Session 97L, Ortho Clinical Path for Lower Back Pain- An Analysis

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2018 SOA Health Meeting

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097- Ortho Clinical Path for Lower Back Pain

June 26, 2018

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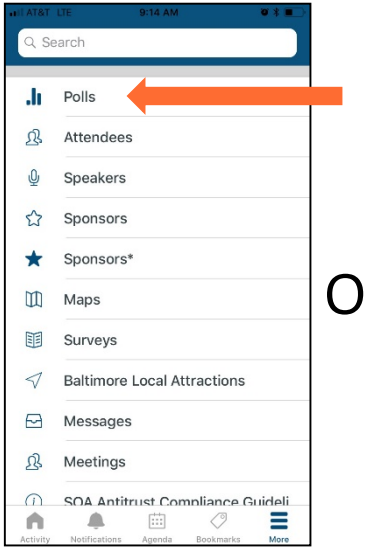

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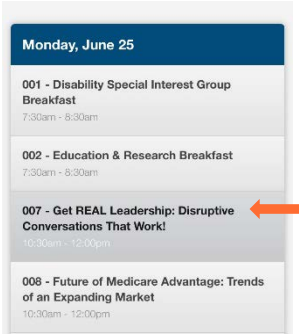

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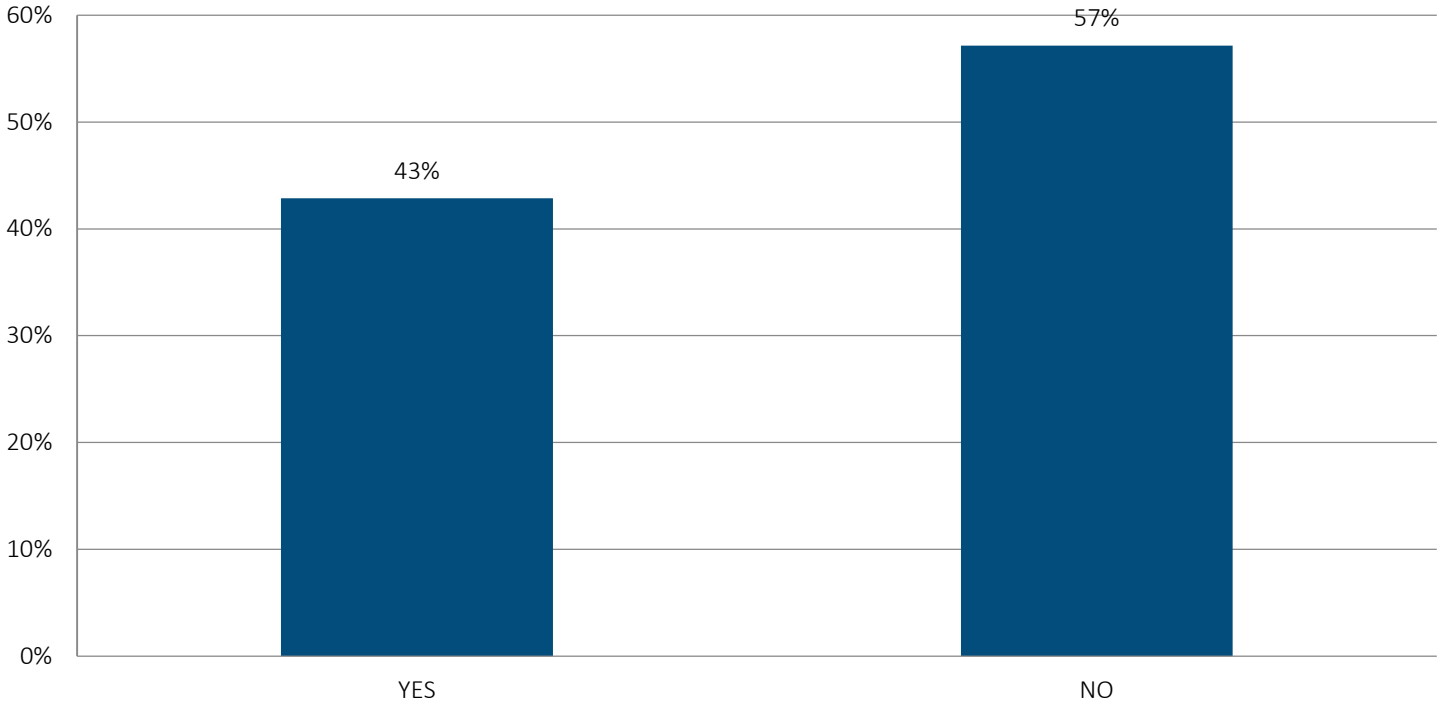
Poll: Have you ever received medical care for low back pain?

Have you ever received medical care for low back pain?



Overview

Section 1: Why Low Back Pain?

- Why discuss & analyze back pain?
- What constitutes low back pain?
- What are the clinical guidelines for the treatment of back pain?

Section 2: Analysis of the Treatment Sequence for Lower Back Pain

- What are the current treatment patterns, and variations for lower back pain?
- How does treatment path vary based on place of entry in the system?
- How does treatment path vary based on first treatment option used?

Section 3: Plan Design Opportunities and Optimization

- What can we do to improve the treatment of lower back pain? Insurers, Plan Sponsors.
- Plan designs & incentives
- Case study

Section 1: Why Low Back Pain?

- Why discuss & analyze back pain?
- What constitutes low back pain?
- What are the clinical guidelines for the treatment of back pain?

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Poll: What percent of adults will have lower back pain at some point in their lives?

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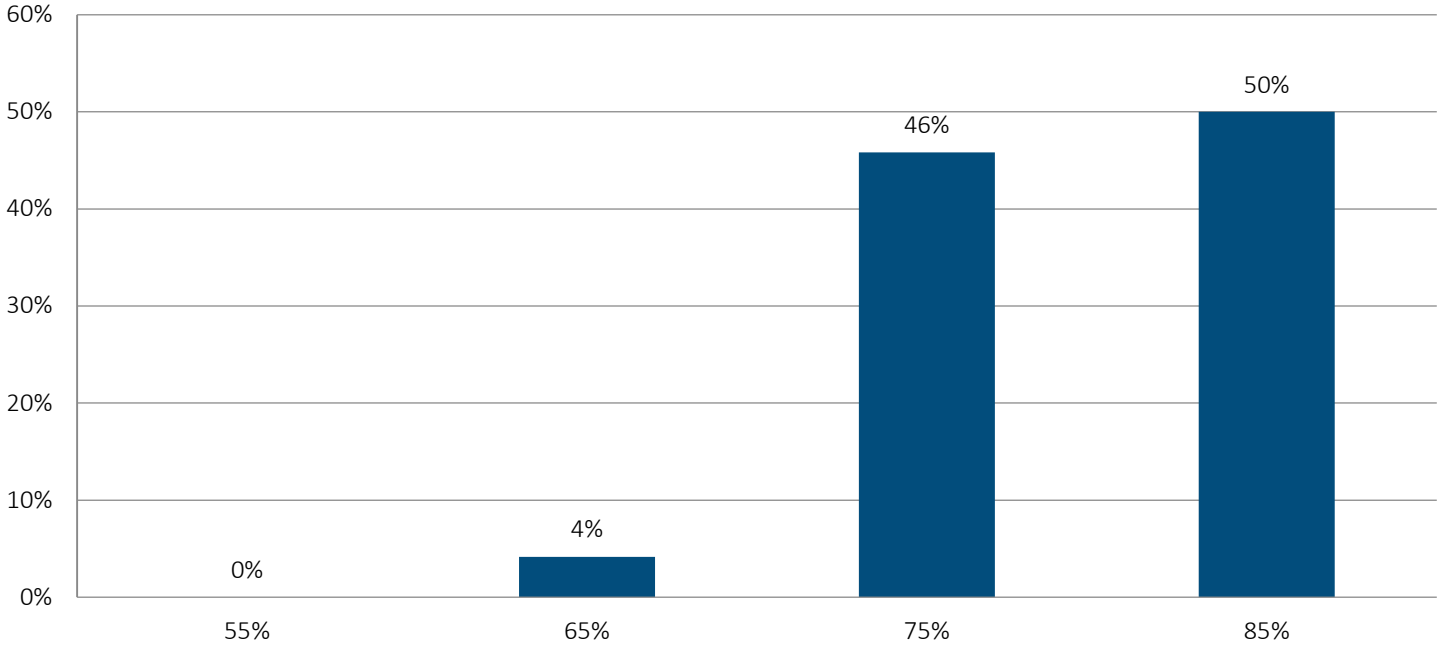


Why Analyze Low Back Pain (LBP)?
Disability, Prevalence, Cost

Disability
- Leading cause of disability.

Prevalence
- 85% of adults will have lower back pain at some point in their lives.
- Prevalence of activity limiting lower back pain estimated ~7.5% .

Cost
- Health care costs related to LBP ~$86B. Does not include cost of lost wages & productivity. (2008)
- Opioid epidemic

What is Low Back Pain?

Low back pain is a symptom, not a disease

- Defined by the location of the pain- between lower rib margins and buttocks.

- For nearly all (85%-90%) people presenting with low back pain, the specific source of nerve pain cannot be identified. This is Non-Specific low back pain.

- Most episodes of LBP improve substantially within 6 weeks, and by 12 months average pain levels are low. Recurrence is common, and in a small proportion of the people LBP becomes persistent and disabling.

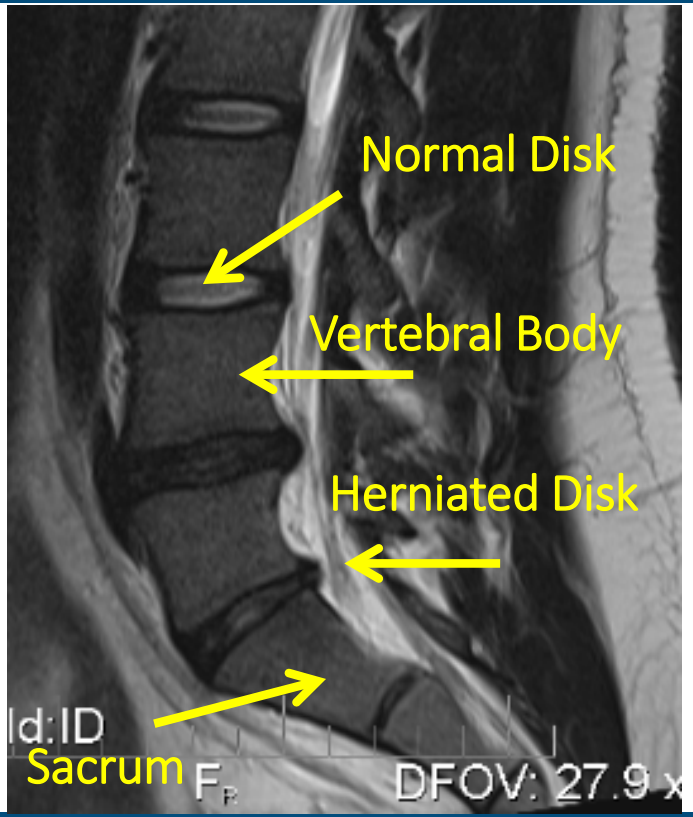
Radicular Pain (Radiculopathy)

People w/ LBP & radicular pain are more severely affected, have worse outcomes

Radicular Pain occurs when there is nerve-root involvement.

Symptoms:

- Straight leg raise test- negative.
- Leg pain worse than back pain
- Worsening of pain during coughing, sneezing, or straining.
- Weakness, loss of sensation.
- Loss of reflexes associated with a particular nerve root.



Clinical Practice Guidelines

American College of Physicians, 2017

Acute < 4 Weeks

- Heat
- Massage
- Acupuncture
- Spinal manipulation

Pharmacological

- NSAIDs
- Muscle relaxants

Subacute: 4-12 Weeks

- Heat
- Massage
- Acupuncture
- Spinal manipulation

Pharmacological

- NSAIDs
- Muscle relaxants

Chronic: 12+ Weeks

Initially

- Exercise, Yoga/ Tai Chi
- Acupuncture
- Motor control exercise
- Spinal Manipulation
- NSAIDs & Muscle Relaxants

Second Line Therapy

- Tramadol
- Duloxetine

Clinical Practice Guidelines
Additional Recommendations

- Routine use of **opioids** is not recommended.
- **Imaging** should only occur if the clinician suspects a specific condition that would require different management than non-specific LBP.
- Recent guidelines do not recommend spinal epidural **injections** or facet joint **injections** for low back pain.
- The benefits of **spinal fusion surgery** for non-radicular LBP thought to originate from degenerated lumbar discs are similar to those of intensive multidisciplinary rehabilitation.

Section 2: Analysis of the Treatment Sequence for Lower Back Pain

- What are the treatment patterns, and variations for lower back pain?
- How does treatment path vary based on place of entry in the system?
- How does treatment path vary based on first treatment option used?

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Analysis Parameters: Ortho Clinical Path-LBP

Analyzing the first occurrence of lower back pain

Data

- 30 large ASO employers ~1.3M members
- Cohort of **57,217** adults age 18-65, continuously enrolled over a 4 year period, who did not have a diagnosis for lower back pain in year 1, but then had a diagnosis for lower back pain in year 2.
- Excludes cancer, fractures, osteoporosis, tuberculosis.

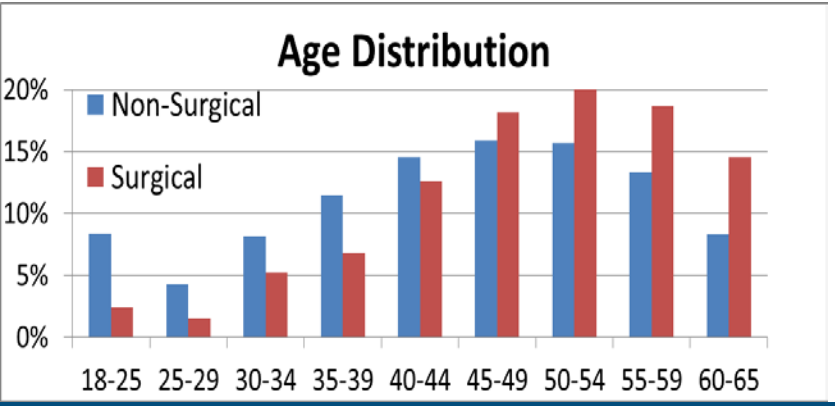
Incidence

- **3.6%** is incidence for first occurrence of back pain
- Surgery rate of **2.9%** among LBP cohort.

Group Demographics: Surgical vs Non-Surgical

Surgical Group is older, more male, higher risk than Non-Surgical Group

	Non-Surgical	Surgical
Individuals	55,565	1,652
Avg Age	44.2	49.0
% Female	54%	48%
Retro Risk Score	1.75	2.60
Prospective Score	1.71	2.39

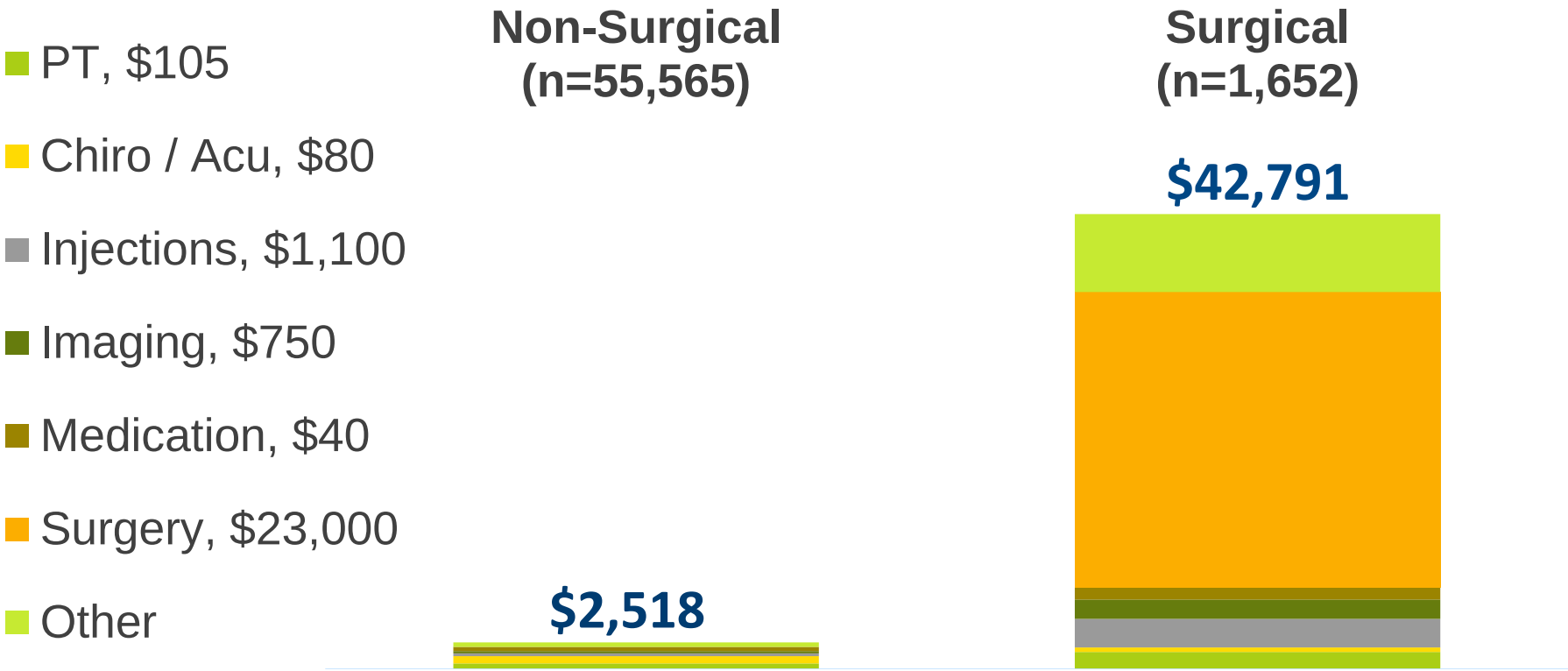


Dx Codes from imaging

Diagnosis Code Description	NS	S
LUMBAGO	26%	19%
DEGEN LUMB/LUMBOSAC INTERVERT DISC	11%	13%
DISPLCMT LUMBAR DISC W/O MYELOPATHY	11%	19%
UNSPECIFIED BACKACHE	8%	4%
THOR/LUMBOSACRL NURIT/RADICULIT UNS	7%	10%
LUMBOSAC SPONDYLOSIS W/O MYELOPATHY	7%	7%
NONALLOPATHIC LES LUMBAR REGION NEC	4%	0%
PAIN IN THORACIC SPINE	3%	1%
SCIATICA	3%	2%
LUMBAR SPRAIN AND STRAIN	3%	1%
SPINAL STEN LUMB W/O NEUROGEN CLAUD	2%	8%
SCOLIOSIS , IDIOPATHIC	2%	2%
Total %	85%	85%

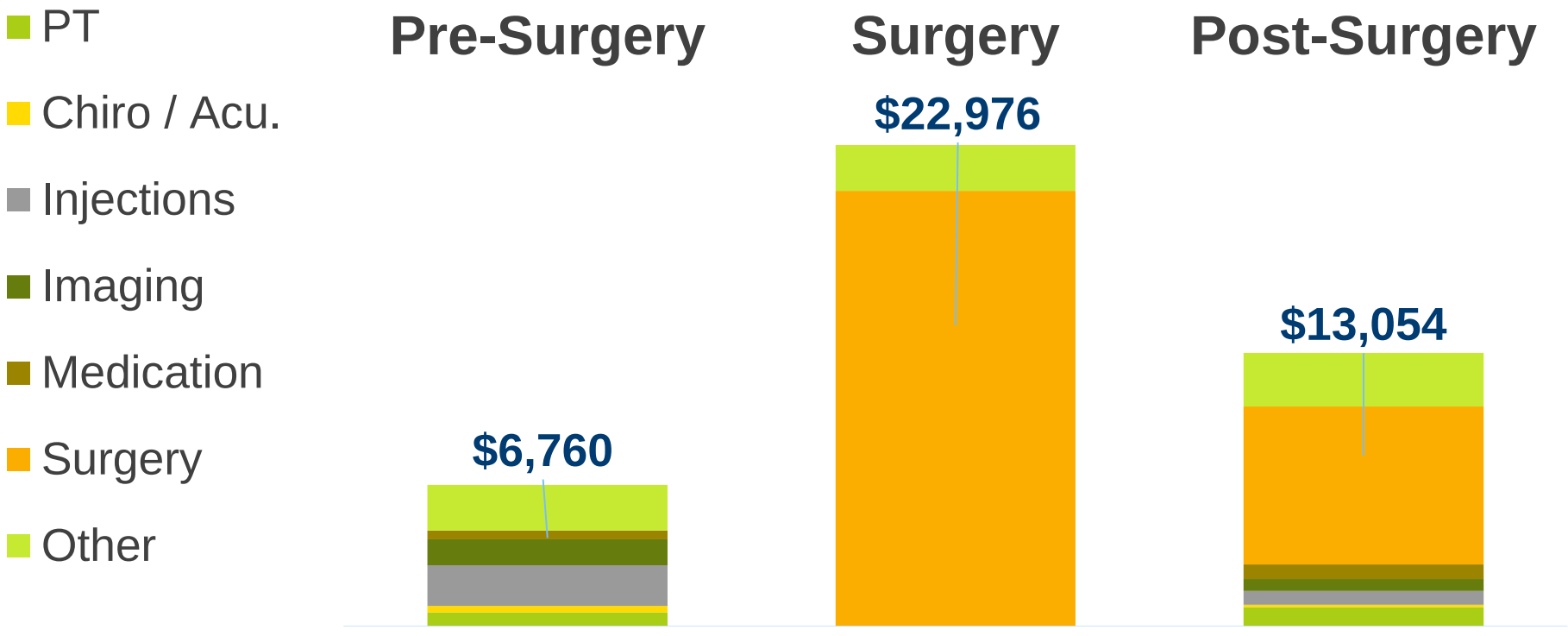
Back Pain Costs for a Typical Health Plan

Surgical Cases are 17x more expensive annually. Episode Costs (Cov $)



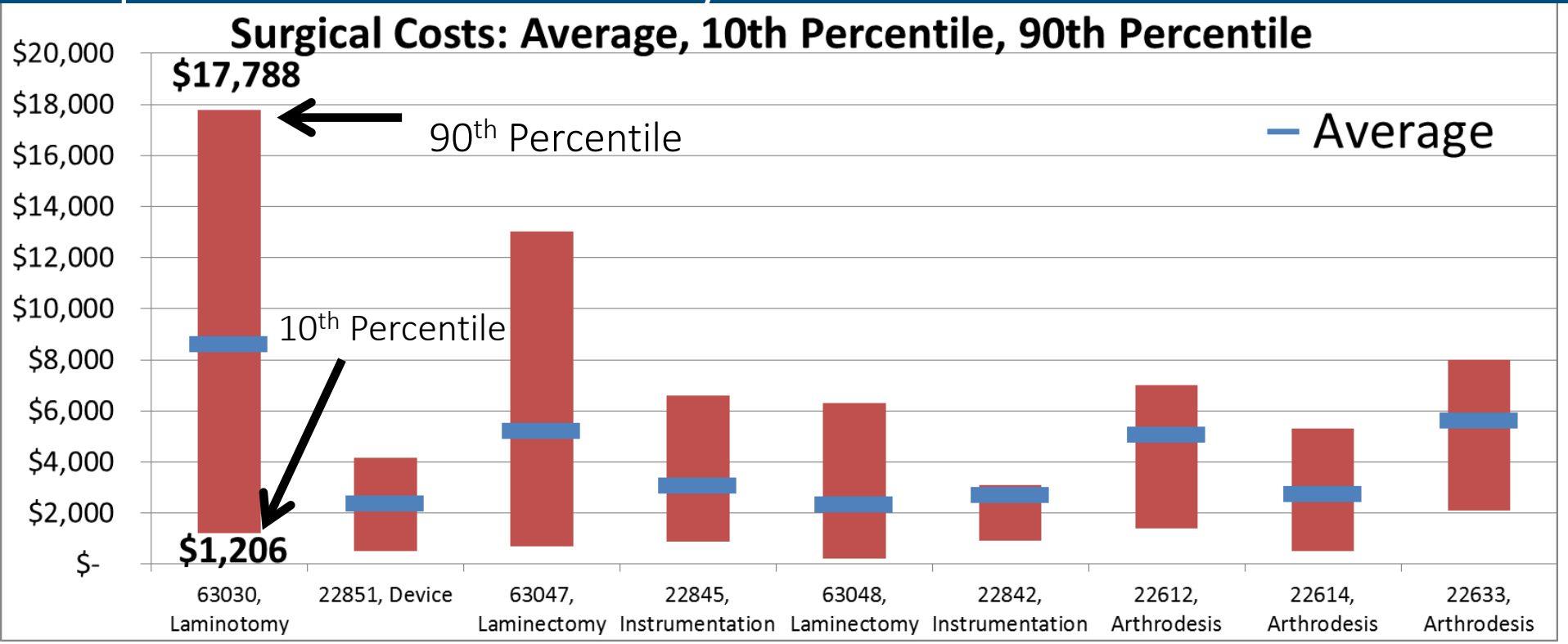
Surgical Sequence (1,652 Adults)

30% have a 2nd surgery.



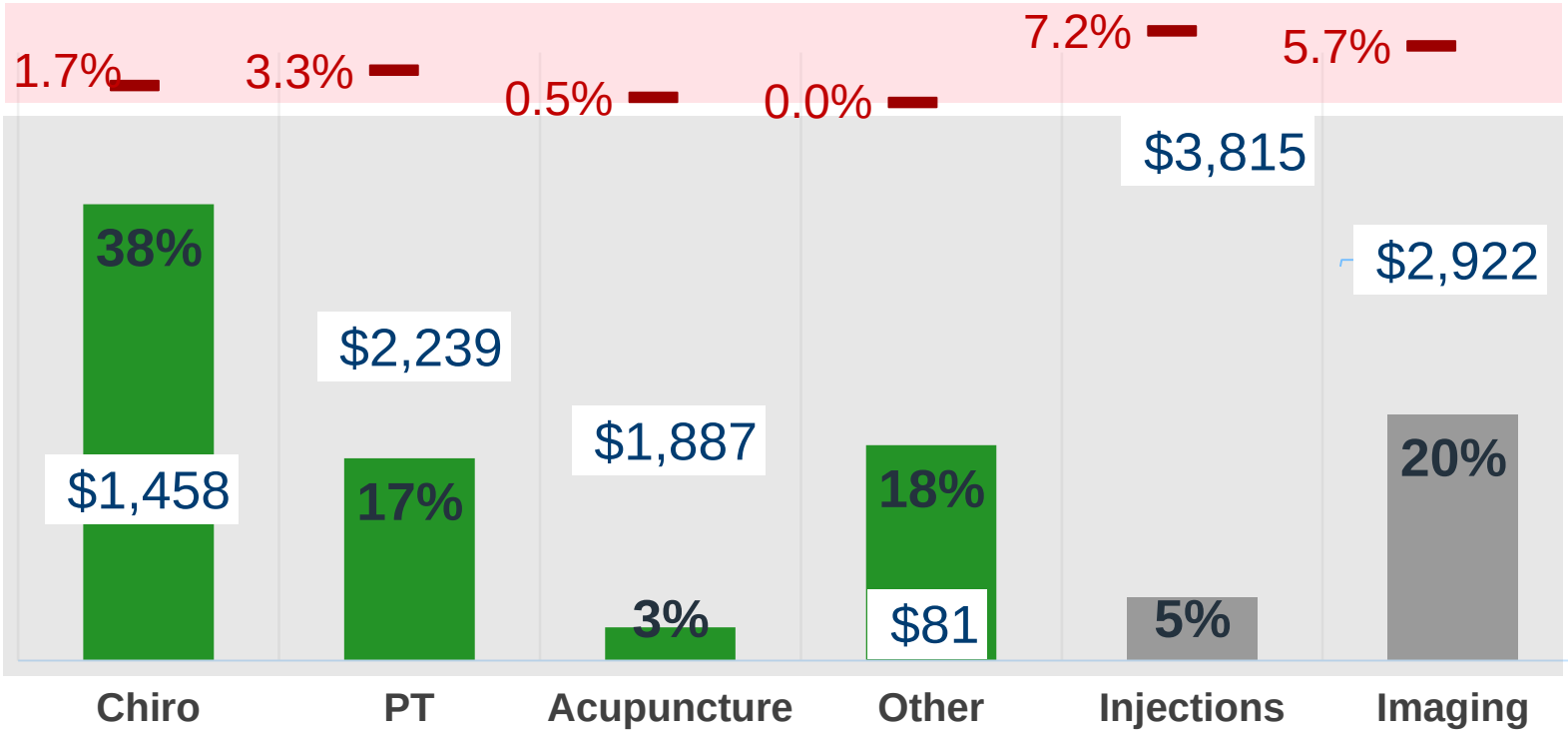
Variability of Surgical Costs

9 surgical codes are present in 80% of the surgeries in this study.
42% price inflation over last 5-6 years.



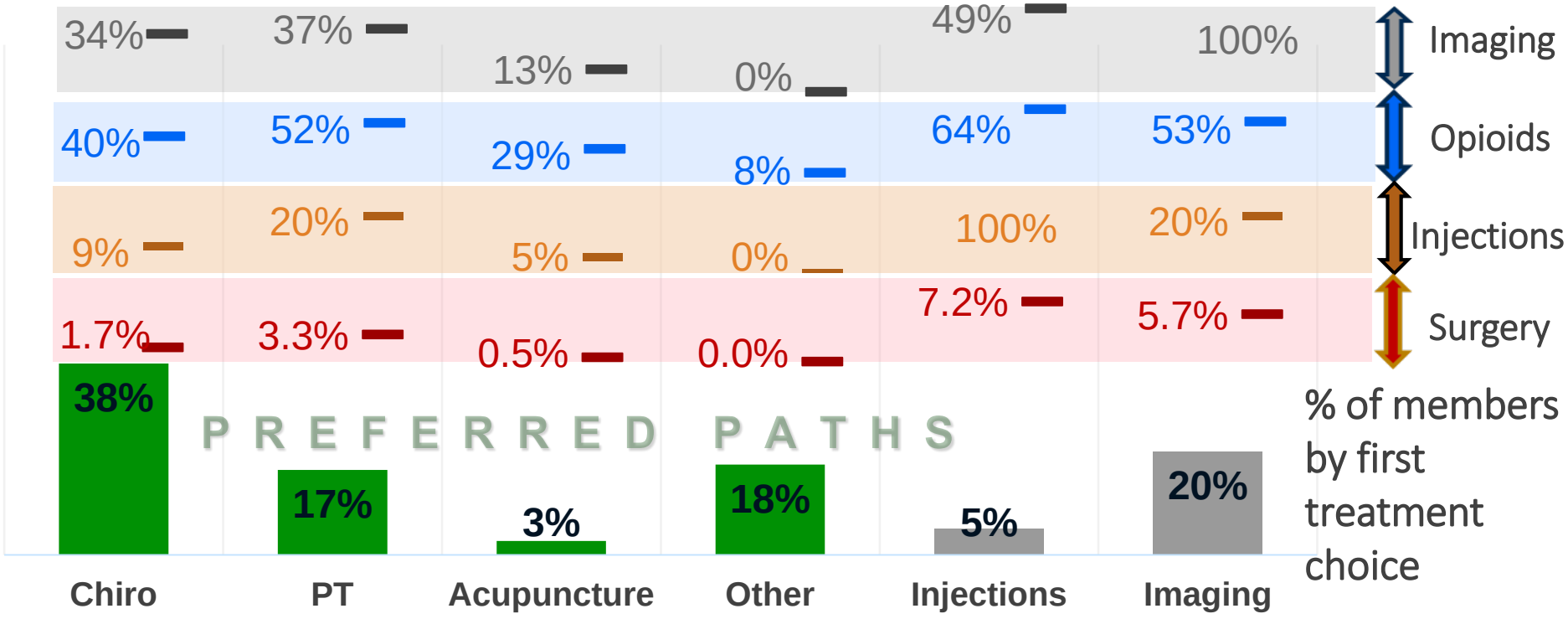
Variability in Episode Costs by First Treatment

Average episode cost, surgical rate by first treatment option



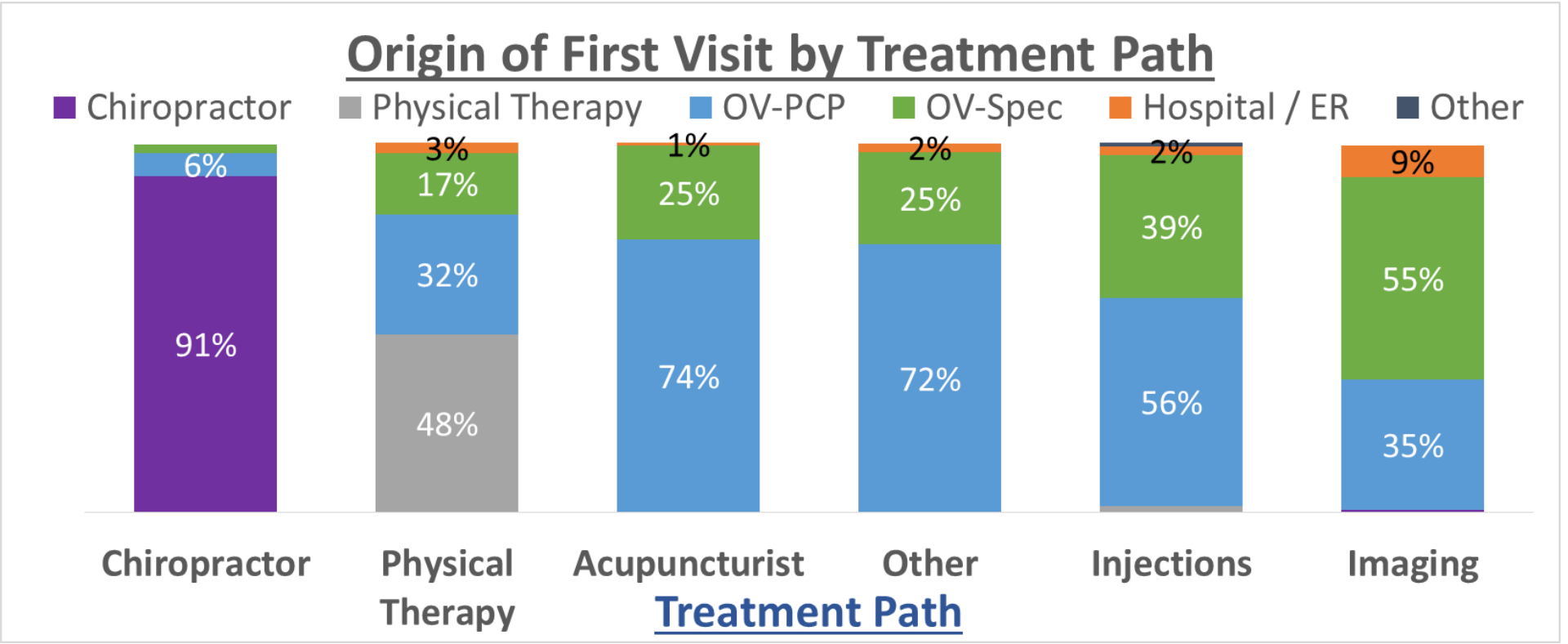
Variability in Outcomes by First Treatment

Doing Chiro as first treatment option is optimal
Injections or Imaging increase surgical probability by 3-5X



Origin of First Visit by Treatment Path

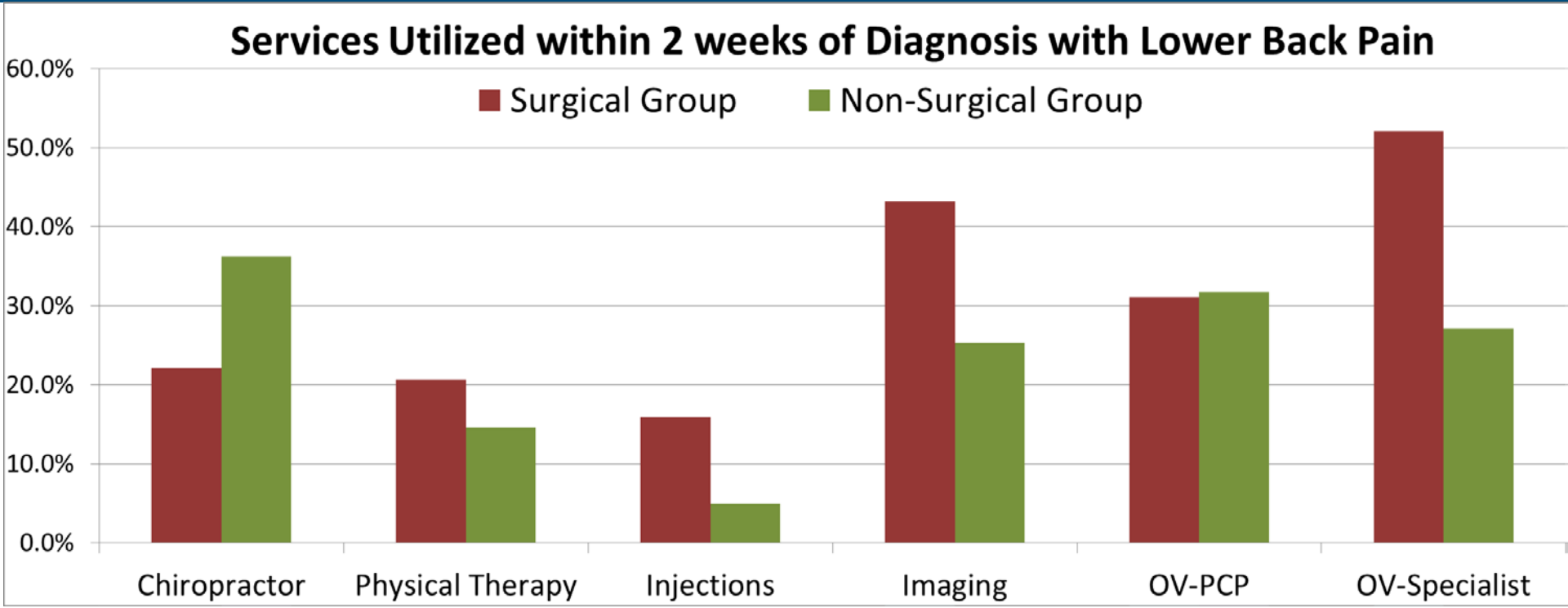
Chiro is self referred, PCP present, Specialist influence



Pace of treatment-First 2 Weeks After Diagnosis

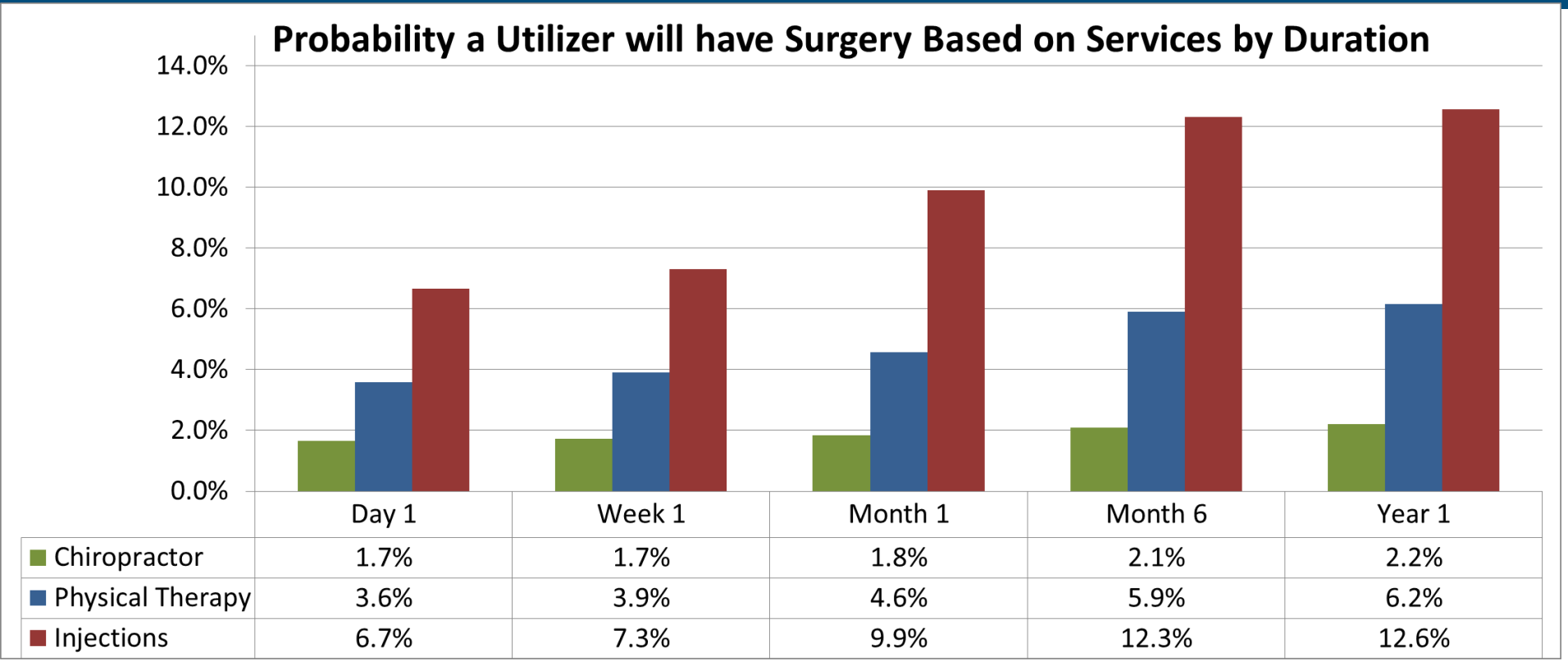
More Chiro for Non-Surgical Group, less injections, imaging, specialists.

Services are consumed quickly



Back Pain Treatment Path- Probability of Surgery

The timeline is important- early conservative treatment is imperative



	Day 1	Week 1	Month 1	Month 6	Year 1
Chiropractor	1.7%	1.7%	1.8%	2.1%	2.2%
Physical Therapy	3.6%	3.9%	4.6%	5.9%	6.2%
Injections	6.7%	7.3%	9.9%	12.3%	12.6%

Variability in Outcomes by First Treatment

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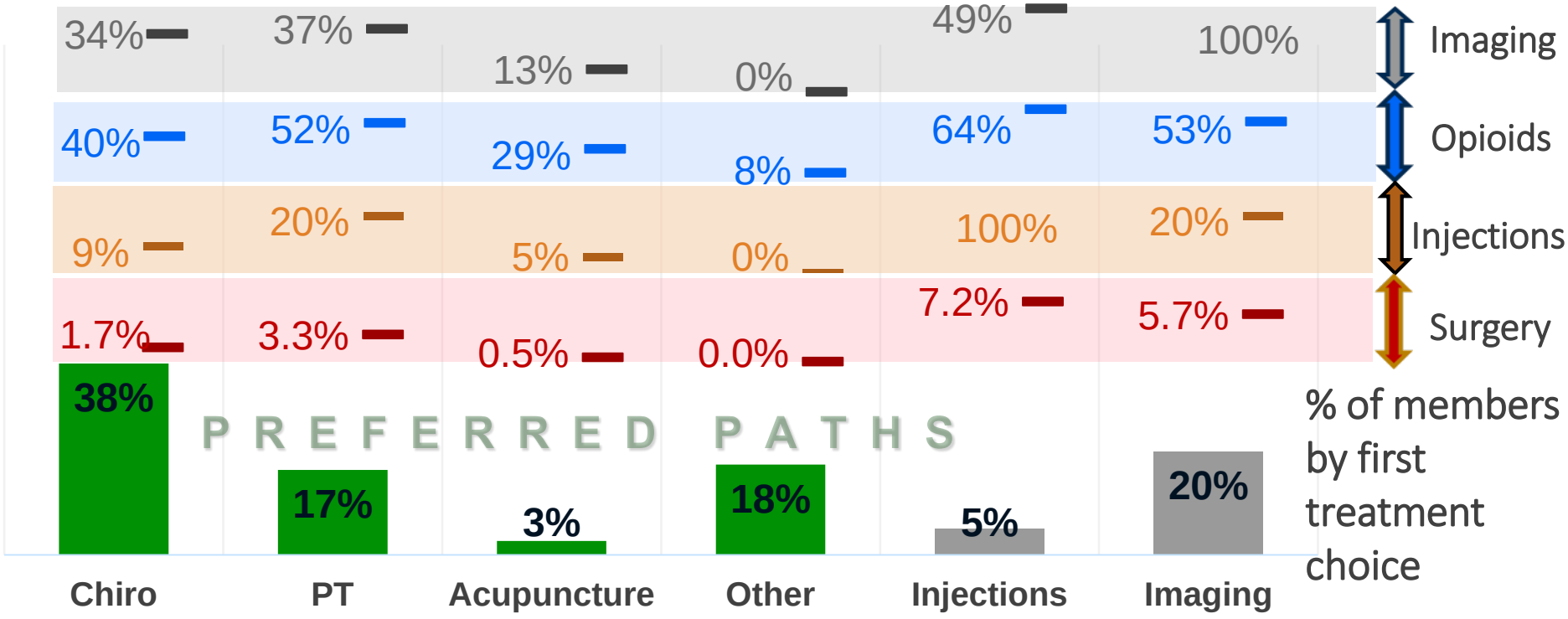
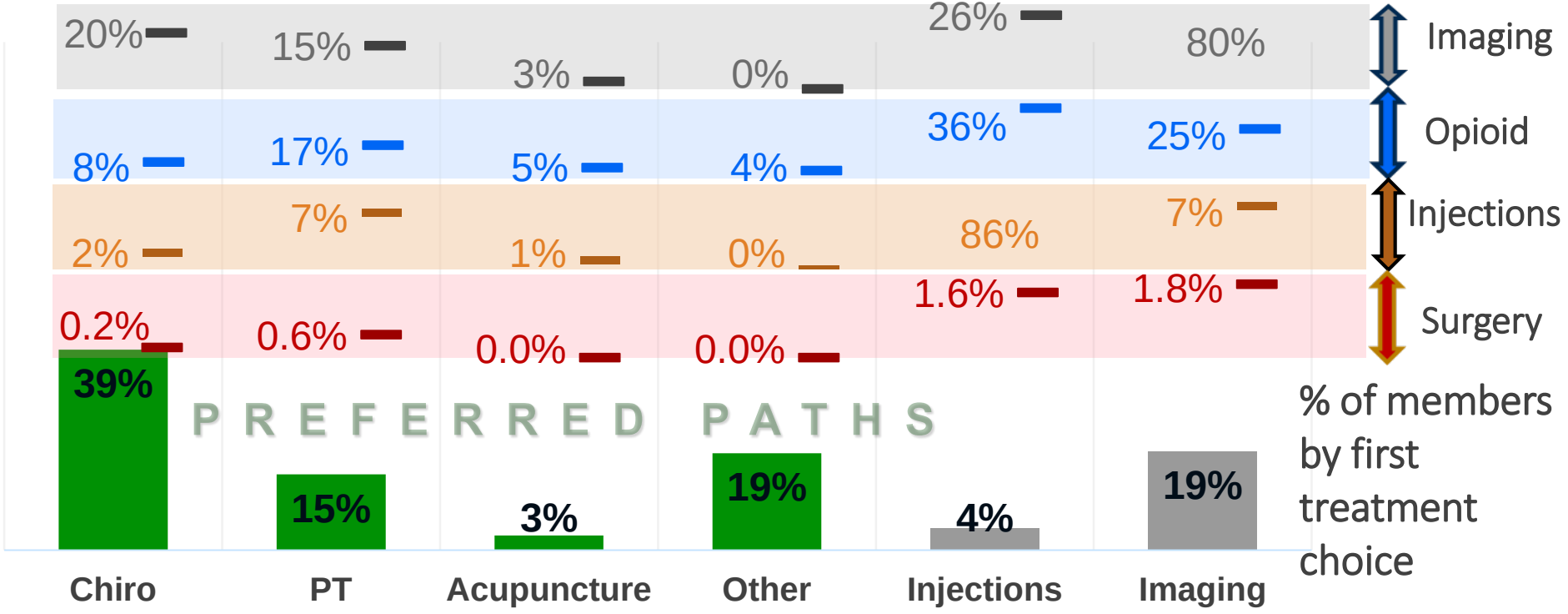


Variability in Outcomes by First Treatment

Low Risk (N=40,118) | Outcomes first 3-months post diagnosis of LBP

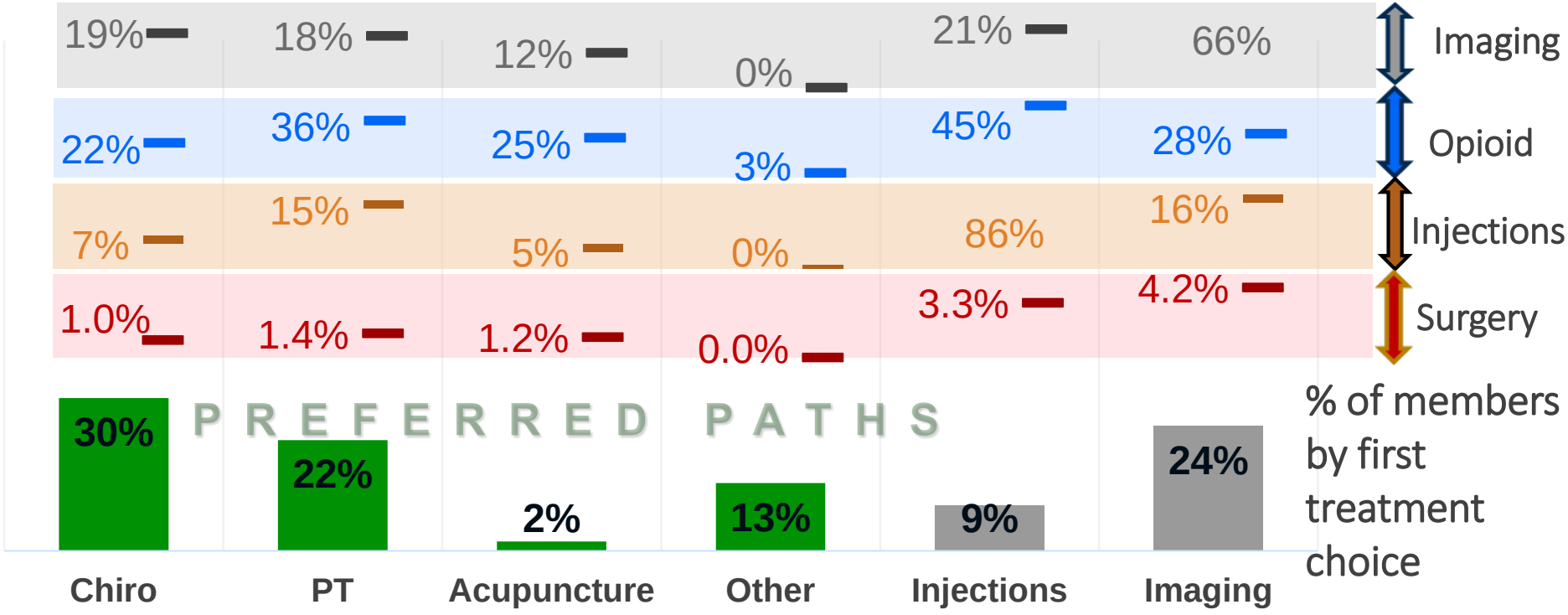
Injections or Imaging increase surgical probability, Opioid Use



Variability in Outcomes by First Treatment

High Risk (N=4,470) | Outcomes first 6-months post diagnosis of LBP

Injections or Imaging increase surgical probability, Opioid Use



Predictive Decisions

First 30 days are paramount

Tier	Definition: Applies to first 30 days after a diagnosis for lower back pain	% Pop	P[Surgery]	Episode Cost
Worst	Starts with ***Imaging*** also does ***Injections***	1%	21%	$ 11,076
Bad	Any ***Injections***	5%	8%	$ 5,733
Middle	Starts with ***Imaging,*** no ***Injections***	19%	5%	$ 3,636
Good	Starts with ***Physical Therapy,*** No ***Injections***	12%	3%	$ 3,445
Best	Starts with ***Chiro,*** no ***Injections***	35%	2%	$ 1,718
Acute; 18% Delayed; 10%	Not consuming any of these services in the first 30 days	28%	1%	$ 1,224

Analysis Conclusions

- Early conservative treatment leads to better outcomes.
- Liberal, non-evidence based use of imaging is prevalent.
- Injections to manage pain should not be used as a first line option.
- The use of Opioids is prevalent (12% in 2-weeks, 22% by 6-months, ~50% for episode)

Section 3: Plan Design Opportunities and Optimization

- What can we do to improve the treatment of lower back pain?
- Plan designs & incentives
- Case study

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What can we do to improve the treatment of lower back pain?

- Promote Conservative treatment.
  - Remove impediments to doing chiro and physical therapy.
  - Develop incentives to do chiro and physical therapy.

- Leverage Prior Authorizations
  - Imaging, Injections, Surgery

- Awareness
  - Physicians: Outreach to promote alignment with clinical practice guidelines.
  - Patients: Resources to discover what treatment options are appropriate & available.

Promote Conservative Treatment

Plan Design - Free Visits

Design

- First 3-6 Chiro or PT visits are at no cost to the member, good for 2 weeks.
- Select list of providers only.

Cost Impact

- +0.1% to +0.3% of claim cost.

Benefit

- Reduction in surgeries, injections, imaging, opioids from members being on a better treatment path.

Risks

- Incentives for utilization.
- Unable to restrict benefits by diagnosis severity.
- Does not decrease usage of imaging, injections, opioids, surgery as much as expected.

Promote Conservative Treatment
Plan Design- Consult, Reward, Penalty

Design
- Required **Consult** upon diagnosis with back pain.
- If member skips the consult and ends up having surgery then assessed a $500 **Penalty** in extra out-of-pocket ortho related costs.
- For those members to which Chiro is suggested, plan sponsor provides a $150 voucher **(Reward)** to support the first 2 visits.

Cost Impact
- Net of Incentives less penalty.
- Providing Consult services.

Benefit
- Steerage Savings
- Penalty > Incentive

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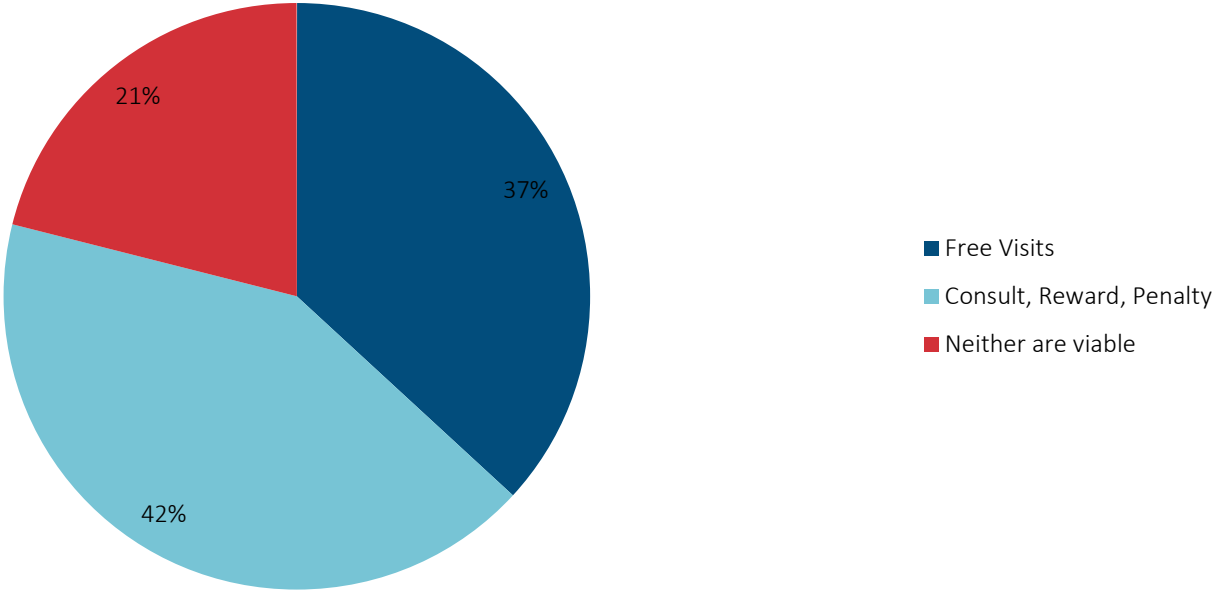
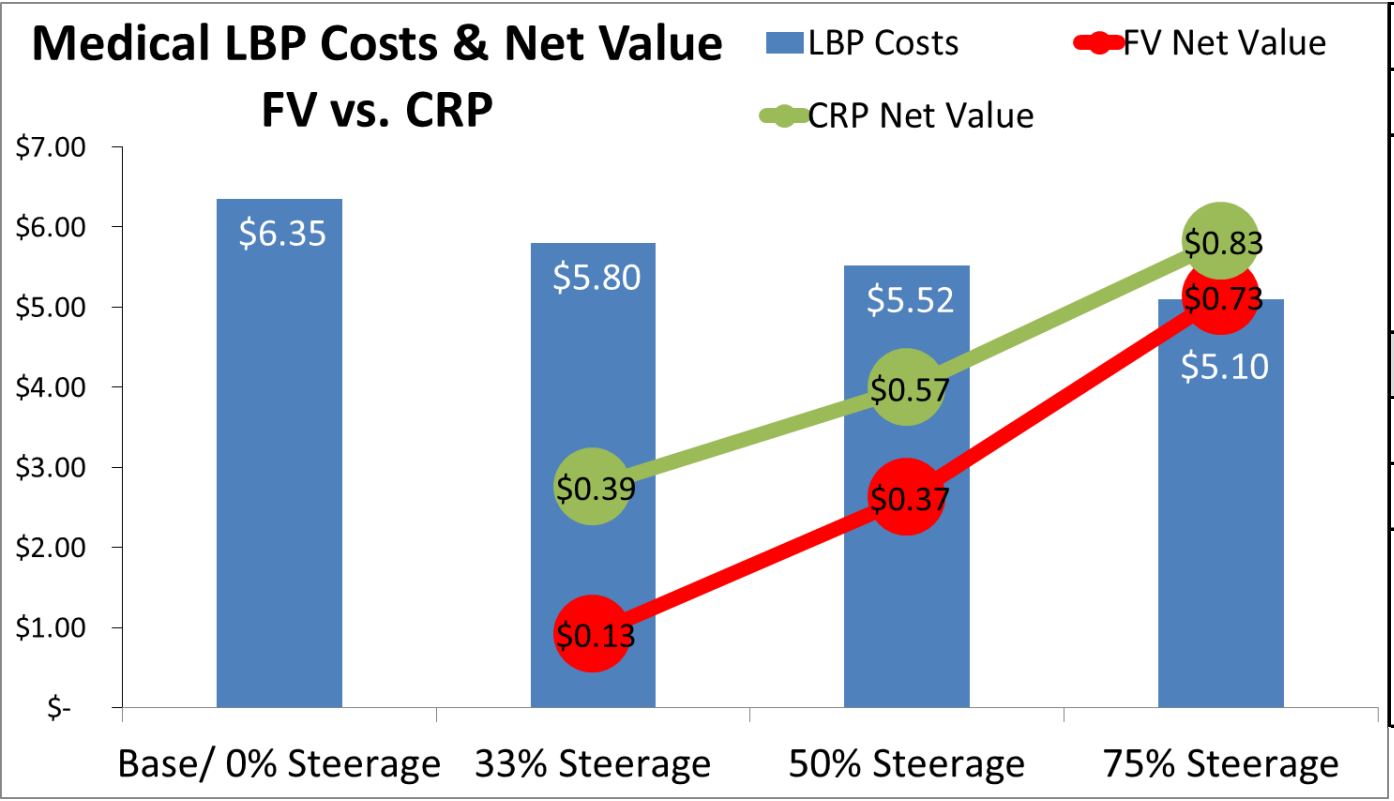
Poll: Which plan design model is more viable?

Which plan design model is more viable?



Which incentive plan design is better?
Free Visits vs. Consult, Reward, Penalty



Free Visits	
Steerage	Plan Cost
33%	$0.42
50%	$0.46
75%	$0.52

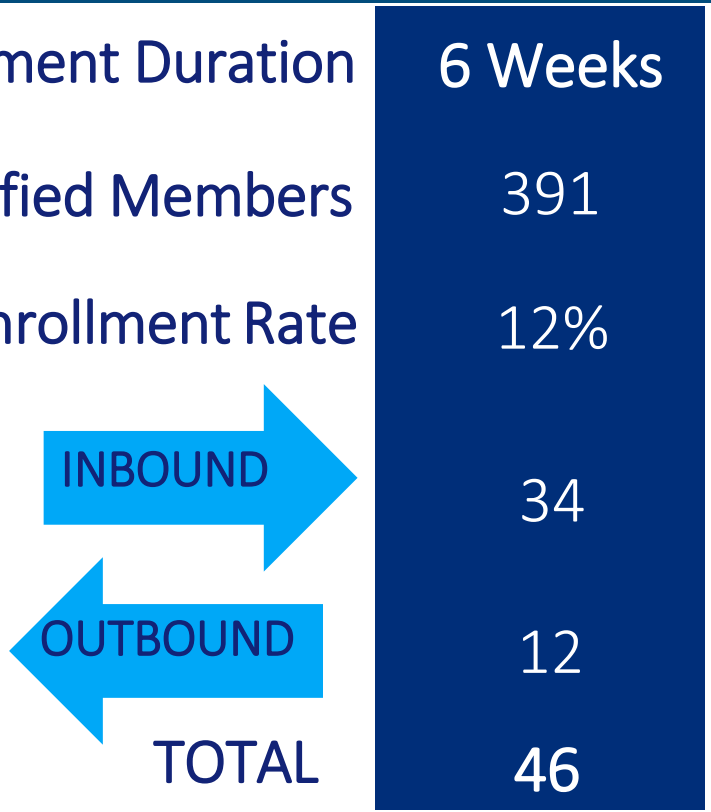
Consult, Reward, Penalty	
Steerage	Plan Cost
33%	$0.16
50%	$0.26
75%	$0.42

Case Study

UHC ASO Client. 50k Employees, 100k Members, 60% Female

Orthopedic Nurse Outreach Program

- Call nurse and may qualify for $100 gift card.
- Dedicated nurse that is the same throughout the member's journey
- Nurse referral to physical therapists, increase exercise, stretching routines
- Goals established during each appointment.
- 91% of participants with 2+ appointments
- Annualized savings estimated at $100k



Summary

Section 1: Why Low Back Pain?

- Low back pain is a recurrent disorder, with a variable course, rather than episodes of unrelated occurrences.
- LBP is important because it is high incidence and a driver of disability, and health care costs.
- Clinical guidelines recommend use of conservative treatment early, avoidance of opioids, and injections. Imaging is appropriate only when a clinician suspects a specific condition.

Section 2: Analysis of the Treatment Sequence for Lower Back Pain

- Significant variability of outcomes is evident by first treatment used and pace of treatment.
- Place of entry into the system influences treatment used. PCP vs SPC vs Chiro

Section 3: Plan Design Opportunities and Optimization

- Opportunity to expand prior authorizations as a tool to ensure medically necessary care.
- Awareness: outreach to patients and providers to ensure alignment with clinical guidelines.
- Plan design incentives can be used to promote early conservative care.

Questions?

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Appendix

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Citations

The Lancet- Series on low back pain, Annals of Internal Medicine

1. Buchbinder R, van Tulder M, Oberg B, et al. Low back pain: a call for action. Lancet (London, England). 2018;391(10137):2384-2388.
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Variability of Outcomes

Factors: Symptom-related, Lifestyle, Psychological, Social

Symptom-Related	Lifestyle	Psychological	Social
Previous Episodes	Body Mass	Depression	Physical work loads
Pain Intensity	Smoking	Catastrophizing	Education
Presence of Radiculopathy	Physical Activity	Fear Avoidance Beliefs	Compensation
			Work Satisfaction

Summary Chart

The higher risk levels see greater increases in adverse outcomes over time

Time Frame	3 Months			Increase from 3 to 6 Months		
Risk/Rate	Low	Medium	High	Low	Medium	High
Imaging	27%	26%	25%	+8%	+13%	+19%
Opioid	16%	20%	13%	+24%	+30%	+31%
Injection	7%	10%	13%	+17%	+21%	+25%
Surgery	0.7%	1.0%	1.3%	+50%	+56%	+79%

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