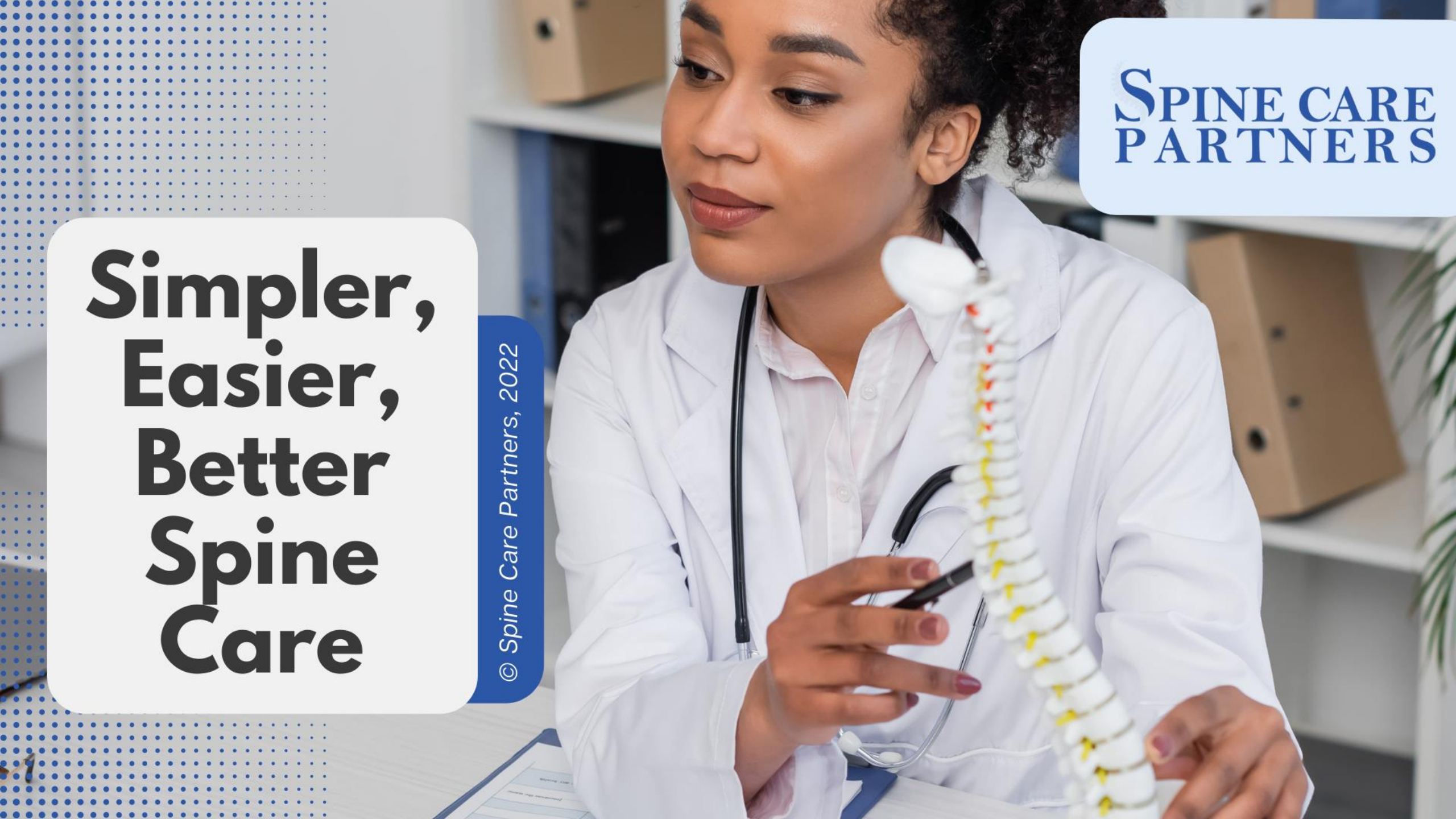
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Simpler Better Easier Spine Care

Thomas Neuner, DC., JD.
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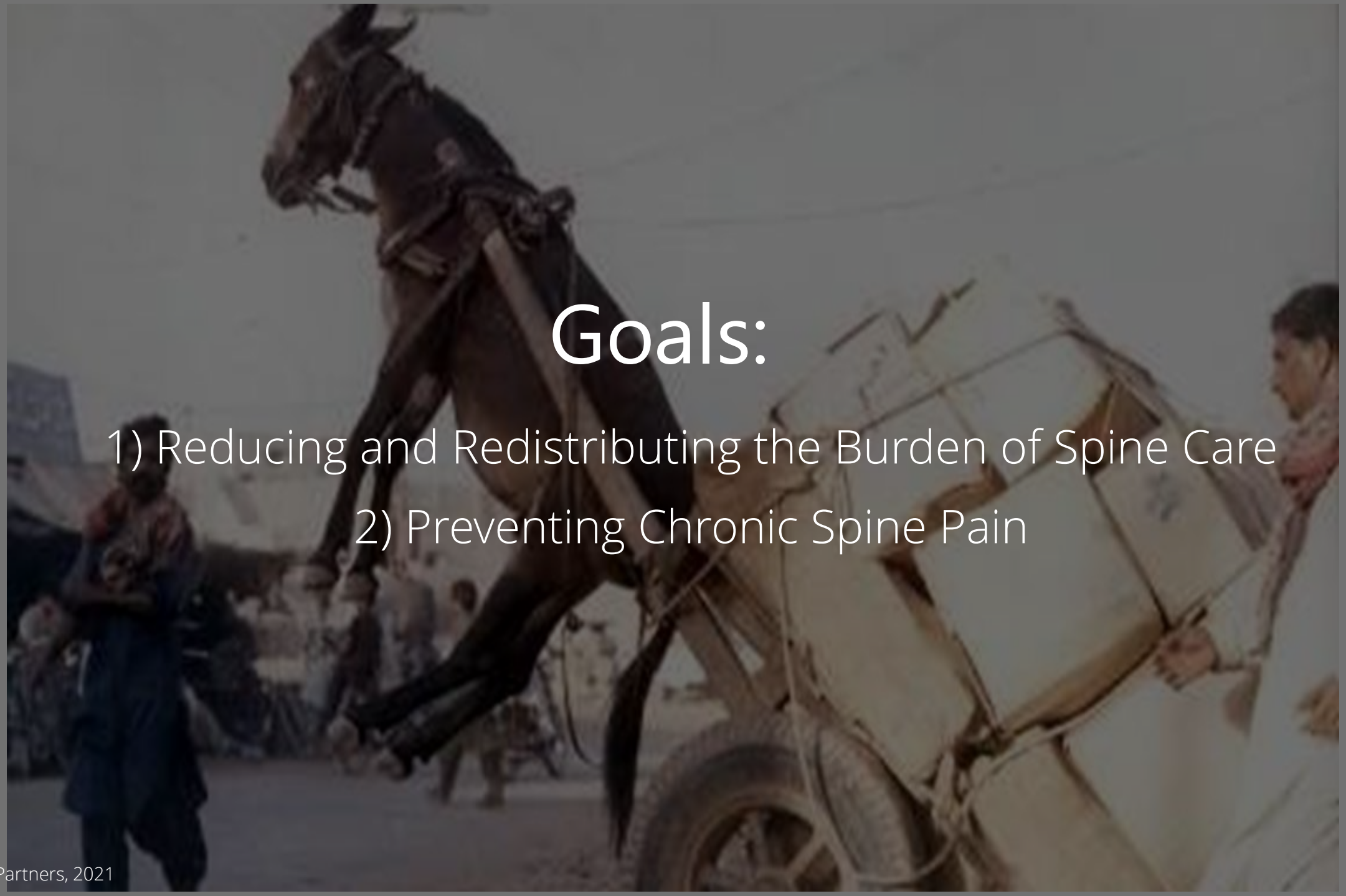


Goals:

1) Reducing and Redistributing the Burden of Spine Care

2) Preventing Chronic Spine Pain

The World is Demanding a Change

- Reducing harmful treatment, unnecessary treatment – and overtreatment
- Encouraging the rational self-management of low back pain
- Providing better training for clinicians in a biopsychosocial model
- Incentivizing high-value care
- Back pain is not a disease in search of a cure, but a part of life that needs to be managed

Buchbinder R, et.al. Lancet Low Back Pain Series
Low back pain: a call for action. Lancet. 2018 Jun

The Story Of Twins

Bob

Gary

Demanding Patient, Busy Doctor

"I need an MRI to see what's going on"
"I need an opioid to control my pain"
"I need to see a surgeon to get this fixed"

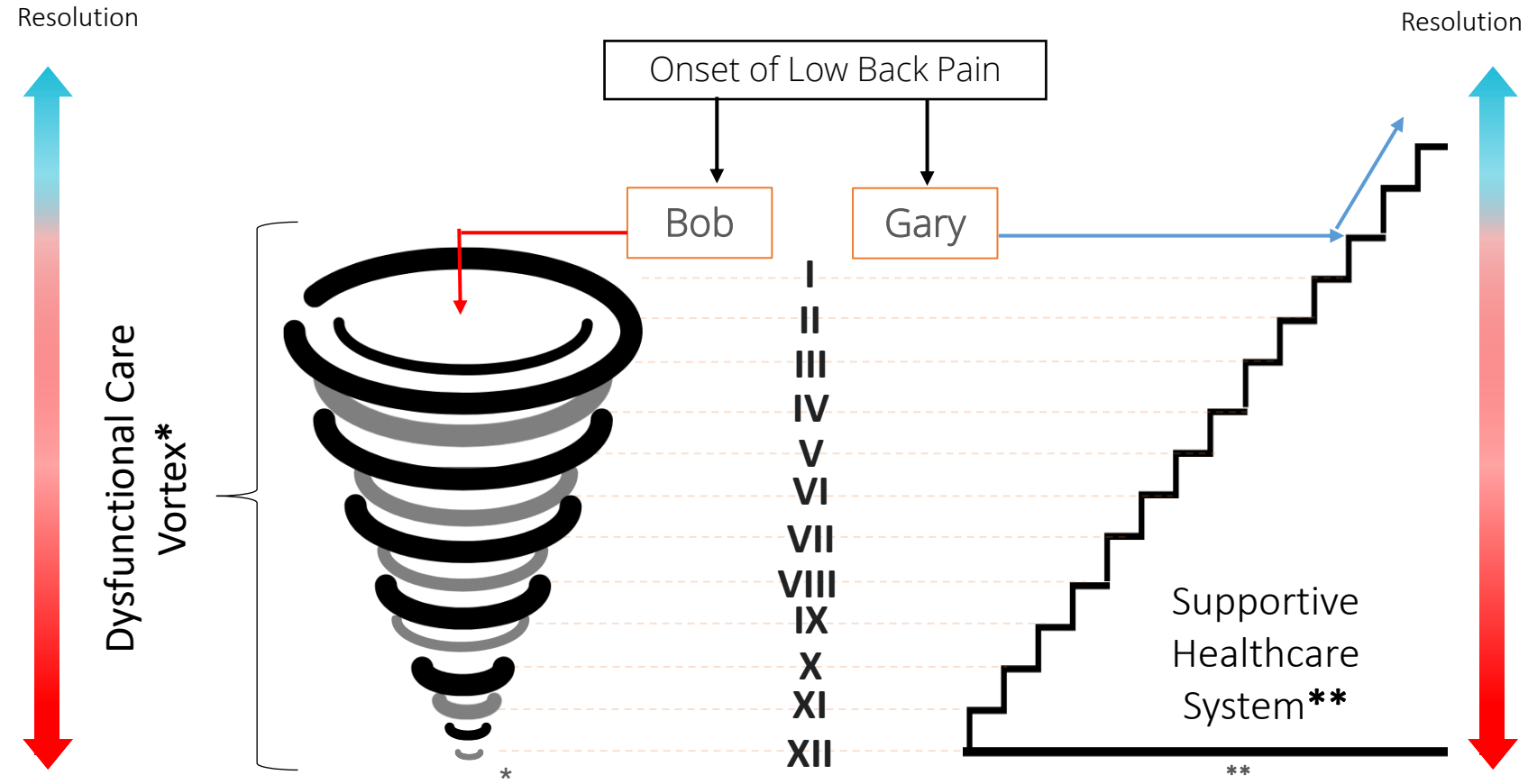
Fear + Inactivity => Chronic Pain

Educated patient, Busy Pathway Adherent Doctor

Concise, meaningful history
Functional, pain reproducing exam
Clear diagnosis and care plan
Patient engaged and active

Understanding + activity => Quick Recovery

The Twins Journeys



- Patient Passive Approach
- No Consistent Pathway
- Obstacles to Patient Access

VS.

- Patient-Active Approach
- Evidence-Based Care Pathway
- Easy Patient Access and Engagement

“It takes a village…” to create a Bob

Many stakeholders in the health care system play a role

Insurers

Hospitals

Providers

Employers

How Common is Bob's Poor Care Path?

Biggest catalyst in driving which acute pain patients become chronic are decisions made by the PCP, especially regarding:

- Inappropriate imaging
- Opioid prescription
- Early specialist/surgical referral

Stevens J, et al. JAMA 2021

Systematic review of care to 195K patients seen by PCP and ED for low back pain:

- Only 20% received evidence-based care
- 25% received imaging referral from PCP
    - 33% received imaging from ED
    - Overuse of opioid prescribing

Kamper SJ, et al. Pain. 2020

PCPs who are most confident in their approaches to spine care are the LEAST evidence based

Buchbinder R, et.al. Spine 2009 May

Key Interventions of a LBP Care Pathway

- 11 Spine Care Pathways (7 countries) identified and analyzed for best evidence and implementation
- Establishment of an intermediate level of care between general practitioners and specialists was common among the 5 Regional Pathways
    - For example; Plymouth Pathway incorporates trained chiropractors or physical therapists as initial or early contact provider for LBP
- **Key Interventions identified in all Pathways**
    - Initial triage ruling out red flags
    - Screening for psychosocial risk factors
    - Paradigm shift emphasizing self-management and patient empowerment

Coeckelberghs E, et. International comparative study of low back pain care pathways and analysis of key interventions. Eur Spine J. 2021 Jan

Why Back Pain? Disturbing Trends

- 2004: 105th in disability
- 2013: 3rd in health care costs
- Now #1 in both cost and disability! (Neck #4 in disability)
- #1 'ask' of employers (Indirect costs 3-5X)

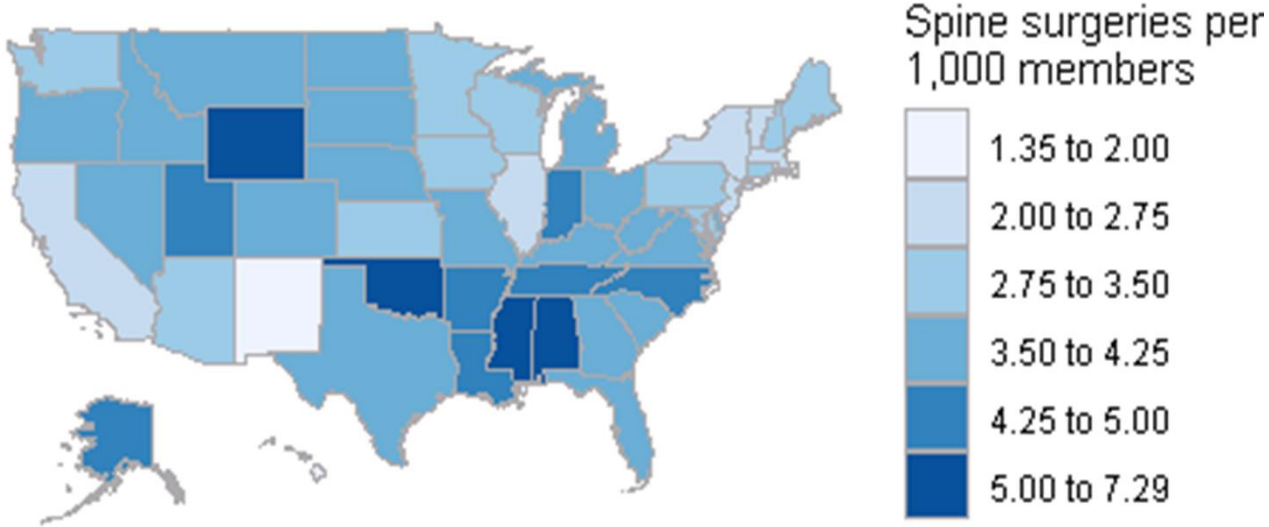
25% of U.S. adults report having low back pain in the last 3 months. It is the most common pain reported.

Almost 14% of insured patients who sought care for low back pain, were prescribed opioids

Placing the global burden of low back pain in context. Buchbinder, Best Pract Res Clin Rheumatol. 2013
US Health Care Spending by Payer and Health Condition, 1996-2016. Dieleman, JAMA. 2020.

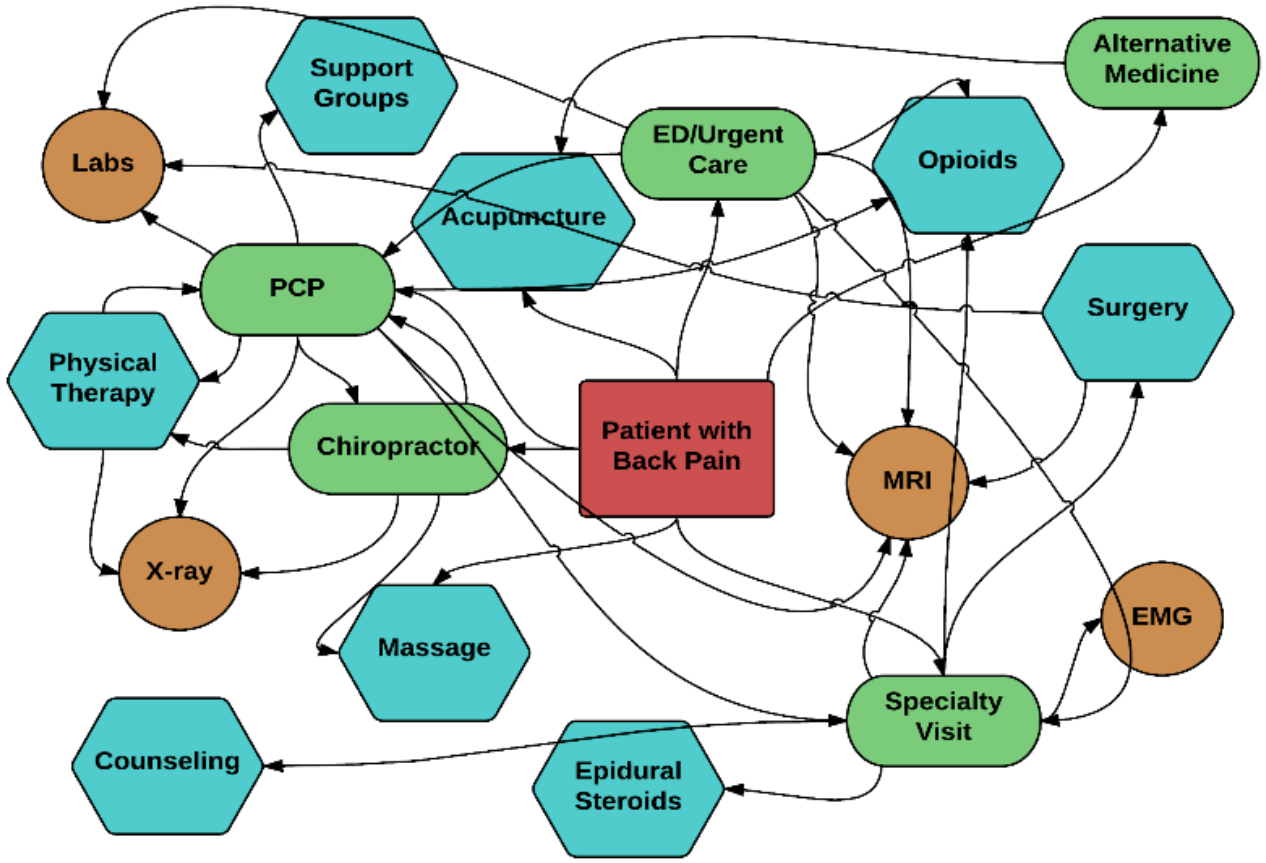
https://www.cdc.gov/acute-pain/low-back-pain/index.html

Many, many Bobs: The Problems of Back Pain



- In 2017, BCBSA data: $250 premium dollars for spine care per member per year.
- Low back pain was one of the top avoidable ED utilization, accounting for, conservatively, $250 million in avoidable cost.
- low back and neck pain had the highest amount of health care spending with an estimated $134.5 billion

Care Pathways as a Conduit to Change



Evidence

Technology

Data

Patients

→

Less Variation

Higher Quality

Lower Cost

Pathway Support

Access, Incentives, Communication

Best Practices Care Pathway©

- Defines simple 'first touch' principles that minimize development of chronic disability
- Evaluates for rare instances of serious pathology (‘fast track’)
- Minimizes unnecessary testing (waste, harm)
- Helps define roles / coordination of care among practitioners
- Identify patients at high risk for chronicity
- Common back pain is usually a coping issue rather than a treatment issue
- Utilizes a biopsychosocial approach to evaluating and managing spine pain
- Engages and improves all stakeholder’s satisfaction (needs and wants)
- More appropriate specialist referrals (efficiencies)
- High provider satisfaction with best-evidence, standardized training program

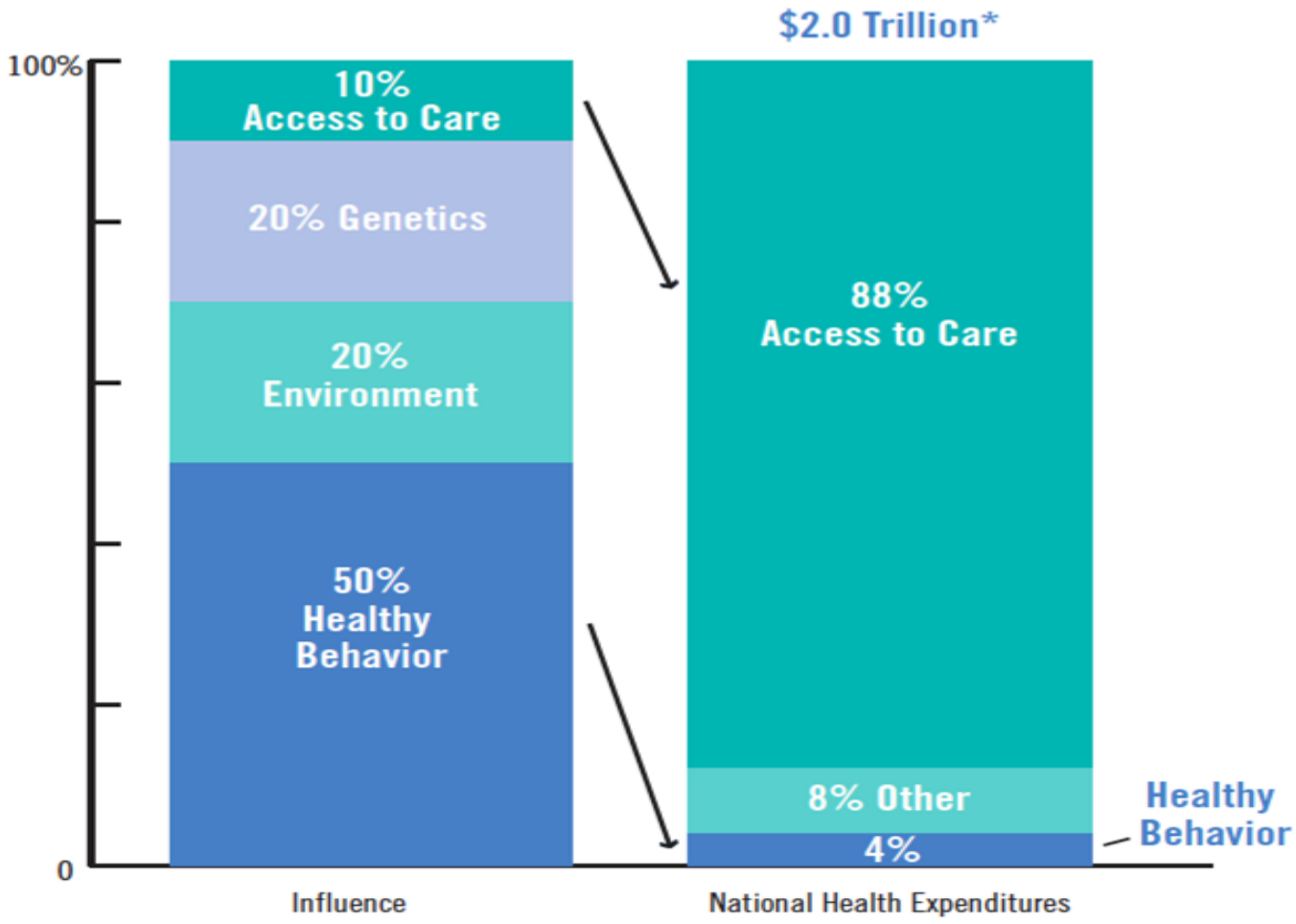
Today's focus: The Power of the Big 5
Goal: Prevent Chronic Back Pain

1. Always active care, sometimes passive care
2. Language and motivation
3. Imaging
4. Opioids
5. Specialists/surgeons

The Power of the Big 5

1. Always active care, sometimes passive care
2. Language and motivation
3. Imaging
4. Opioids
5. Specialists/Surgeons

Current healthcare system encourages passive care

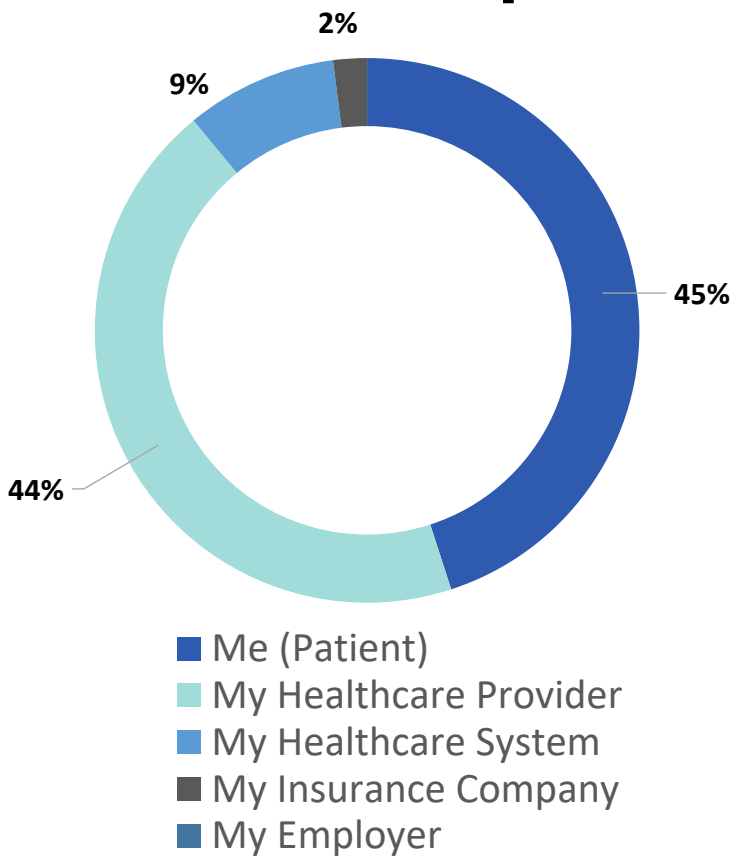


* Total US Personal Health Care Expenditure 2005

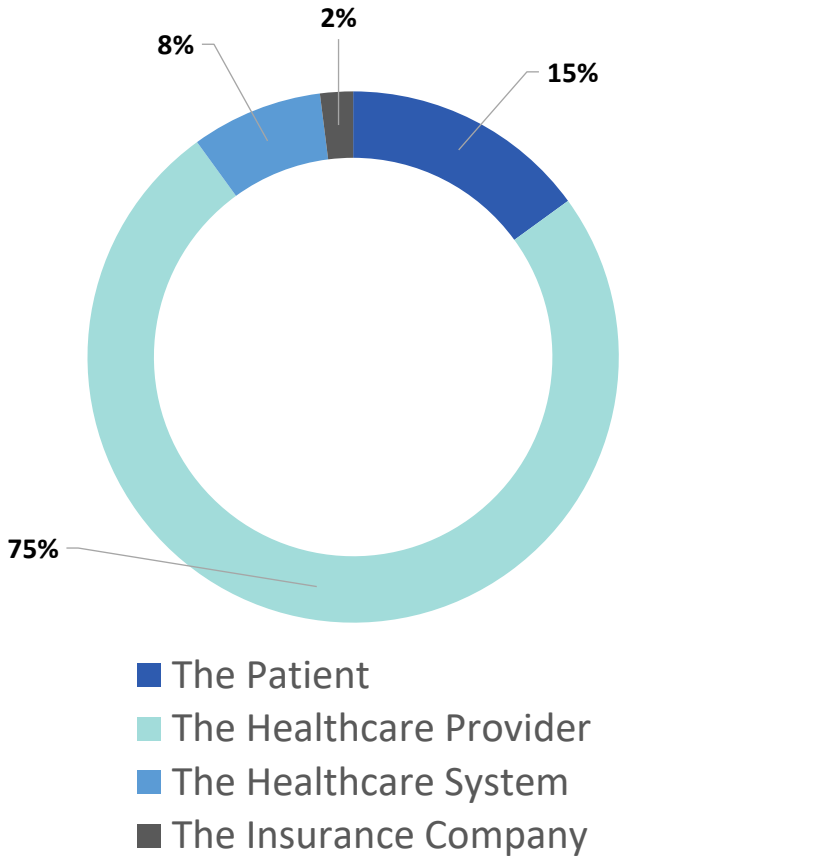
Source: New England Health Care Institute

Who is Primarily Responsible for Health Improving?

Patient Perspective



Physician Perspective



University of Utah (2017), Bringing Value Into Focus, The State of Value in U.S. Health Care

The Risk of Passive-Only Care

- >40,000 CVD-free, surveyed for four years
- During the study >8,800 started on an anti-hypertensive or lipid lowering Rx
- Two unfavorable changes:
  - BMI increased
  - physical activity declines

Lifestyle Changes in Relation to Initiation of Antihypertensive and Lipid-Lowering Medication: A Cohort Study - Korhonen, JAHA Feb. 2020

Countering a Passive Health Culture

- The need for active patient engagement
- “Does this person need to become a patient?”
- Creating an environment where the body can heal … not be dependent on the health system or provider unilaterally healing the patient
- A pill, procedure or surgery should never be administered in isolation, but ALWAYS accompanied by supporting actions done by the patient
- ACP, CDC, AHRQ, JACHO, NIH… – regarding spine related disorders: non-pharmacological care first

Back to Bob:
What are the risk factors for chronic LBP? Early Inactivity

Provider Action:

- No patient active prescription (exercise, activity…)
- Told to stay out of work
- Avoid activities that hurt
- Pain focused care (opioid)
- Wait for imaging results
- Guideline discordant care

Patient Response:

- Low self-efficacy (“I am disabled”)
- Diminishing expectation of recovery
- Inactive (passive)

Stevans JM et al. Risk Factors Associated With Transition From Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. JAMA Net Open. 2021 Feb

Today's focus: The Power of the Big 5

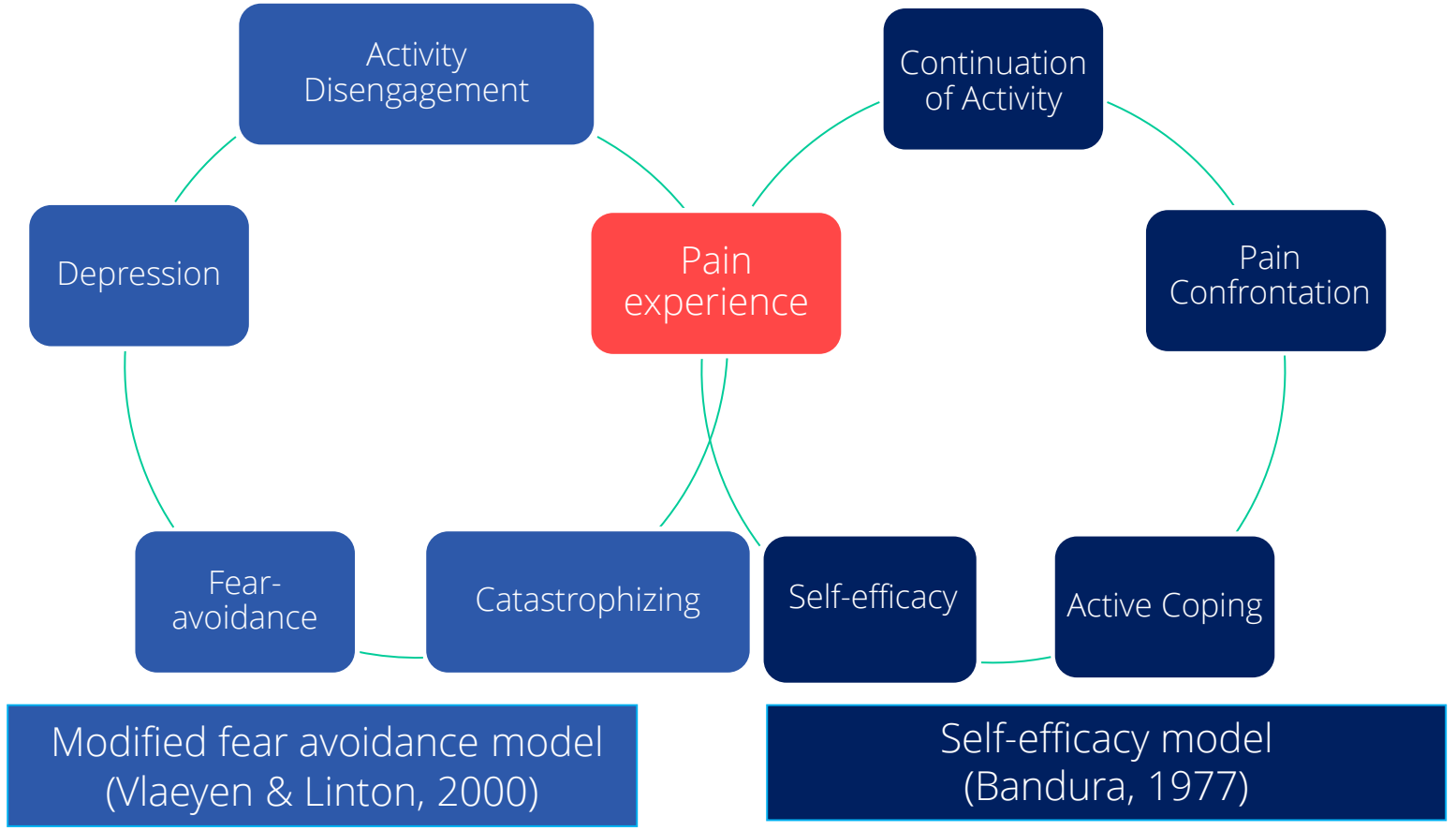
1. Always active care, sometimes passive care
2. **Language and motivation**
3. Imaging
4. Opioids
5. Specialists/Surgeons

‘High Impact Chronic Pain’ (HICP)

- 2011 Institute of Medicine report: 40% US adults have chronic pain (time dependent)
- Two recent studies on HICP: How often do you have pain and how often did pain limit your work or life activities?
- 8% US adults have HICP
- Shifts focus to active care, function and quality of life
- Changes focus of research, policy and care from pain management to life management

Dahlhamer, Morbidity and Mortality Weekly, 2018 Pitcher, The Journal of Pain, 2018

Embracing a Biopsychosocial Model: *Expectations Influence Recovery*



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Language Matters

Pathoanatomically-Based Communication

What you say:	What the patient hears:
Your MRI shows degenerative changes/disc herniations/arthritis	I will never get better
There's nothing wrong with your back	He/she thinks it's all in my head
Stop when you feel pain	Activity will harm my back
Take it easy and rest	I should stay in bed
If chiropractic or physical therapy doesn't work you may need surgery	I need surgery
You should be able to work	He/she thinks I am faking
Pain is normal for someone your age	I'm going to get worse

Psychologically-Based Communication

What you say:	What the patient hears:
Your MRI doesn't show anything to worry about	There is nothing seriously wrong with my back
The cause of your pain may not show up on an MRI	My pain is real
You should increase activity as tolerated	Activity is good for me
Your back problem should respond to chiropractic or physical therapy	I probably won't need surgery
Working will not cause damage to your back	I will be able to return to work
There are many things you can do on your own to control your pain	I can learn to handle my pain

Slide used with permission from: Sheri Weiser NYU School of Medicine

Back to Bob:
What are the risk factors for chronic LBP? Language

Provider Action:

- Unclear diagnosis
- Low patient engagement
- Poor communication
- Little motivating activity
- Guideline discordant care

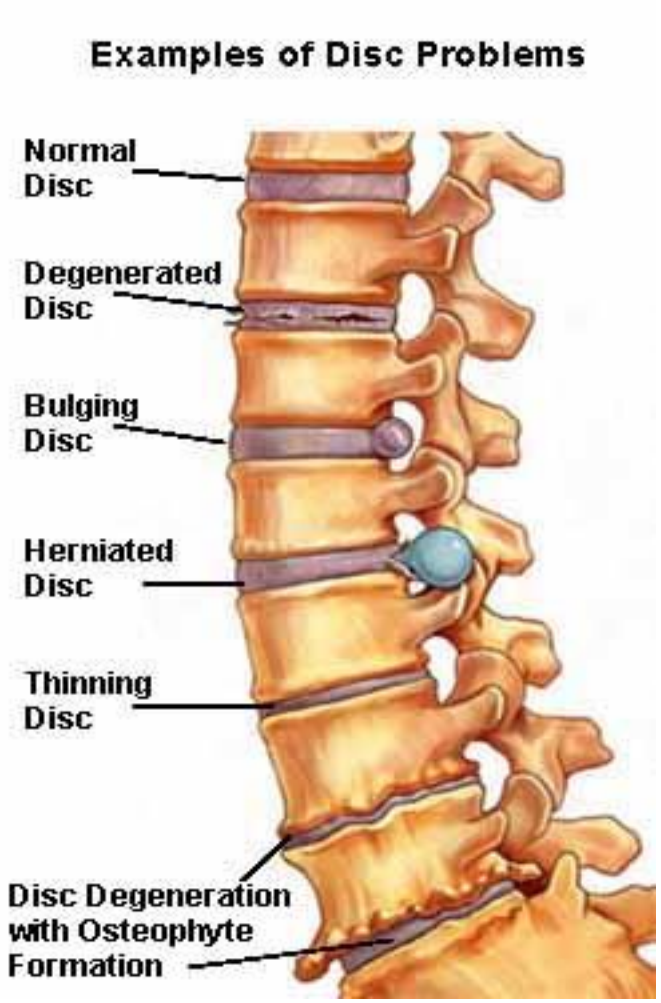
Patient Response:

- Distress (psychological perpetuating factors)
- Confusion (“What’s wrong with me?”)
- Passivity (“I hope they can fix me.”)

Stevans JM et al. Risk Factors Associated With Transition From Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. JAMA Net Open. 2021 Feb

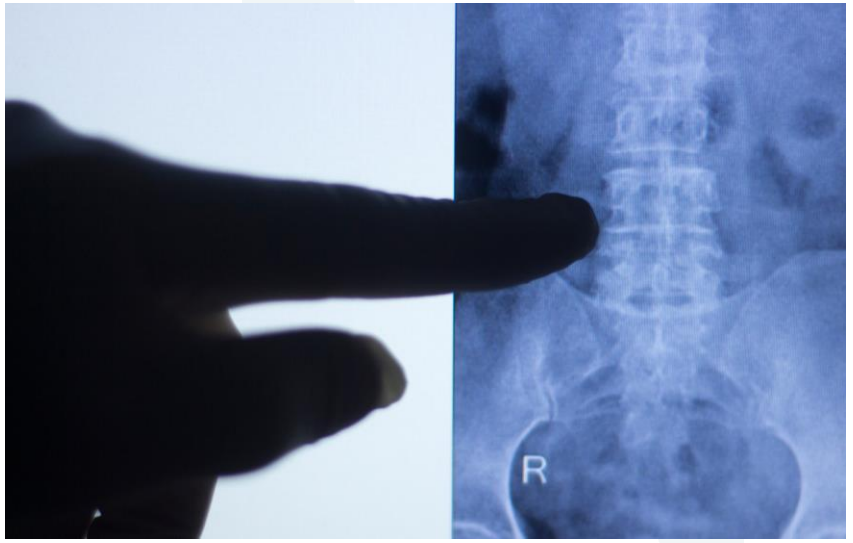
“I Have A Degenerating Spine!”

- Degenerative Disc Disease
- Bulging Disc
- Herniated disc
- Osteophyte Formation
- IVF Narrowing
- Spinal Stenosis
- Modic Endplate Changes
- Spondylolisthesis



The Power of the Big 5

1. Always active care, sometimes passive care
2. Language and motivation
3. **Imaging**
4. Opioids
5. Specialists/Surgeons



When Waste Becomes Harm

As a PCP, how do you choose?

Don’t do imaging for low back pain within the first six weeks, unless red flags are present

Measure	Total Services	Waste Services	Total Waste $	Quality Index	Waste Index
Lower Back Pain Image	1613	1102	$409,907	32%	68%

Independently recommended by:

- American Academy of Family Physicians
- American College of Physicians
- American College of Occupational & Environmental Medicine
- North American Spine Society
- American Association of Neurological Surgeons
- American Chiropractic Association

MedInsight Health Waste Calculator results for Excellus BlueCross BlueShield ACQA

Impact of imaging wording on patients *and* practitioners

- LBP patients given *anatomical description of MRI findings* had:
  - Greater catastrophizing
  - Lower self-efficacy
  - Worse outcome
- *Vs* those given context-specific description (e.g. “normal age-related changes”).

- Practitioners given an *anatomical description of MRI findings* (e.g., disc degeneration) had:
  - Greater perceived severity
  - Greater perceived need for invasive intervention
- *Vs* those given context-specific description

Rajasekaran S et al. The catastrophization effects of an MRI report on the patient and surgeon and the benefits of 'clinical reporting': results from an RCT and blinded trials. Eur Spine J. 2021 Mar 21.

The *Why* Behind the Waste

Imaging can trigger waster & harm

Two randomized controlled trials: MRI or plain film imaging for back pain versus no imaging

Results: Imaging group scored **lower on self-perceived health status, higher persistent pain, higher number of office visits**

Imaging Strategies for Low Back Pain: Systematic review and meta analysis Chou, Deyo, Lancet, 2009
Patient misconceptions concerning lumbar spondylosis diagnosis and treatment, Franz, Neurosurg Spine 2015

Early MRI without indication has a **strong iatrogenic effect** when not indicated, it **provides no benefits, worse outcomes, more disability,** on average **$13,000** higher medical costs

Iatrogenic consequences of early magnetic resonance imaging in acute, work-related, disabling low back pain. Webster, Spine 2013

More than 50% of patients indicated that they would undergo spine surgery based on abnormalities found on MRI, even without symptoms

Radiography of the lumbar spine in primary care patients with low back pain: randomized controlled trial., Kendrick, BMJ 2001

Regional MRI Insert Impact

- Significant difference in re-imaging, injections and total spine costs (~$330 in savings in 12 months after report issued)
- Less unnecessary interventions
- Diminished patient fear; saves PCP visit time (expedites education)
- Very popular with all spine providers
- Neuroradiologist consultant / implementation video available soon
- Catastrophizing

Integrating epidemiological information into MRI reports reduces ensuing radiologic testing costs among patients with low back pain: a controlled study. Weeks, Pike, Schaeffer, Devine, Ventura, Donath, Justice. Joint Commission Journal on Quality and Patient Safety June, 2020

Imaging Finding	Age (yr)						
	20	30	40	50	60	70	80
Disk degeneration	37%	52%	68%	80%	88%	93%	96%
Disk bulge	30%	40%	50%	60%	69%	77%	84%
Disk protrusion	29%	31%	33%	36%	38%	40%	43%
Facet degeneration	4%	9%	18%	32%	50%	69%	83%
Sponodylolisthesis	3%	5%	8%	14%	23%	35%	50%

Back to Bob:
What are the risk factors for chronic LBP? Imaging

Provider Action:

- Early MRI without ‘red flag’
- Report includes confusing/scary language
- Report language drives more perceived need for care by patient and provider
- Guideline discordant care

Patient Response:

- Report language triggers catastrophizing (psychological perpetuating factors)
- Misperceptions (“I have a ‘degenerating’ back”)
- Passivity (“Someone needs to fix me.”)
- Fear

Stevans JM et al. Risk Factors Associated With Transition From Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. JAMA Net Open. 2021 Feb

The Power of the Big 5

1. Always active care, sometimes passive care
2. Language and motivation
3. Imaging
4. **Opioids**
5. Specialists/Surgeons

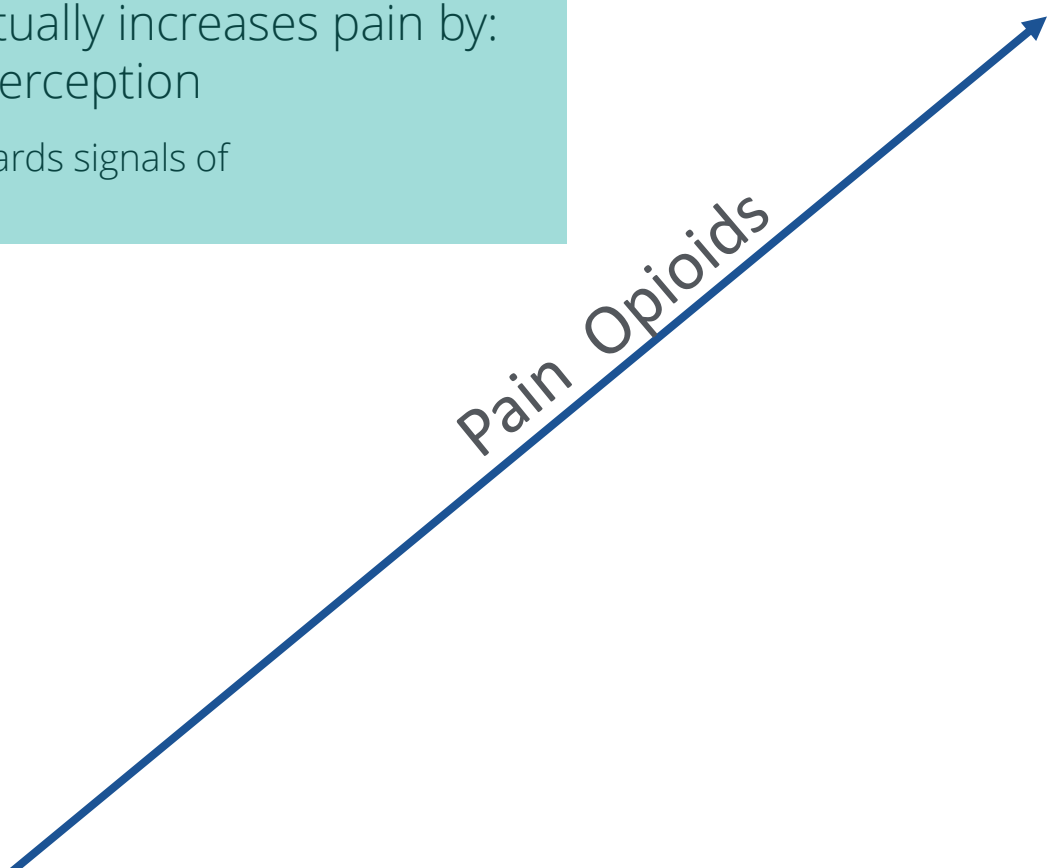
“The Culture of Relief”

Between 1997 and 2014, the number of U.S. adults experiencing **non-cancer pain increased by 25 percent,** and…a large increase in the use of opioids, especially strong opioids.

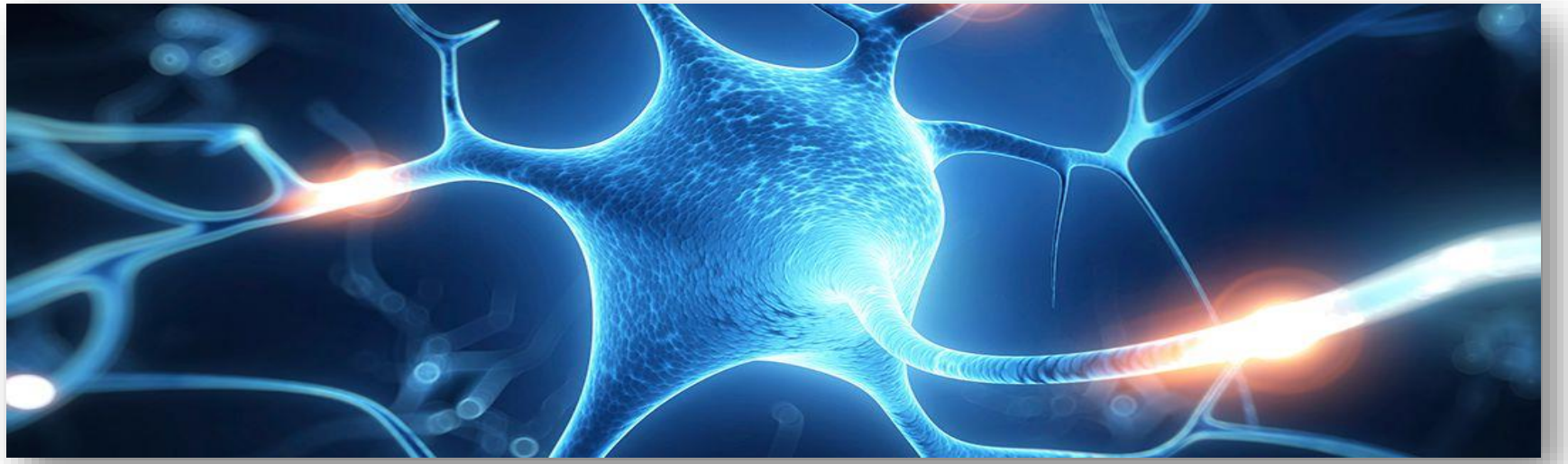
18-Year Trends in the Prevalence of Non-Cancer Pain in the United States
The Journal of Pain. Feb 2019

Seeking relief of pain in lieu of improved function actually increases pain by: Facilitating hypervigilance for pain, Increasing pain perception

Notebaert L, et al. Attempts to control pain prioritize attention towards signals of pain: an experimental study. Pain



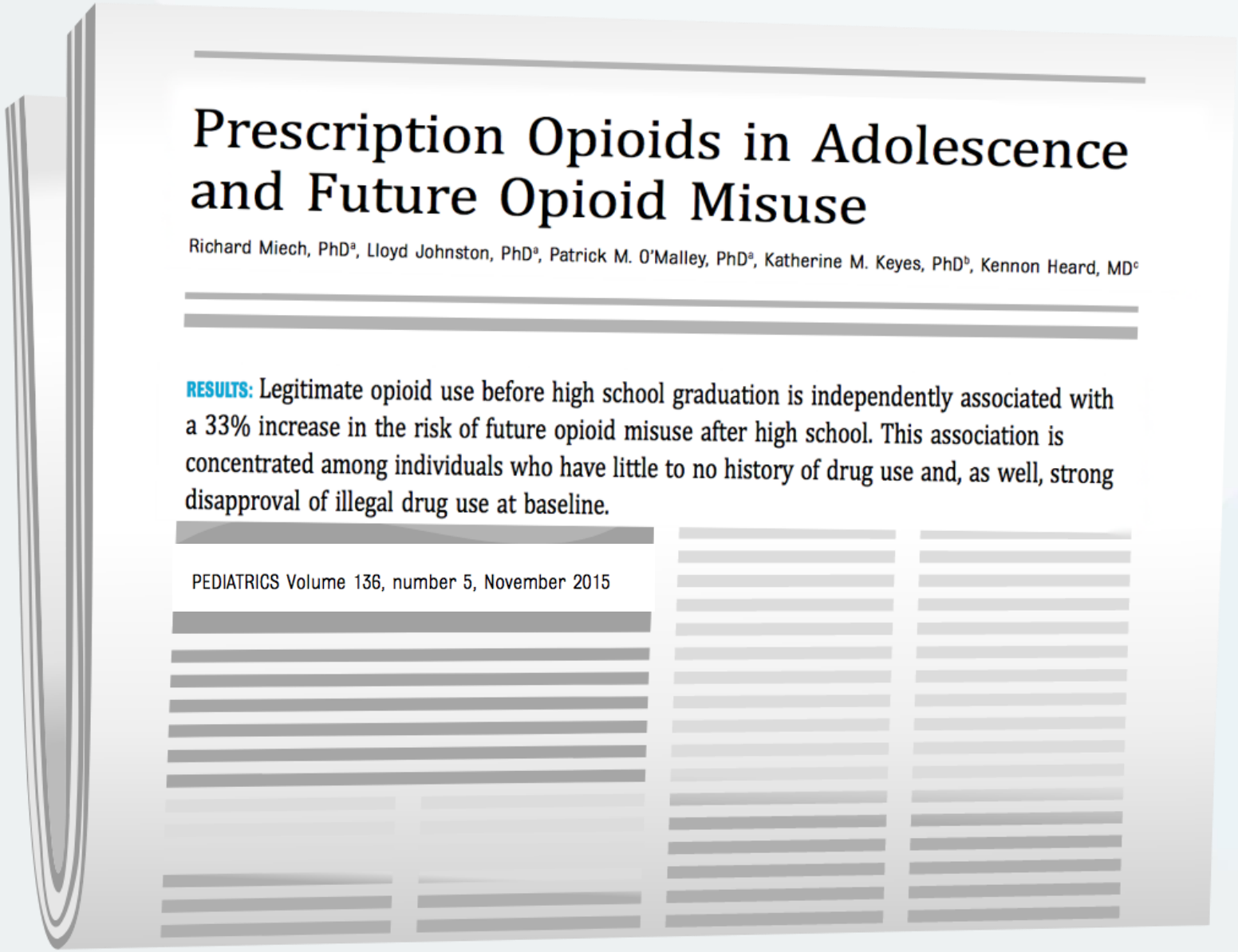
Neuroplasticity: Preventing and Addressing Chronic Pain



“Neurons that fire together, wire together.”

- Our brains love patterns
- This affinity for patterns can create chronic pain…time, fear, pain, inactivity
- …or cure it: rewire chronic pain via Cognitive Behavioral Therapy and graduated activity/exposure
- Using neuroplasticity is key in preventing and treating chronic back pain!

A Dangerous Catalyst?



Prescription Opioids in Adolescence and Future Opioid Misuse

Richard Miech, PhD[a], Lloyd Johnston, PhD[a], Patrick M. O'Malley, PhD[a], Katherine M. Keyes, PhD[b], Kennon Heard, MD[c]

RESULTS: Legitimate opioid use before high school graduation is independently associated with a 33% increase in the risk of future opioid misuse after high school. This association is concentrated among individuals who have little to no history of drug use and, as well, strong disapproval of illegal drug use at baseline.

PEDIATRICS Volume 136, number 5, November 2015

Mindfulness-Meditation-Based Pain Relief Is Not Mediated by Endogenous Opioids

- Mindfulness meditation during naloxone produced significantly greater reductions in pain intensity and unpleasantness than the control groups.
- These findings demonstrate that mindfulness meditation does not rely on endogenous opioidergic mechanisms to reduce pain.

The Journal of Neuroscience, March 16, 2016

Back to Bob:
What are the risk factors for chronic LBP? Opioids

Provider Action:

- Pain focused discussion
- Pain diagnosis (‘back pain’?)
- Passive (Rx) only care
- Guideline discordant care

Patient Response:

- Risk of addiction
- Focus on pain instead of function and quality of life
- Passivity (“Once this pill takes away my pain, I’ll be better”)
- Promotes inactivity, delaying recovery

Stevans JM et al. Risk Factors Associated With Transition From Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. JAMA Net Open. 2021 Feb

The Power of the Big 5

1. Always active care, sometimes passive care
2. Language and motivation
3. Imaging
4. Opioids
5. **Specialists/Surgeons**

First Touch predicts spine surgery

- Predictors of higher likelihood of surgery after work related back injury
  - Higher disability index scores, greater severity of injury, surgeon as first provider seen (42.7% had surgery)
- Predictors of lower likelihood of surgery after work related back injury
  - <age 35, female, Hispanic, chiropractor as first provider seen (1.5% had surgery)
- Seeing a surgeon as first contact provider for spine pain increases risk of surgery even when control for severity and associated variables

Keeney et al. Spine 2013

Back to Bob:

What are the risk factors for chronic LBP? Specialist/Surgeon

Provider Action:

- Long, passive wait for appointment
- Reinforces belief that something needs to 'get fixed'.
- Still passive (injection, surgery) only care
- Sets provider up for unhappy/frustrated patient returning
- Guideline discordant care

Patient Response:

- Frustration if denied surgery
- Risk of bad outcome if has surgery without previous appropriate conservative care (patient selection criteria)
- Time, no answers, frustration triggers:
  - Depressive symptoms
  - Despondency
  - Deconditioning
  - Decreased expectancy

Stevans JM et al. Risk Factors Associated With Transition From Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. JAMA Net Open. 2021 Feb

Many stakeholders in the health care system played a role:

Insurers	Hospitals	Providers	Employers
• Financial barriers • Delayed access • Wrong incentives (FFS)	• Encourage procedures • Encourage imaging • Discourage 'leakage'	• Lack of a BPS model • Wrong incentives • Poor education • The Big 5	• No light duty RTW • High risk work environments • Poor communication • Job satisfaction

_We_ (the system) have just created a chronic pain patient!

Spine Summary

Problem

- Rising costs
- Worsening outcomes
- Inefficient and ineffective spine care
- Huge variation
- Confused and disengaged consumer / patients

Solution

- Improve stakeholder outcomes
- Decrease episode cost through pathway guided testing, triage and self care
- Focus on early contact providers
- Change spine culture: from ‘passive’ to ‘active’, from ‘disease’ to ‘part of life’

Advantages

- Rapid implementation
- Long lasting benefit
- Engages providers, patients and communities
- Refines clinical reasoning
- Decreases variation
- Pathway as conduit (data, outcomes, education)
- Focuses on quality and patients
- Multiple touch points create momentum
- Sustainable
- Patients love your use of hands-on providers (98% Satisfaction scores)

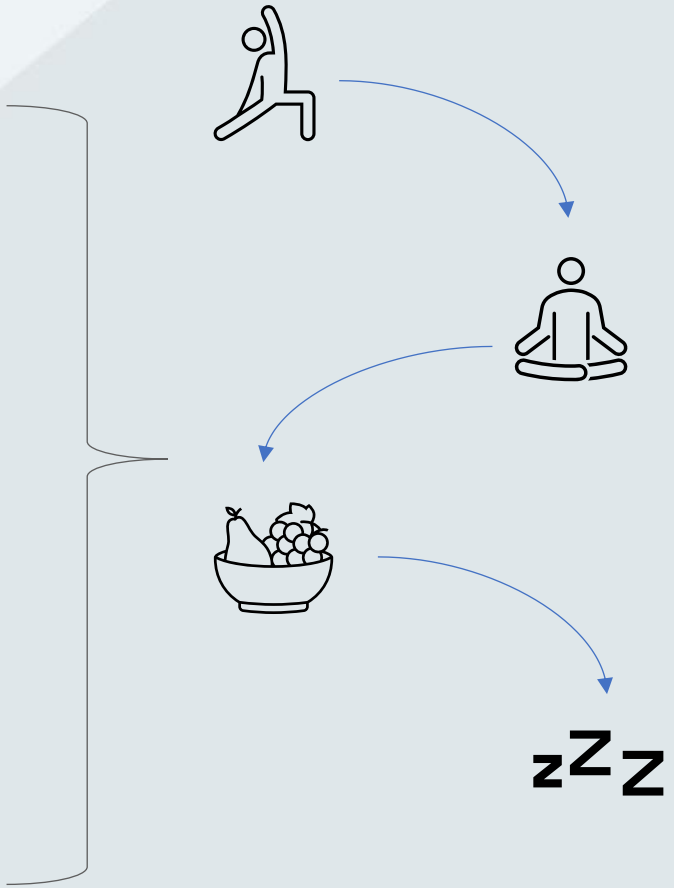
The Power of the Big 5 + 1

1. Always active care, sometimes passive care
2. Language and motivation
3. Imaging
4. Opioids
5. Specialists/Surgeons

Bonus **Back pain as a ‘teachable moment’ on wellbeing**

Back pain as a springboard to wellness

Medical Areas with the Highest Level of Spending, 2016*	
Low back and neck pain	$134.5 billion
Other musculoskeletal disorders	$129.8 billion
Diabetes	$110.2 billion
Ischemic heart disease	$89.3 billion
Falls	$87.4 billion
Urinary diseases	$86.0 billion
Skin and subcutaneous diseases	$85.0 billion
Osteoarthritis	$80.0 billion
Dementias	$79.2 billion
Hypertension	$79.0 billion



* Adapted from Dieleman et al., 2020.

What if.....

- All stakeholders (providers, employers, community-based organizations, payers, government, education…) are supporting your approach to patient active, best evidence to health
- There were trusted providers with resources supporting you, encouraging people to become healthcare consumers in making optimal decisions on if, when and how to seek care (Does a person with back pain need to become a patient? Do they need low-value referrals?)
- Shift the responsibility of providing best care options and dispelling common myths (MRI, opioids, surgery …) to your partner in care
- Meaningful clinical data collected directly from your partner in care, aiding your decision making
- Support of the" teachable moment" of back pain to trigger optimal self-care, while also supporting you in the management of many co-morbidities of your patients
- All of the above supporting quality goals (HEDIS…) and the shift to value-based healthcare

Bob

The Story Of Twins

Gary

Bob is Back!

Demanding Chronic Pain Patient,
<u>Very</u> Busy Doctor

- It's never too late!
- *Fear + Inactivity => Chronic Pain*
- Address Fear:
  - Education
  - Language
- Address Pain Induced Inactivity:
  - Graduated activity/exposure
  - Motivation
  - Rxs (not opioids) and mindfulness

Gary is NOT back!

Educated <u>Person</u>,

Busy Pathway Adherent Doctor

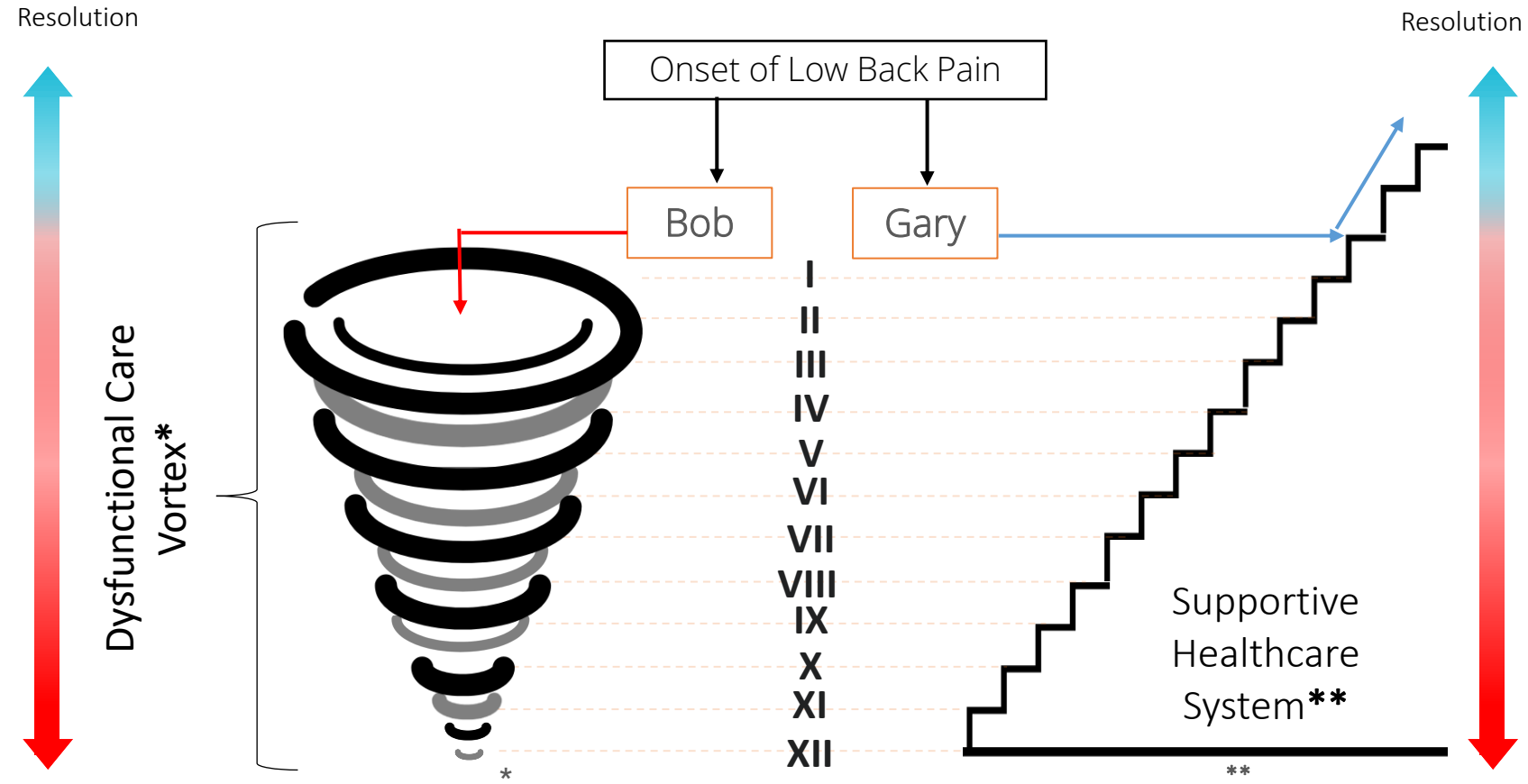
Gary has a flair up of similar pain, but now tries learned self-care FIRST

....then he tries high-value care that you approve of

....and maybe his BP, Chol, Diabetes and depression are more controlled

Understanding + activity => Quick Recovery
Understanding + activity => Self Care

It’s never too late to treat Bob! (chronics)



- Patient Passive Approach
- No Consistent Pathway
- Obstacles to Patient Access

VS.

- Patient-Active Approach
- Evidence-Based Care Pathway
- Easy Patient Access and Engagement

Bob

The Story Of Twins

Gary

Enough about preventing Bobs,
now let's focus on helping Bobs and creating Garys in our second hour!

Questions? Thoughts? Concerns?