PRIMA'S 2017 RISK MANAGEMENT
WEBINAR SERIES

How to Adapt Data Analytics for Data-Driven Decision Making

September 20, 2017

Introduction

Deborah Watkins, *CEO*



Deborah has worked closely with the Centers for Medicare and Medicaid Services (CMS) as the first reporting agent participating in beta testing. She also worked with CMS and congressional staff advocating for transparency and improvements in the MSP program.

During her tenure at Gould & Lamb, the company received the 2010 Oracle Titan Award and Gartner 1to1 CRM Silver Award for technology implementation of an enterprise analytics platform.

Deborah has worked in major roles for group health, workers comp and group benefit insurance companies. She participated in the Federal Medicare + Choice pilot program, the precursor for Medicare Advantage C plans and is recognized for excellence in medical claims management and return to work outcomes.

She has a Master's in Healthcare Leadership (MBA/MPH) from Brown University and a Master of Science in Nursing. She is a past board secretary for the National Association of Medicare Set Aside Professionals (NAMSAP).

Jim Paugh, *SVP*



Jim has an extensive background within workers' compensation insurance from safety and loss control to claim management and consulting to underwriting and claim analytics. He has developed many Key Performance Indicators for use by regulators, carriers and Fortune 500 employers as well as associated predictive models for claim complexity, case management and provider outcomes.

He formerly held leadership positions with Deloitte Consulting, Verisk Analytics and Paradigm Management Services. In these positions, he managed and worked on projects for predictive modeling in workers' compensation for a $2B underwriter, one of the first claims complexity models for a large national carrier and reserving application for a national third-party administrator. Other project work included, WC and liability claim reviews, medical malpractice regulatory audits and dashboard development work for an actuarial firm and carrier.

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Objectives

Discuss	Understand	Learn
Introduction to the ever changing world of data analytics	How Workers' Compensation Data Mining Can Yield Important and Actionable Information	How to Develop Key Performance Indicators/Metrics

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MONEYBALL AND SABERMETRICS
Indicators of Offensive Success

Traditional Measure

- Batting Average
- Home Runs
- Pitching Wins
- Stolen Bases
- RBI's



Runner on...	0 out	1 out	2 out
Empty Bases	0.454	0.249	0.095
1st Base	0.783	0.478	0.209
2nd Base	1.068	0.699	0.348
3rd Base	1.277	0.897	0.382
1st and 2nd	1.380	0.888	0.457
1st and 3rd	1.639	1.088	0.494
2nd and 3rd	1.946	1.371	0.661
Bases Loaded	2.254	1.546	0.798

Expected Future Runs Scored in an inning given certain conditions. (1961-77 data set)

Moneyball Measures

- On-Base %-age
- Slugging %-age
- 100 pitch count
  - >65% Strikes
  - <58% Strikes

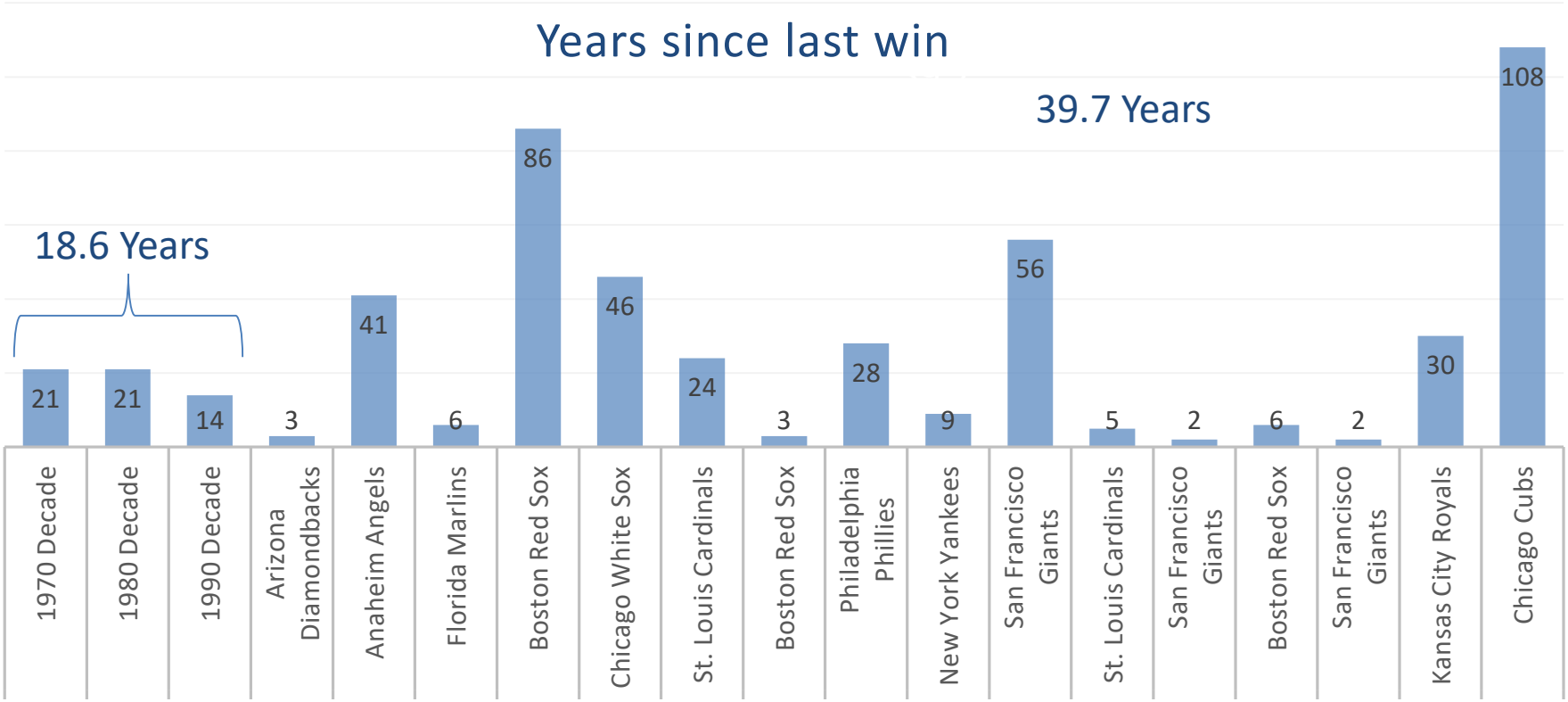
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The Moneyball Impact

- Moneyball changes the way baseball teams evaluate performance for draftees and veteran talent
- Moneyball allows teams to focus on value-talent vs. “proto-typical” talent
- Moneyball changed the balance of power allowing smaller market teams to compete at the highest levels.

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Changing the Outcomes.
Years from Last World Series Championship



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Who's Next:

Longest current World Series championship droughts

Seasons	Team	Last championship won	Last World Series appearance
68	Cleveland Indians	1948	2016
56	Texas Rangers	Never (franchise began 1961)	2011
55	Houston Astros	Never (franchise began 1962)	2005
48	Milwaukee Brewers	Never (franchise began 1969)	1982
48	San Diego Padres	Never (franchise began 1969)	1998
40	Seattle Mariners	Never (franchise began 1977)	never
37	Pittsburgh Pirates	1979	1979
33	Baltimore Orioles	1983	1983
32	Detroit Tigers	1984	2012
30	New York Mets	1986	2015

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Risk Management

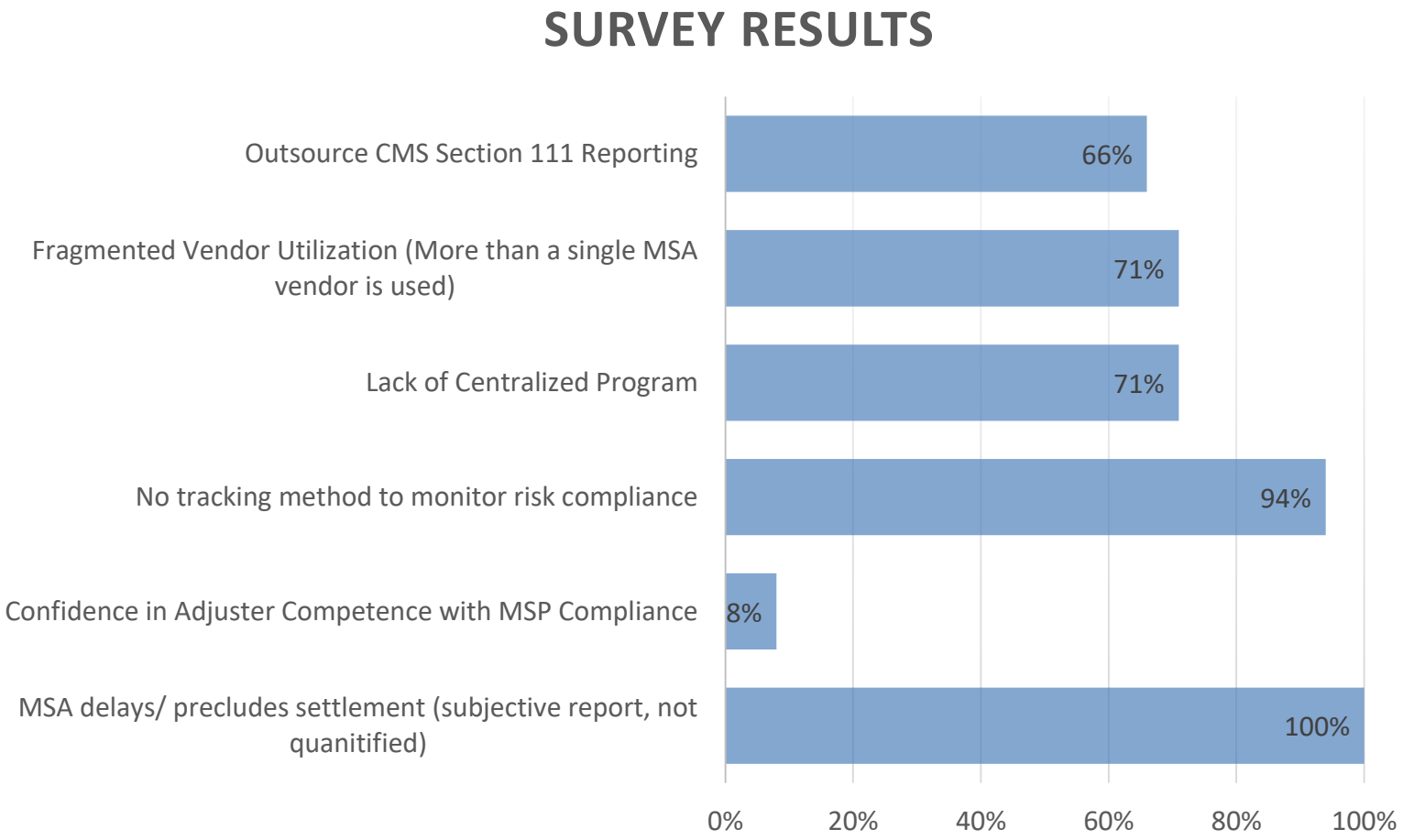
1. How do you measure & quantify risk?
2. Haven't we been using analytics for years? Is there anything new here?
3. Isn't analytics already built into the Enterprise Risk Management (ERM) function?
4. Can analytics help with financial statements and reporting?
5. What role can analytics play in meeting regulatory requirements?



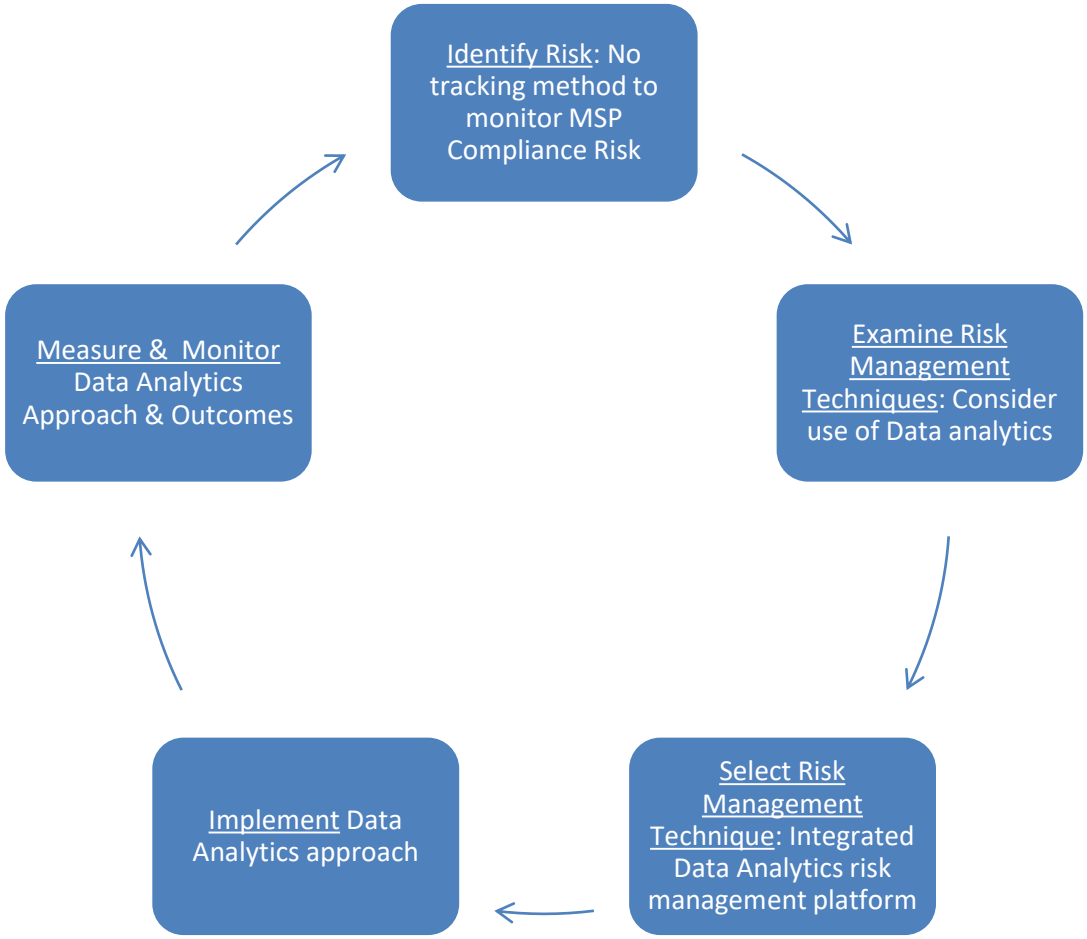
Questions Taken From Deloitte® Risk Angles

Example of Using Data Analytics

We randomly, confidentially surveyed 36 payers about Medicare Secondary Payer Compliance



Risk Management Process



How to Develop Key Performance Indicators/Metrics

Most Measure for KPIs:

Easy to calculate, useful as "rule of thumb" but offers little insight into problem solving

- Average (Mean)

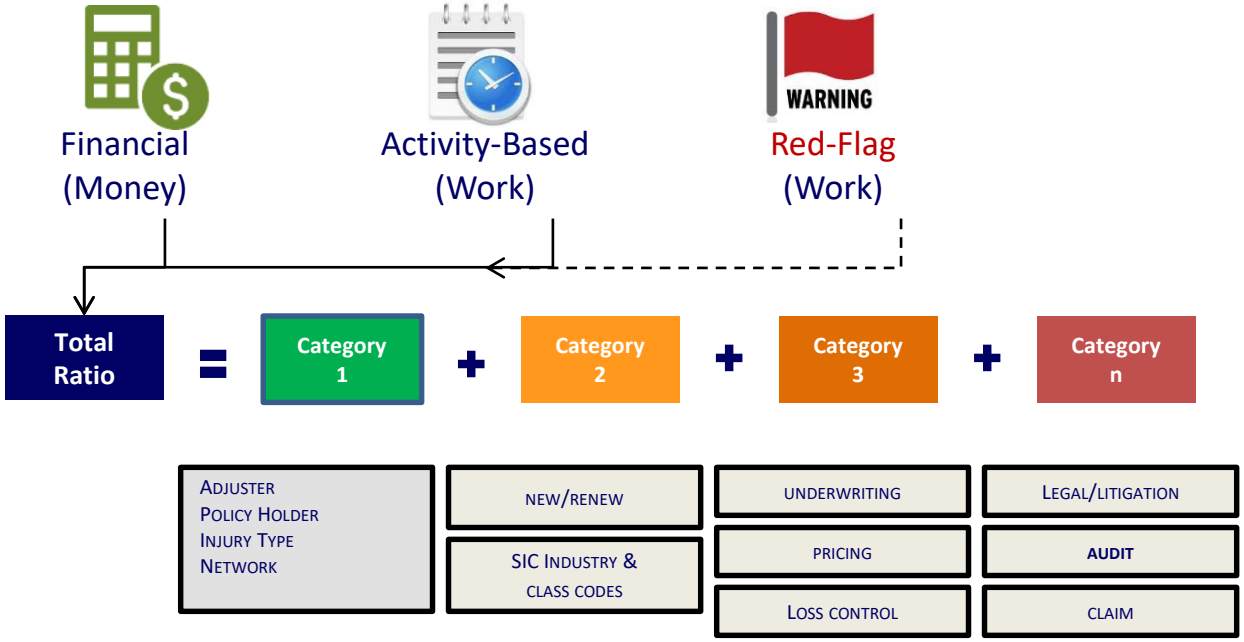
Other Measurements:

Easy to calculate, but dives deeper showing opportunities

- Mode
- Median
- Standard Deviation 1,2,3
- Counts
- Relationships/Ratios
- Modeling Variables

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How to Develop Key Performance Indicators/Metrics



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Financial Performance KPI's

1) Premium-to-surplus Ratio
2) ALAE
3) ULAE
4) Loss Ratio
5) Premium Growth
6) Written to Earned Premium
7) Reserve Development Ratio
8) Recurring Revenue to Equity
9) Recurring Revenue / EE
10) Underwriting Leverage
11) Operating Ratio
12) UW Expense Ratio

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Activity-based KPIs

1. Cycle Times
2. Payment Days
3. Claim Durations
4. Cancel/Reinstate
5. Pre/post loss inspections
6. UW Inspections
7. Inventory Load
    1. Policy Apps
    2. Claims
    3. Matters
    4. Inspections
8. Re-work - Incomplete apps
9. Declinations
10. Lapses and Attrition
11. Collections
12. Audit Adjustments
13. Sales Volume/Growth
14. Commission Ratio
15. Sales Targets/Commitments
16. Blocking Ratio
17. Reserve Adjustments
18. Open/Re-Open/Closed
19. Subrogation
20. Litigation Ratio
21. Litigation payout ratio
22. Compliance Ratio/Penalty
23. News Worthy Incidents
24. Scheduled CR/DR
25. Claim Ratio
26. Claim Complexity Ratio
27. Payment Accuracy
28. RX / Opioid / MEDD
29. Claim Re-assignments
30. Delay and Denial Rates
31. Payroll Changes
32. Validation

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"RED" Flags as potential measures

- Every vendor provides RED flags as a way to garner referral business.
- The goal is to "validate" these truisms through analytics.

Claimant	Medical Provider	Attorney	Chronic Pain
1. Number of days worked and amount of salary inconsistent with occupation; 2. Injured worker disputes average weekly wage due to additional income (i.e., per diem and/or 1099 income); 3. Cross-outs, white-outs and erasures on documents; 4. Injured worker files for benefits in a state other than principle location of the alleged industrial injury or occupational disease; 5. Injured worker-listed occupation is inconsistent with employer's stated business;	1. Injured worker does not recall having received the billed service; 2. Provider's medical reports read almost identically even though they are for different patients with different conditions; 3. Much higher health-care costs than expected for the allowed injury type; 4. Frequency of treatments or duration of treatment period is greater than expected for allowed injury type, especially for older (non-catastrophic) claims; 5. Frequent billing in older (non-catastrophic injury) claims;	1. Representation letter received within a few days of the incident. 2. Attorney consistently deals with same medical providers. 3. Attorney consistently willing to compromise for low dollar amounts. 4. Attorney is single practitioner with offices in several cities. 5. First notice of claim comes from attorney or medical clinic	1. Continued pain or increased pain 3 months post injury 2. Injured Worker referred to a Pain Management Program 3. Injured Worker referred for spine surgery 4. Injured Worker has seen 2 or more care providers for same diagnosis or symptoms 5. Pain mediation is prescribed by more than one medical provider

http://www.ohiobwc.com/basics/guidedtour/generalinfo/empgeneralinfo22.asp

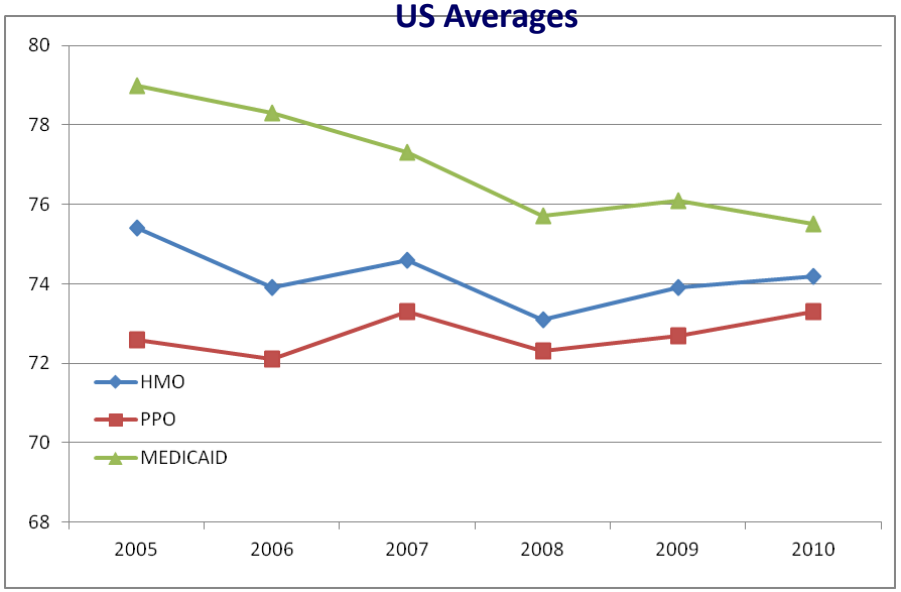
http://www.untied.com/feature/redflag.pdf

Case Management Associates, Inc.

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HEDIS® NQF 0052 Low Back Pain: Use of Imaging

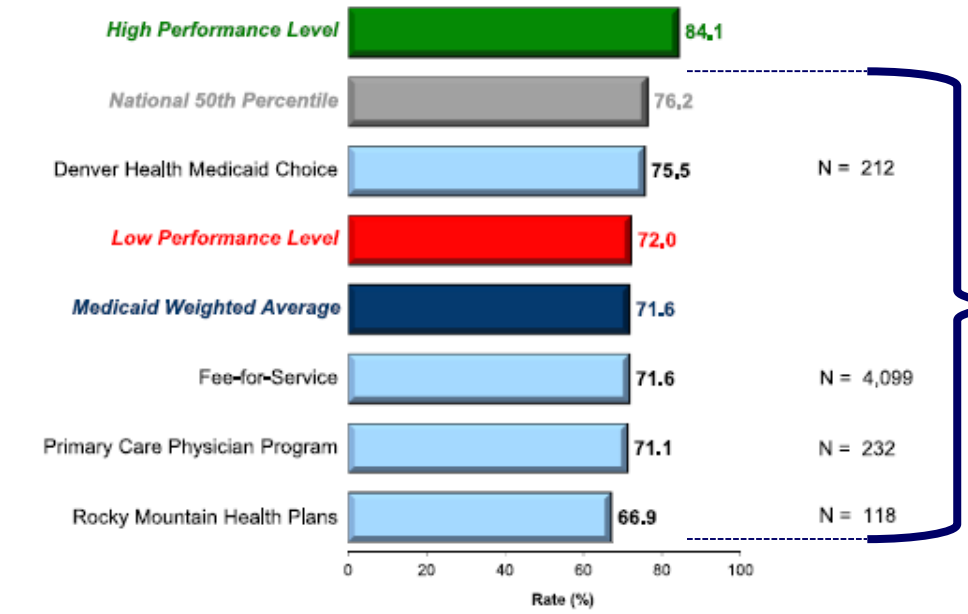
- Use of imaging studies for low back pain: percentage of members with a primary diagnosis of low back pain who did not have an imaging study (plain x-ray, MRI, CT scan) within 28 days of the diagnosis.



A higher rate represents better performance

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HEDIS® 0052: Colorado Example



Opportunity

50 California health plans scored from 61 to 90, with 2/3 below High Performance Level of 84.1.

A higher rate represents better performance

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Use of Imaging Studies: Proxy

Not exactly the same measures, but looks for use/overuse



HEDIS®

Use of imaging studies for low back pain: percentage of members with a primary diagnosis of low back pain who did not have an imaging study (plain x-ray, MRI, CT scan) within 28 days of the diagnosis.

Outpatient Imaging Efficiency Measure

This measures hospitals with Outpatients with low back pain who DID NOT have an MRI without trying recommended treatments first such as physical therapy.



Health Plans

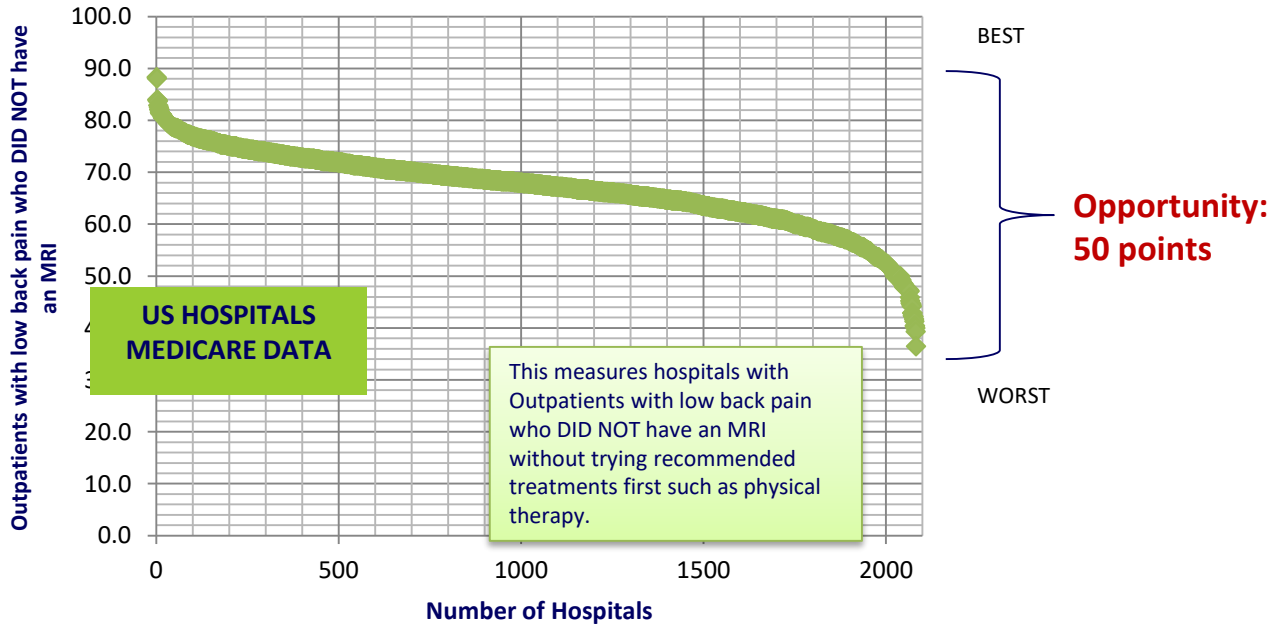
Hospitals

A higher rate represents better performance

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US Hospitals: Outpatient Imaging Efficiency Measure

Proxy for HEDIS® Low Back Imaging



A higher rate represents better performance

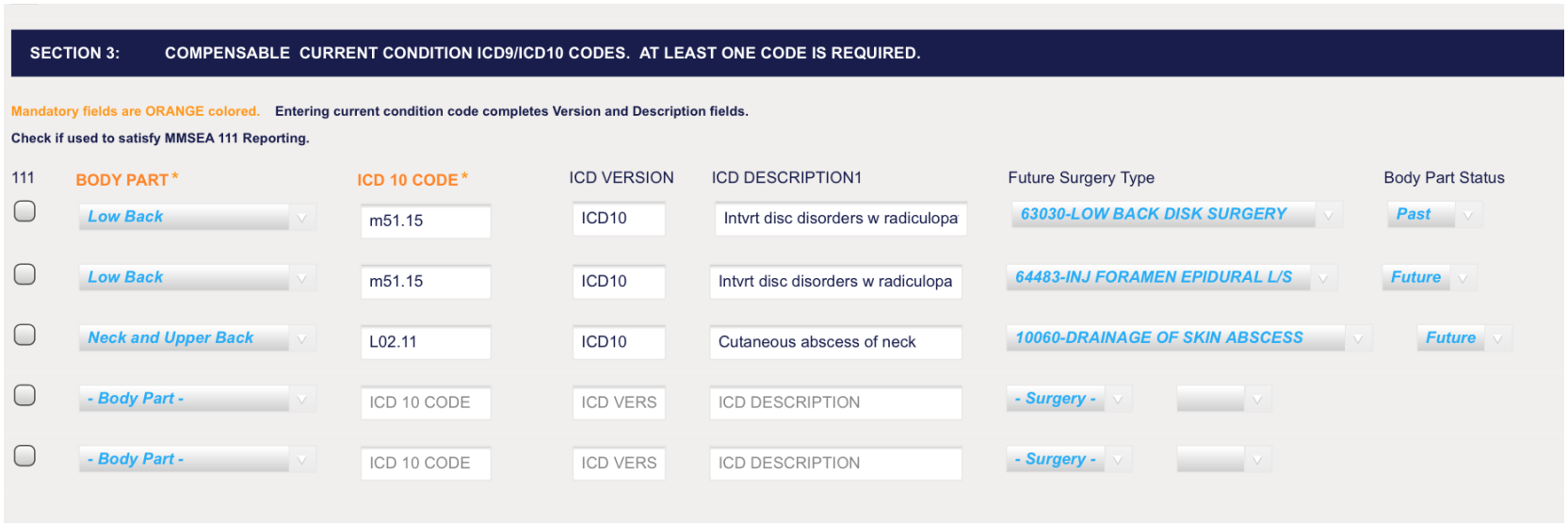
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Making Data Actionable

- Defining Data Elements –
- Structured Data (numbers, formatted text)
- Unstructured Data (text or free-form)
  - Name variations: USA, U.S.A., America, United States, United States of America, US, U.S., not to mention typos.
- Care Bridge Approach to Data

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Data in Action



SECTION 3: COMPENSABLE CURRENT CONDITION ICD9/ICD10 CODES. AT LEAST ONE CODE IS REQUIRED.

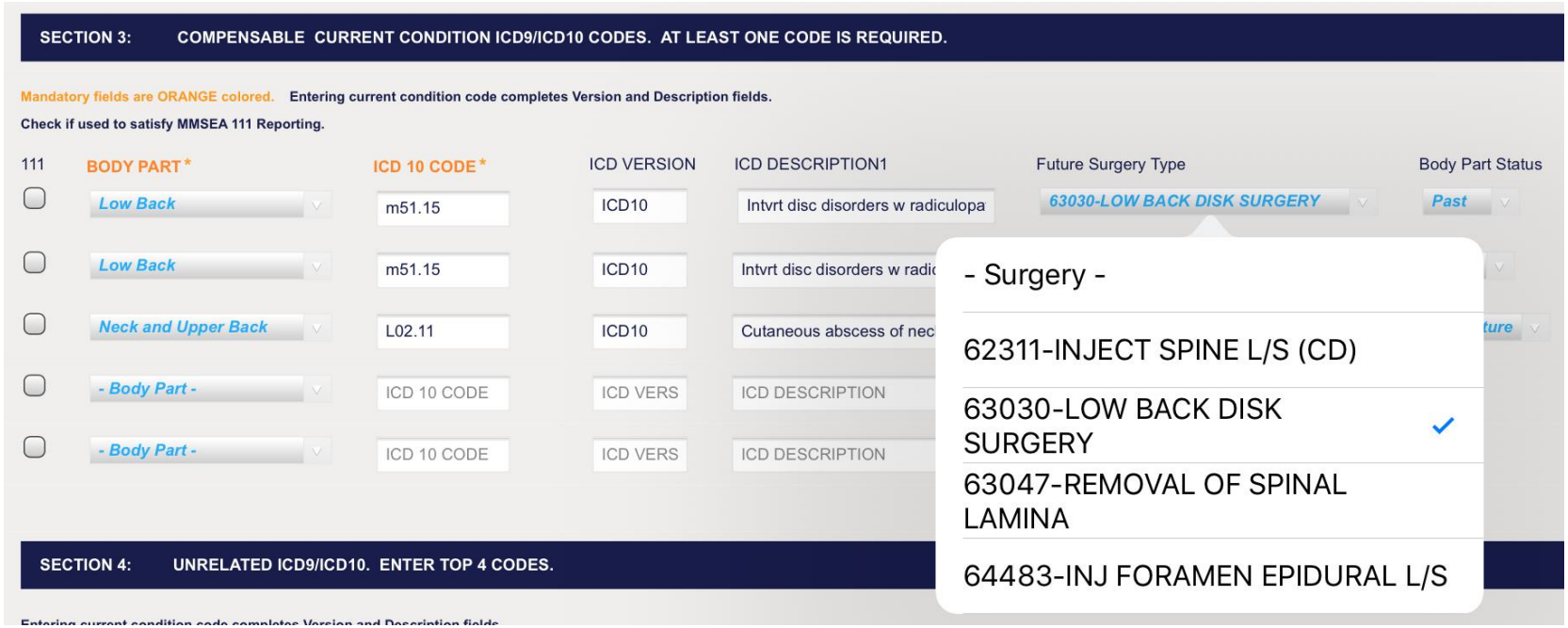
Mandatory fields are ORANGE colored. **Entering current condition code completes Version and Description fields.**

Check if used to satisfy MMSEA 111 Reporting.

111	BODY PART *	ICD 10 CODE *	ICD VERSION	ICD DESCRIPTION1	Future Surgery Type	Body Part Status
☐	Low Back	m51.15	ICD10	Intvrt disc disorders w radiculopa	63030-LOW BACK DISK SURGERY	Past
☐	Low Back	m51.15	ICD10	Intvrt disc disorders w radiculopa	64483-INJ FORAMEN EPIDURAL L/S	Future
☐	Neck and Upper Back	L02.11	ICD10	Cutaneous abscess of neck	10060-DRAINAGE OF SKIN ABSCESS	Future
☐	- Body Part -	ICD 10 CODE	ICD VERS	ICD DESCRIPTION	- Surgery -	
☐	- Body Part -	ICD 10 CODE	ICD VERS	ICD DESCRIPTION	- Surgery -	

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Precise Data - Surgery



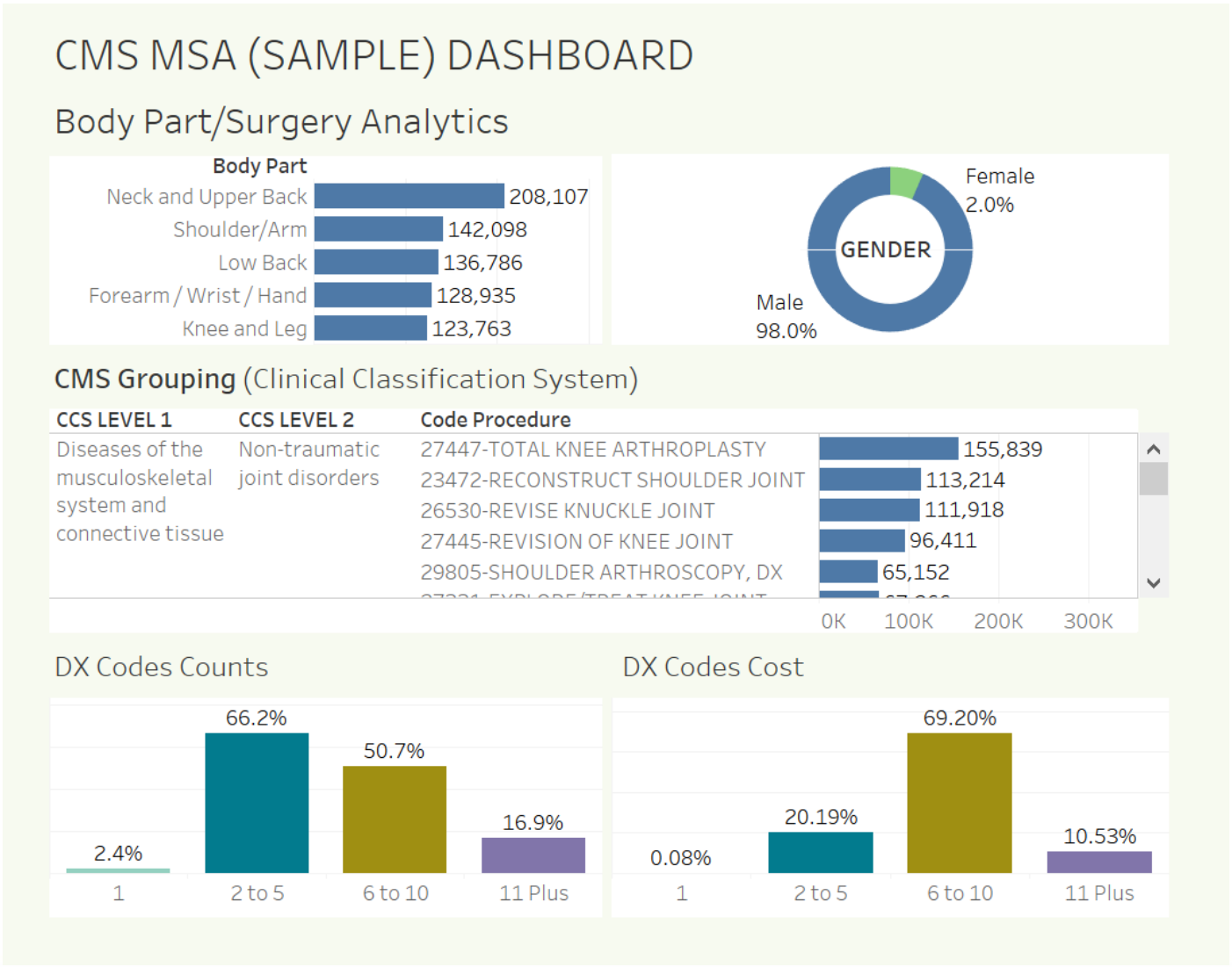
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Precise Data - Drug



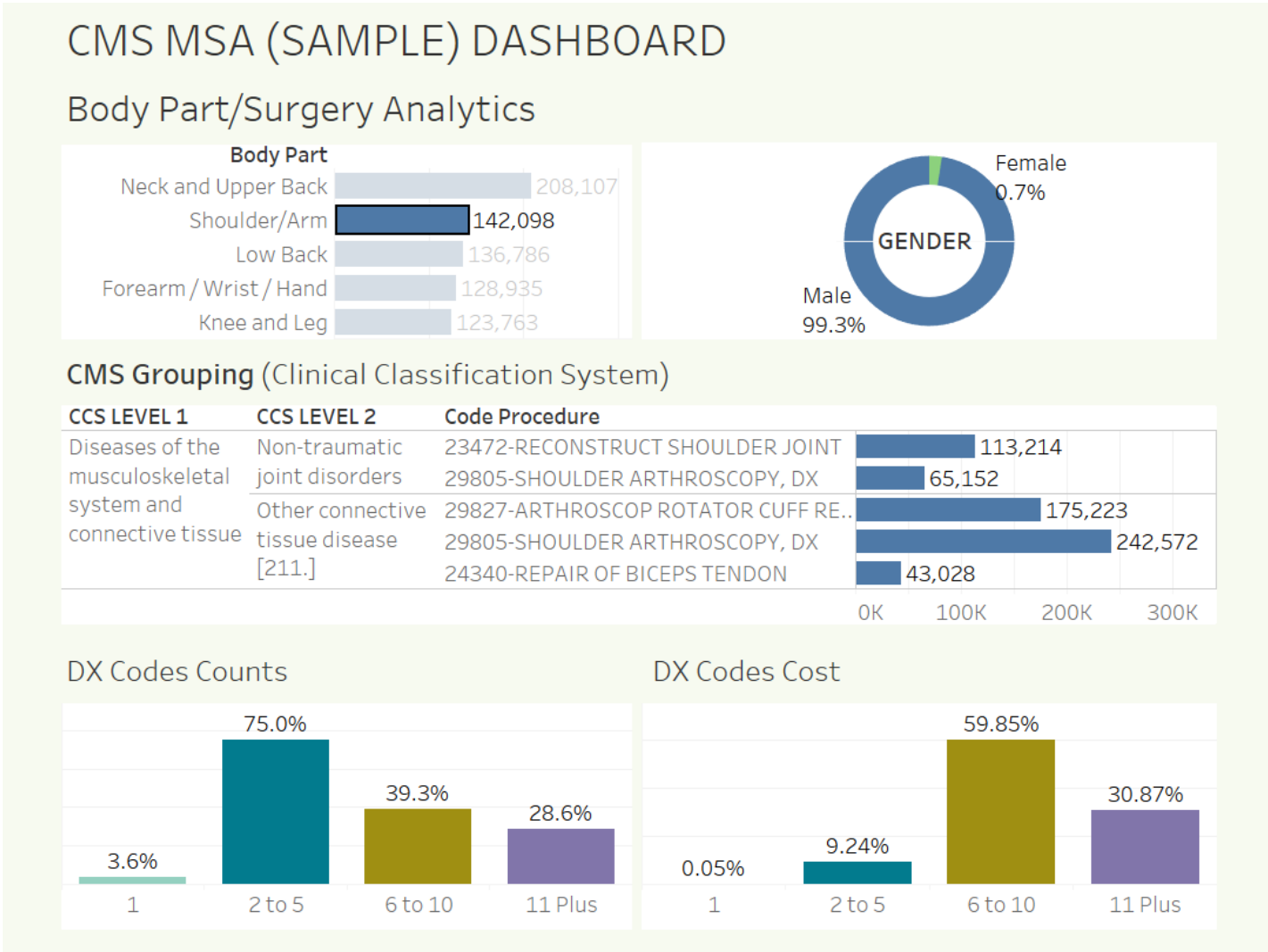
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Data Analytics Dashboard

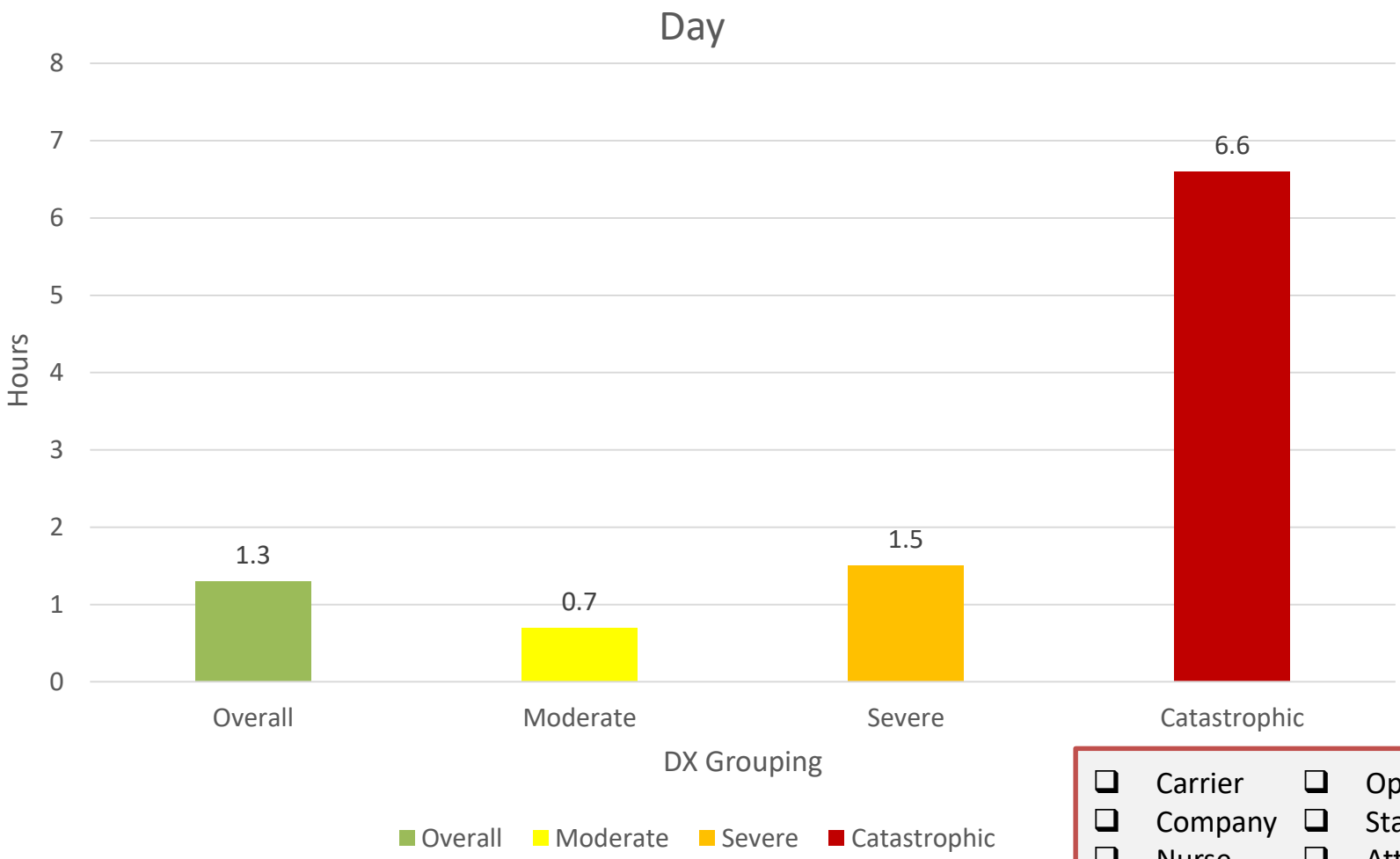


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Drill Down


CMS MSA (SAMPLE) DASHBOARD
Body Part/Surgery Analytics
Body Part
Neck and Upper Back 208,107
Shoulder/Arm 142,098
Low Back 136,786
Forearm / Wrist / Hand 128,935
Knee and Leg 123,763
GENDER
Female 0.7%
Male 99.3%
CMS Grouping (Clinical Classification System)
CCS LEVEL 1
CCS LEVEL 2
Code Procedure
Diseases of the musculoskeletal system and connective tissue
Non-traumatic joint disorders
23472-RECONSTRUCT SHOULDER JOINT 113,214
29805-SHOULDER ARTHROSCOPY, DX 65,152
Other connective tissue disease [211.]
29827-ARTHROSCOP ROTATOR CUFF RE.. 175,223
29805-SHOULDER ARTHROSCOPY, DX 242,572
24340-REPAIR OF BICEPS TENDON 43,028
0K 100K 200K 300K
DX Codes Counts
3.6% 75.0% 39.3% 28.6%
1 2 to 5 6 to 10 11 Plus
DX Codes Cost
0.05% 9.24% 59.85% 30.87%
1 2 to 5 6 to 10 11 Plus

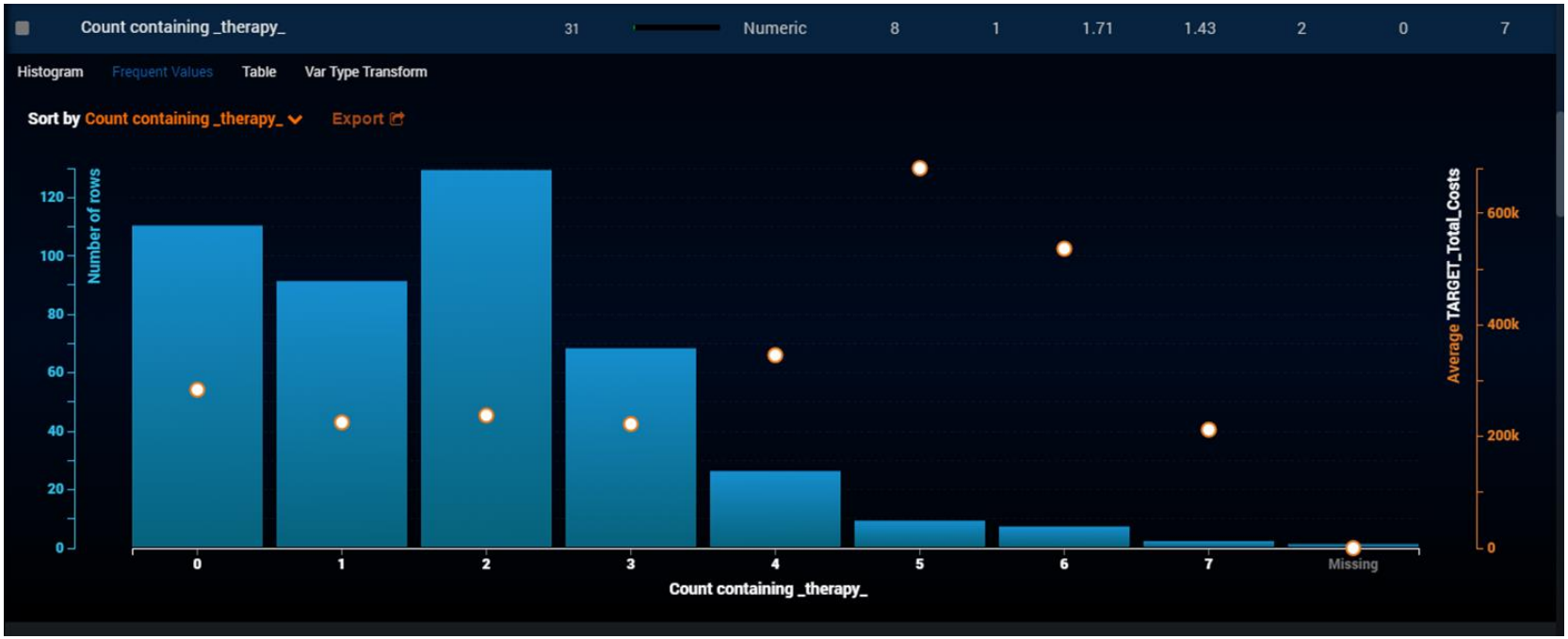
MSA KPIs



- ❑ Carrier
- ❑ Company
- ❑ Nurse
- ❑ Adjuster
- ❑ Opioids
- ❑ State
- ❑ Attorney
- ❑ Surgery

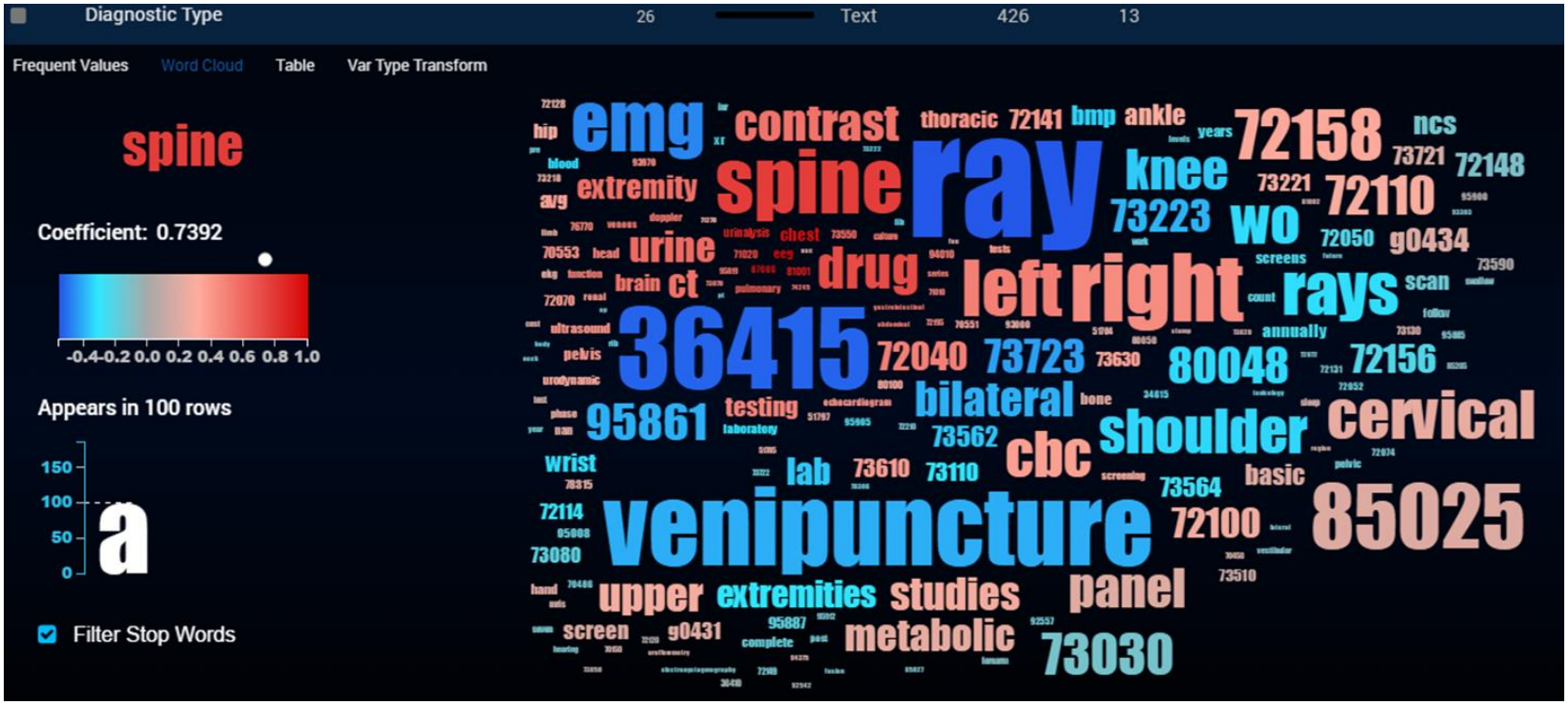
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Word Count: “Therapy” vs Claim Cost



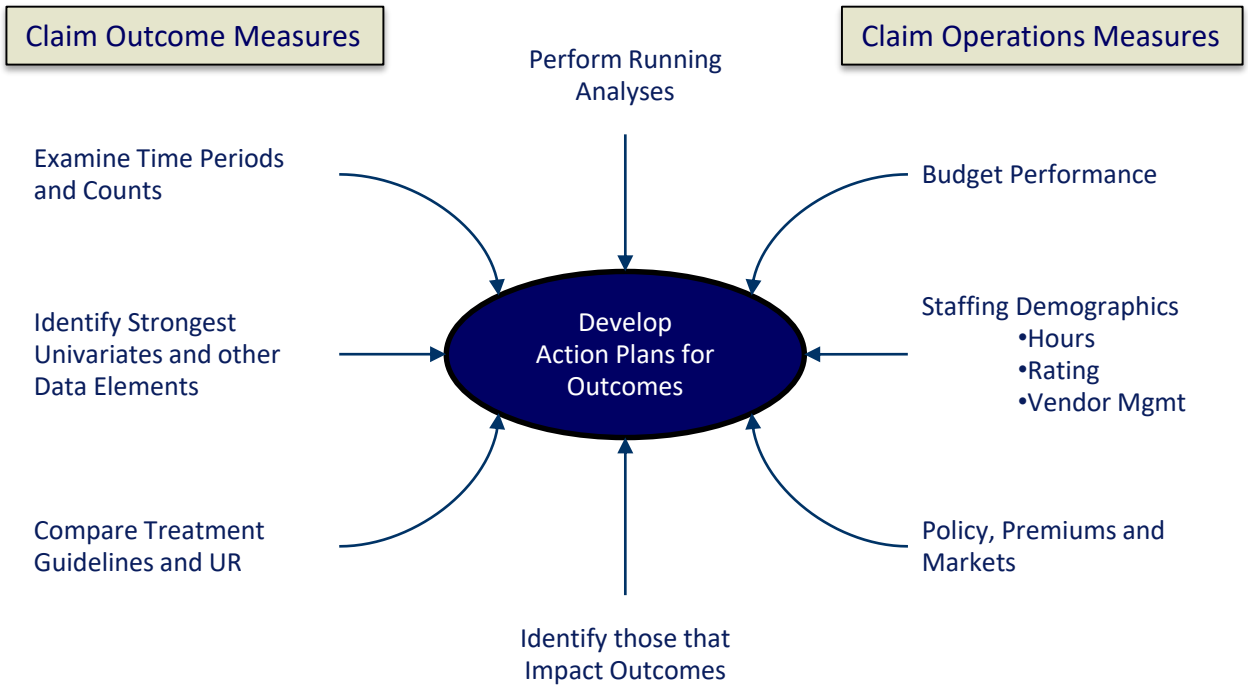
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Word Cloud: Services to Claim Cost



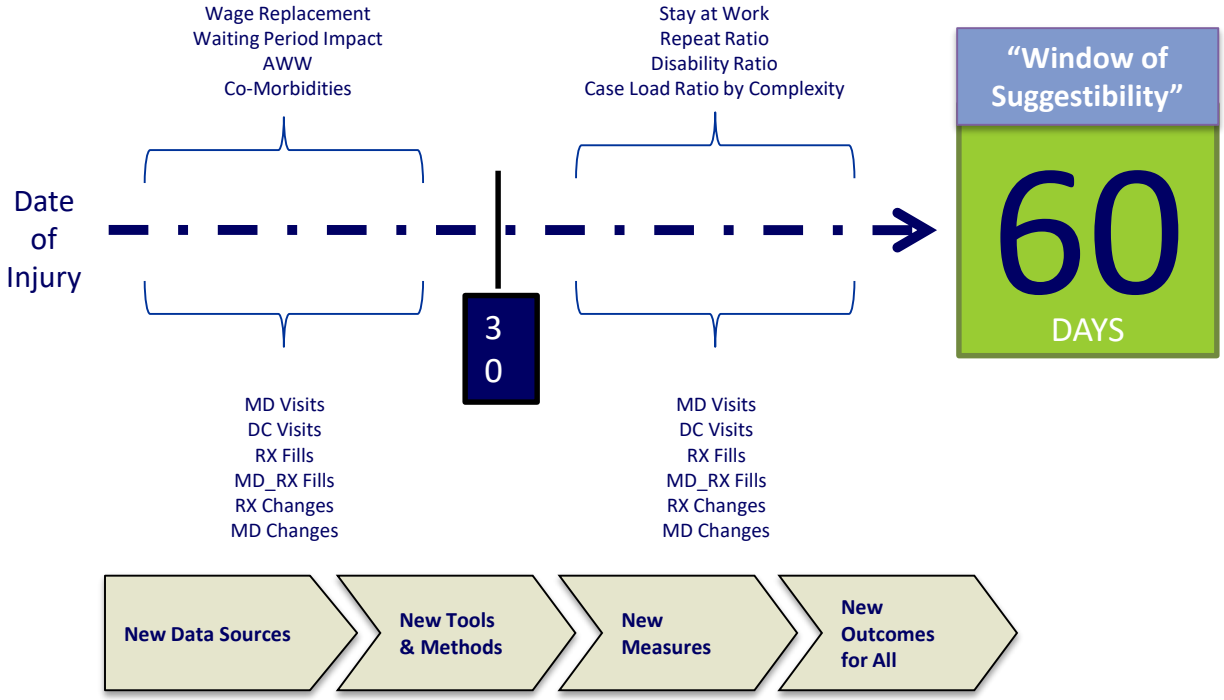
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Key Performance Indicators



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It's All About Outcomes



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References















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