

Optimizing Care of the Low Back Pain Patient

March 7 2016

Advanced analytics help to define the best coordinated care pathways



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TODAY, WE'LL TALK ABOUT....

- Review the prevalence and total cost burden of low back pain in the US
- Discussion of best practice in treating LBP in a large population of patients
- Investigate the path of treatment via medical claims in a large population of patients yields important insights for clinicians, payers and patients
- Value of predictive modeling for costly events such as spine surgeries
- Identification of care paths that lead to lower costs and utilization

Integrated Solutions

Clinical Programs for Payors and Providers

LAB MANAGEMENT
19M lives



MEDICAL ONCOLOGY
14M lives



RADIATION THERAPY
19M lives



SPECIALTY DRUG
100K lives



MUSCULOSKELETAL
34M lives



RADIOLOGY
65M lives



CARDIOLOGY
46M lives



SLEEP
13M lives



POST-ACUTE CARE
145K lives



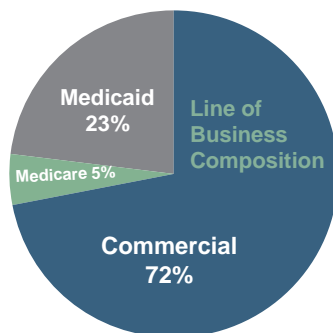
Evicore – company highlights

The leader in medical benefits management

**3K+ employees,
including 1K clinicians**

Flexible Funding Models

- Capitated Risk
- Shared Savings



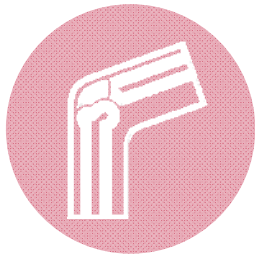
Headquartered in Bluffton, SC
Offices across the US including:

Colorado Springs, CO
Franklin, TN
Greenwich, CT
Lexington, MA
Melbourne, FL
Plainville, CT
Sacramento, CA

100M members
managed nationwide

Clients ranging in size from <10K lives
to >10M lives





Musculoskeletal Solution Covered Services

Spine Surgery

- Fusions
- Decompressions
- Stimulators / pain pumps
- Site of service

Large Joint Surgery

- Joint replacement
- Arthroscopy
- Open procedures
- Site of service

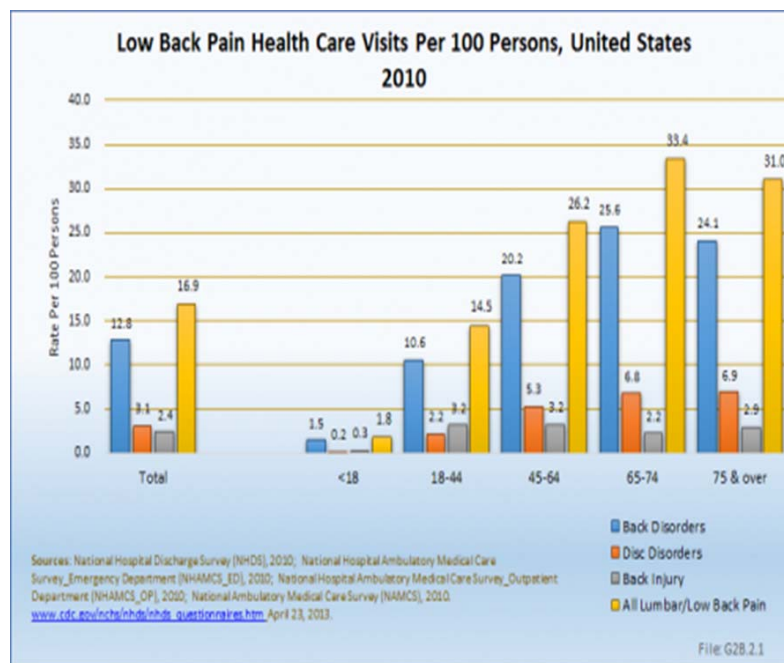
Interventional Pain

- Spinal injections

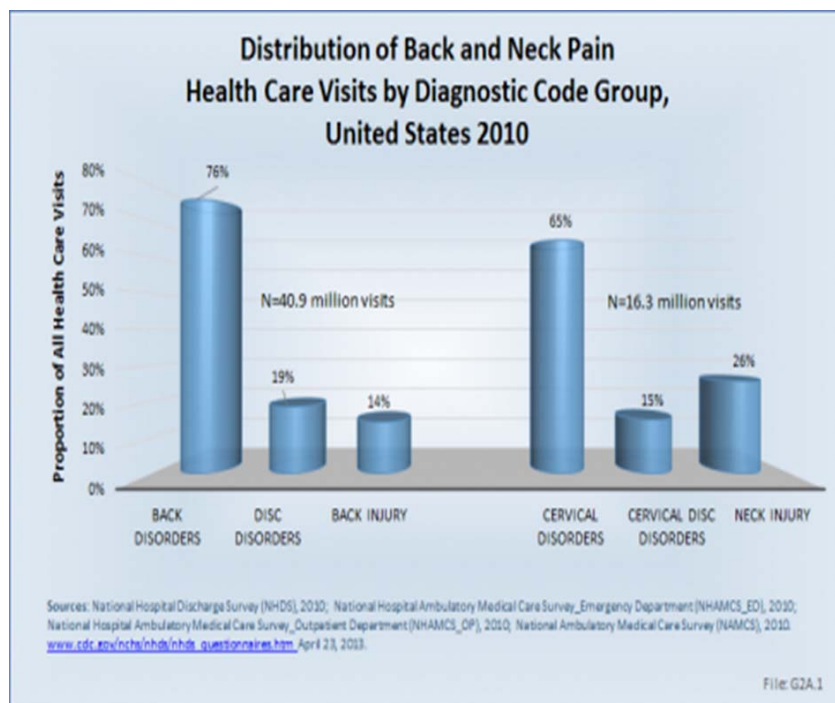
Specialized Therapy Management

- Physical therapy
- Occupational therapy
- Speech therapy
- Chiropractic
- Acupuncture
- Massage

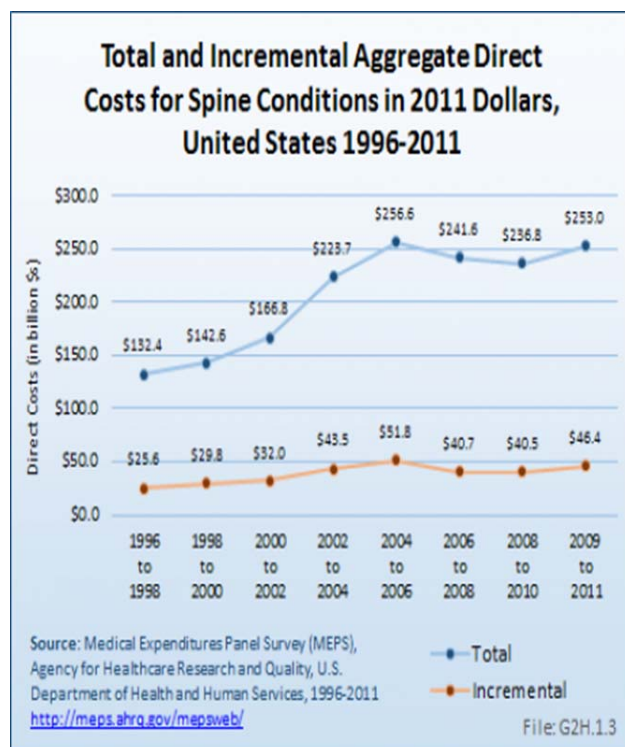
The demographics of Low Back pain



Back and Neck pain demographics...



Spine conditions – cost of care



Imaging for Low Back Pain



An initiative of the ABIM Foundation

American College of Physicians

**Five Things Physicians
and Patients Should Question**



2

Don't obtain imaging studies in patients with non-specific low back pain.

In patients with back pain that cannot be attributed to a specific disease or spinal abnormality following a history and physical examination (e.g., non-specific low back pain), imaging with plain radiography, computed tomography (CT) scan, or magnetic resonance imaging (MRI) does not improve patient outcomes.

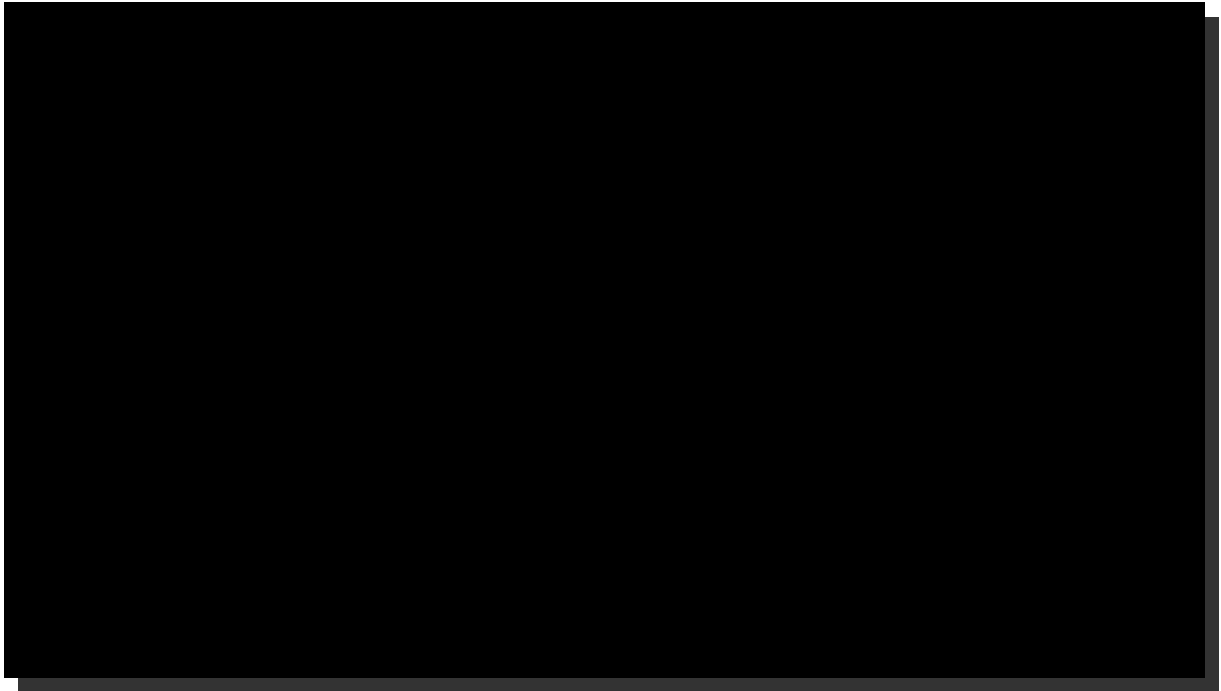
SOURCE:

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2009 NICE low back pain guideline; 2008 ACR Appropriateness Criteria® low back pain guideline; 2007 ACP/APS low back pain guideline; 2007 ACOM low back disorders guideline.

Accessed from:

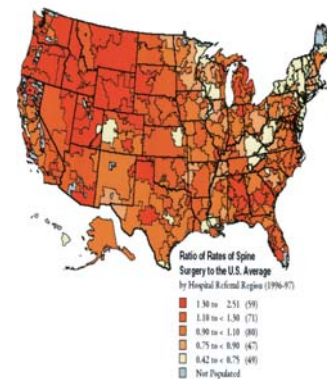
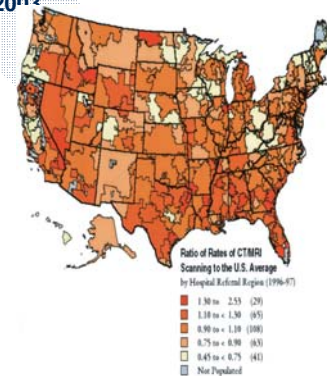
<http://www.choosingwisely.org/wp-content/uploads/2015/02/ACP-Choosing-Wisely-List.pdf>



RATES OF ADVANCED SPINAL IMAGING AND SPINE SURGERY

JON D. LURIE, MD, MS,*† NANCY J. BIRKMEYER, PHD,‡ AND JAMES N. WEINSTEIN, DO, MS, SPINE
VOLUME 28, NUMBER 6, PP 616–620 20⁰³

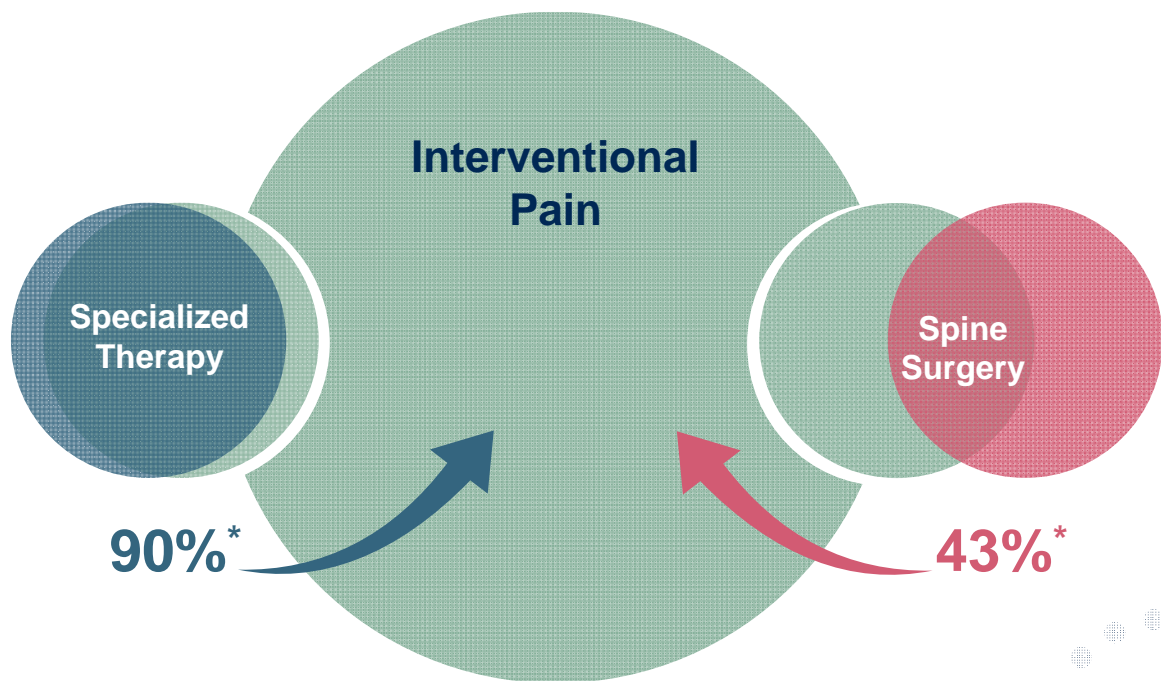
- Marked geographic variation in rates of spine surgery, and differences in patient populations and health care supply have explained only about 10% of this variation.
- Areas with higher rates of advanced spinal imaging (MRI and CT) had higher rates of spine surgery, with imaging rates accounting for 22% of the variability in spine surgery rates.
- Improved consensus on the use and interpretation of advanced spinal imaging could have an important effect on variation in spine surgery rates.



Need for Comprehensive care plan for managing patients with low back pain

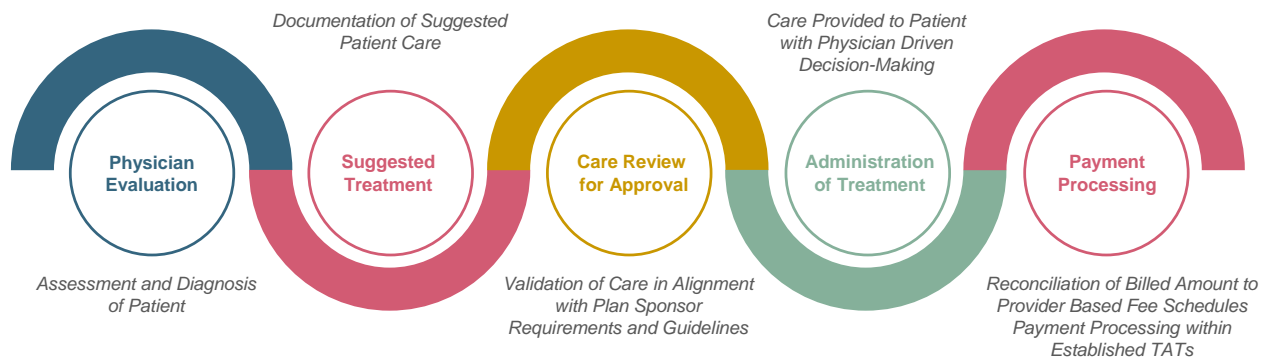
Overlapping MSK Services

Dynamic environment of overlapping services requires comprehensive management solutions



*Health Plan Data Example

Current Utilization Management Approach



Low Back Pain: Case Study



Symptoms

Lower back pain with radiculopathy into bilateral lower extremities



MRI

1st (L3-L4): **moderate to severe** neural foraminal stenosis on the **right**
 2nd (L4-L5): **moderate to severe bilateral** neural foraminal stenosis
 3rd (L5-S1): **mild** neural foraminal stenosis on the **left**

MSK Options



PT/CHIRO

3x / wk
6 wks

Requested	Decision
42 days	30 days
18 visits	6 visits
72 Units	24 Units
Episode Cost:	\$?



Interventional Pain

3 Level
Epidural Steroid
Injection

Requested	Decision
64483 x1	64483 – RT x1
64484 x1	64484 – 50 x1
64484 x1	64484 – LT x0
Episode Cost:	\$?



Spine Surgery

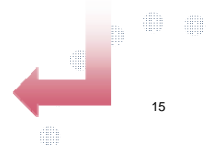
2 Level Fusion &
Decompression

Requested	Decision
63030 x 1	63030 x 1
63035 x 1	63035 x 1
22630 x 1	22630 x 0
22632 x 1	22632 x 0
Episode Cost:	\$?



These services can occur in **succession**, **overlap**, or completely **isolated** from one another.

Without management, the patient that could've gotten relief from a \$900 episode of non-invasive PT/Chiro could **end up with a \$16,000 spine fusion that wasn't indicated and didn't relieve** their symptoms without even knowing they had **other options**.



Advanced Analytics for LBP patient care path

Study Design

Claims – based analysis of future utilization for new episodes of Low Back Pain (LBP)

- Patient-centric data source of commercial population with at least 30 months' contiguous data between 2012 and 2015

Of 4.7 million total eligible lives, 484,000 had LBP diagnosis anchor event

- Of these, 236,000 new back pain patients
- 1.3% of this population had lumbar spine surgery (3,128)

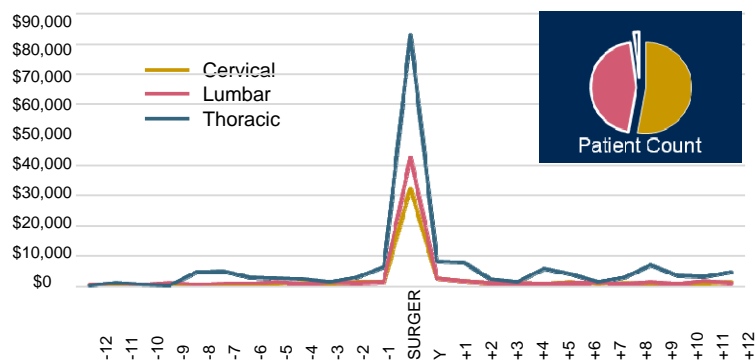
Advanced Analytics- Predictive Spine Surgery Modeling

Leveraging data to Understand Costs and Pathways



Predicting spine surgery from AI and MSK procedures yields promising results for early intervention

Spine Surgery Drilldown



First Service	Adjusted Odds Ratio (Lumbar Spine Surgery)	Adjusted Spend Post Period \$
AI	3.5	\$10,688
CHIRO/PT	1.0 *	\$5,218
ER	1.3	\$7,294
PAIN	1.7	\$7,145
NONE	0.5	\$2,930

* Reference value



eviCore regression analysis indicates low back pain (LBP) patients who initially receive advanced imaging (AI) services are more likely to undergo spine surgery and have significantly higher next-year costs

Coordinated Care Pathway

What would it look like?

Coordinated Care Pathways

Innovative solutions streamlining end-to-end care management



A Novel Plan Helps Hospital Wean Itself Off Pricey Tests

THE WALL STREET JOURNAL.

By Vanessa Fuhrmans, Jan 12, 2007

Paths to Recovery

As Virginia Mason streamlined its approach to back-pain treatment, patients got in faster and employers and insurers saved money.

Old approach

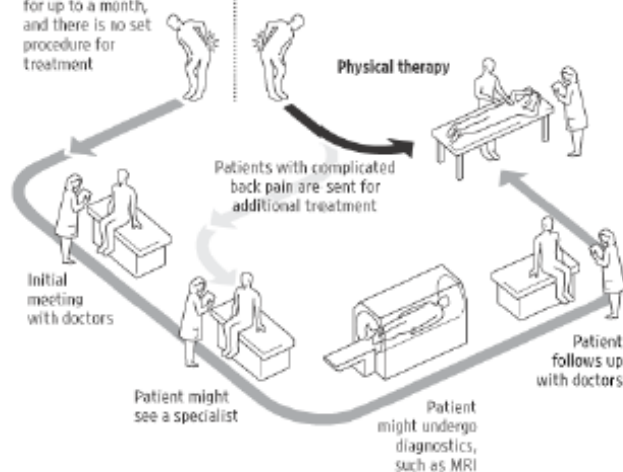
Average cost \$2,100-\$2,200

The initial meeting might not happen for up to a month, and there is no set procedure for treatment

New approach

Average cost \$900-\$1,000

Immediately meets with doctor and therapist. Simple cases usually begin physical therapy



Source: Aetna; Virginia Mason Medical Center

SEATTLE- Virginia Mason Medical Center has made unusually aggressive moves in the past two years to cut healthcare costs. Consulting with the big insurer Aetna Inc. along with Starbucks Corp. and several other big local employers the hospital revamped how it treated some expensive ailments cutting down high-tech tests and high-end specialists.

Recap and Summary/Q and A

- Low back pain is a common and costly condition that is subject to fragmented and unnecessary care
- Be aware of the “overkill” possibility with early MRI
- Data shows that patients who receive MRI first for uncomplicated low back pain are 3 or more times as likely to have back surgery than patients who are treated conservatively, without imaging as an initial step
- Longitudinal view of these patients and the population of low back pain patients will enable the creation and implementation of more safe, effective and cost saving care paths



THANK YOU

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