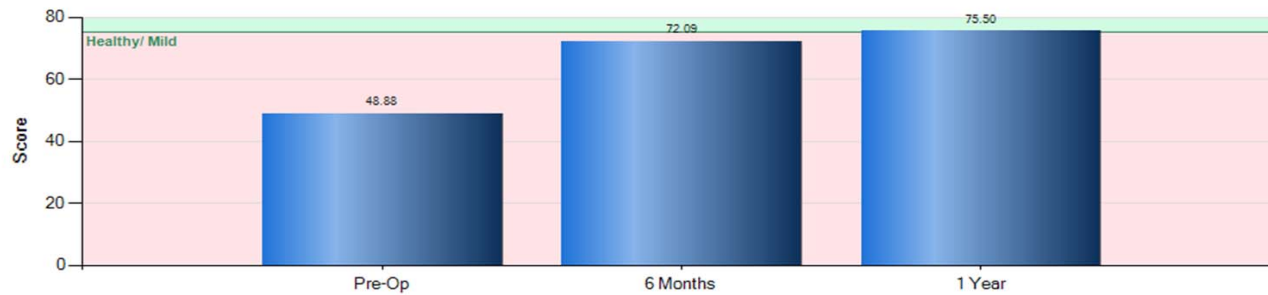


HOOS - Daily Living Patient Score (MCI +/- 6)

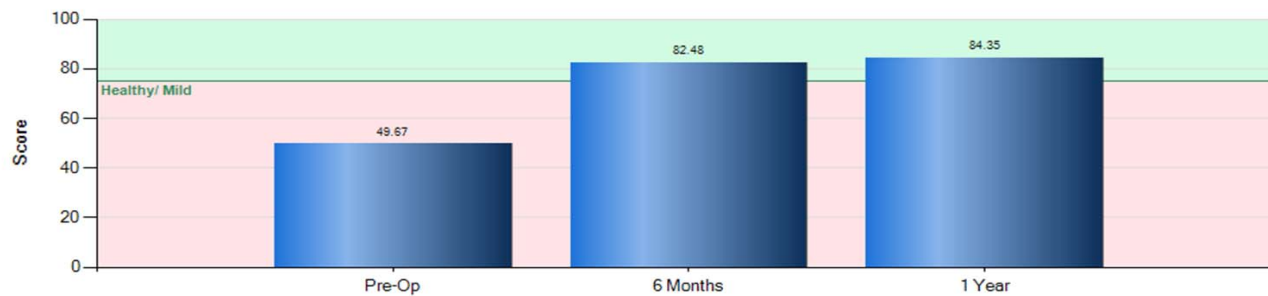


# Patent Reported Outcomes - KOOS

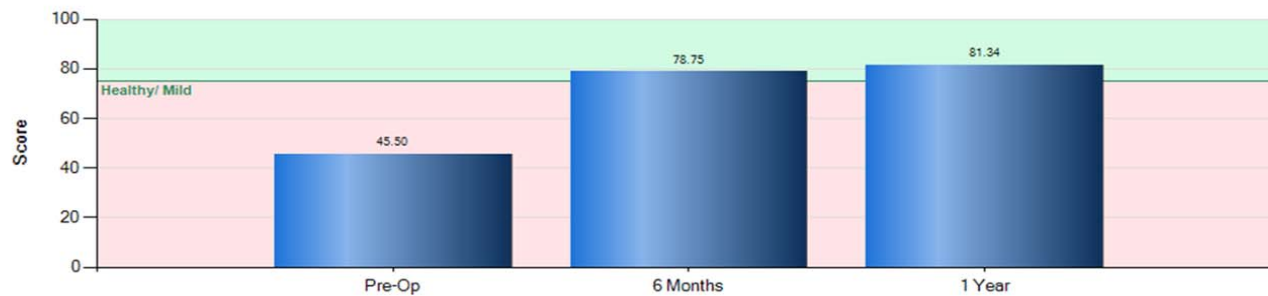
KOOS - Symptoms Patient Score (MCI +/- 9)



KOOS - Daily Living Patient Score (MCI +/- 9)



KOOS - Pain Patient Score (MCI +/- 9)



# Outcomes Report



# **Healthcare Reform**

## **THE RULES ARE CHANGING...**



# Healthcare Trends

## Integrated Health Systems



## Hospital-Based Physicians



## Urgent Care and Minute Clinics



## Employer Direct Contracting





# Current Payment Structure

- Fee-for-Service
- Per Diem/Case Rate
- Volume Driven



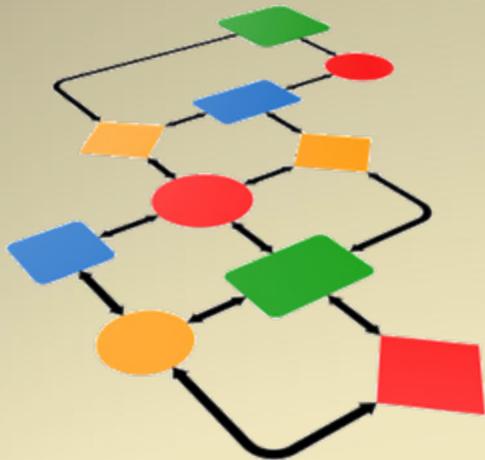
## Paid for activity

# "Next Level" Practice Model

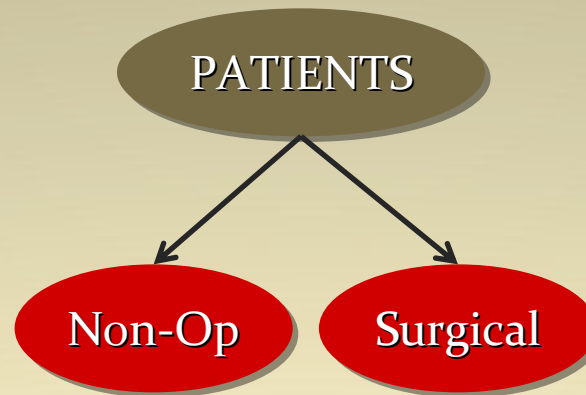
## Population Health Model

*Further Refine Operative/Non-Operative Model*

Conservative  
Clinical Approach  
(Protocol-Driven)



Efficient Patient  
Allocation



MSK MANAGEMENT

Effective Surgical  
Conversion Rates

INCOMING PATIENTS



SURGERIES

# "Next Level" Practice Model

## Population Health Model

### *Expand Value-Based Care Models*

Episode of Care  
Model/ Global  
Case Rates



Force Quality  
Metrics/  
Bonuses



Infrastructure  
for PMPM/ %  
Premium  
Models



Take On  
Business Risk



# **“Next Level” Practice Model**

## **Supporting a Population Health Model**

*Continued Development of Technology Platform*

### **Analytics**



### **Predictive Modeling Capabilities**



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*Thank  
you*

