Lumbar Imaging with Reporting of Epidemiology (LIRE): Barriers/Lessons Learned

NIH Collaboratory Steering Committee
Bethesda, MD
5/1/19

Acknowledgements

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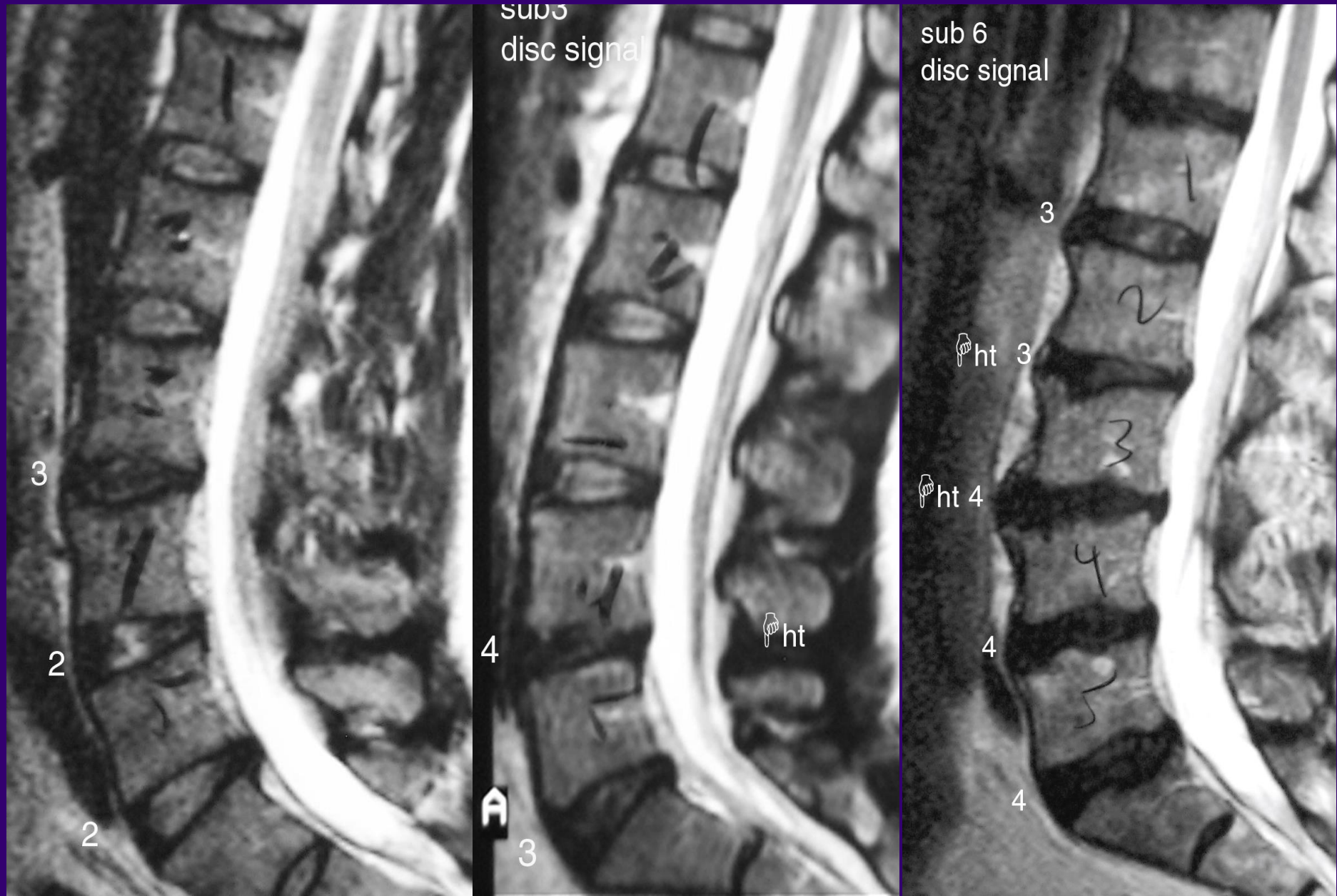
Disclosures (Jarvik)

- UpToDate
  - Section Editor
- Evidence-Based Neuroimaging Diagnosis and Treatment (Springer)
  - Co-Editor

Outline

- LIRE reminder
- Barriers/Lessons Learned

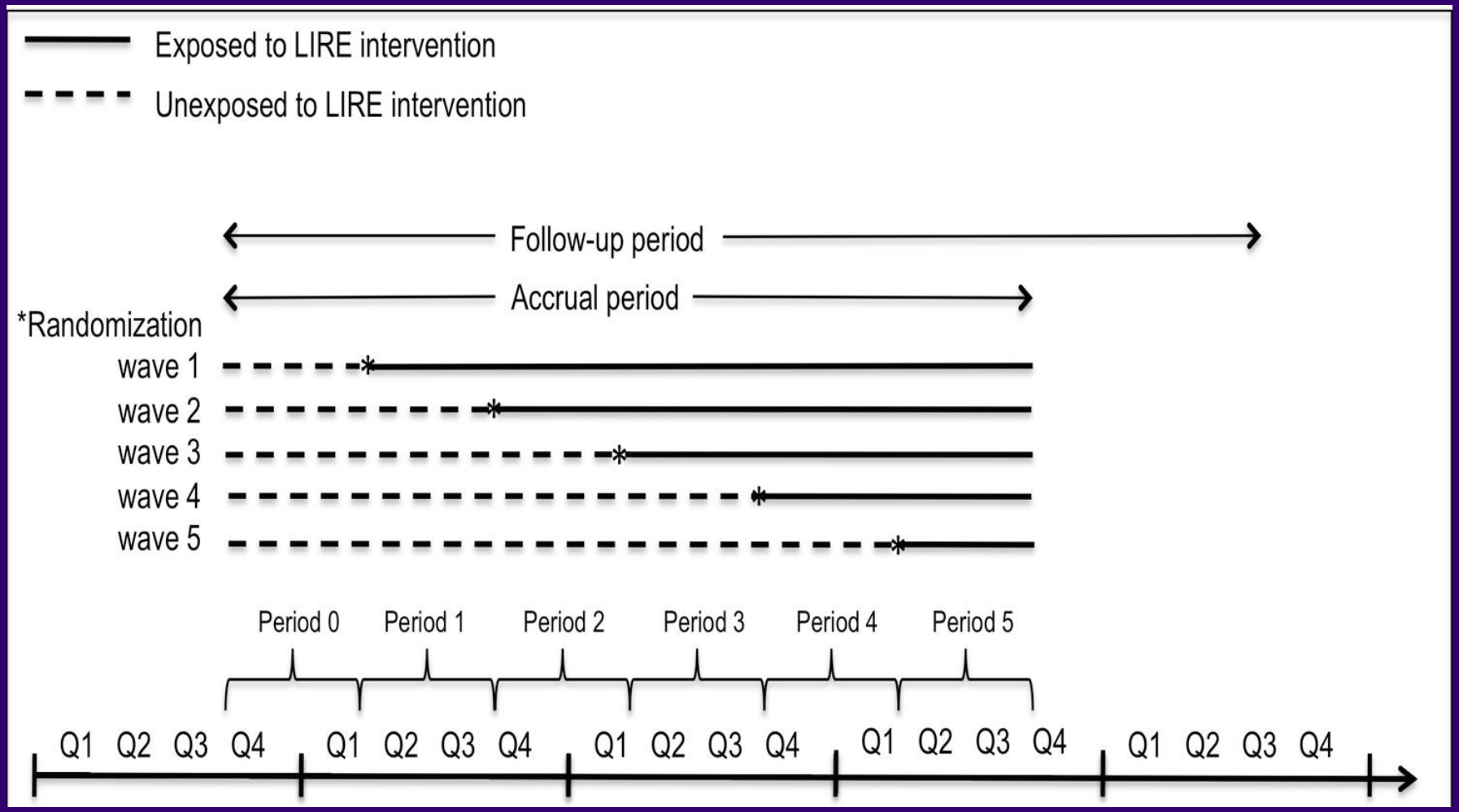
Disc Degeneration in Asx



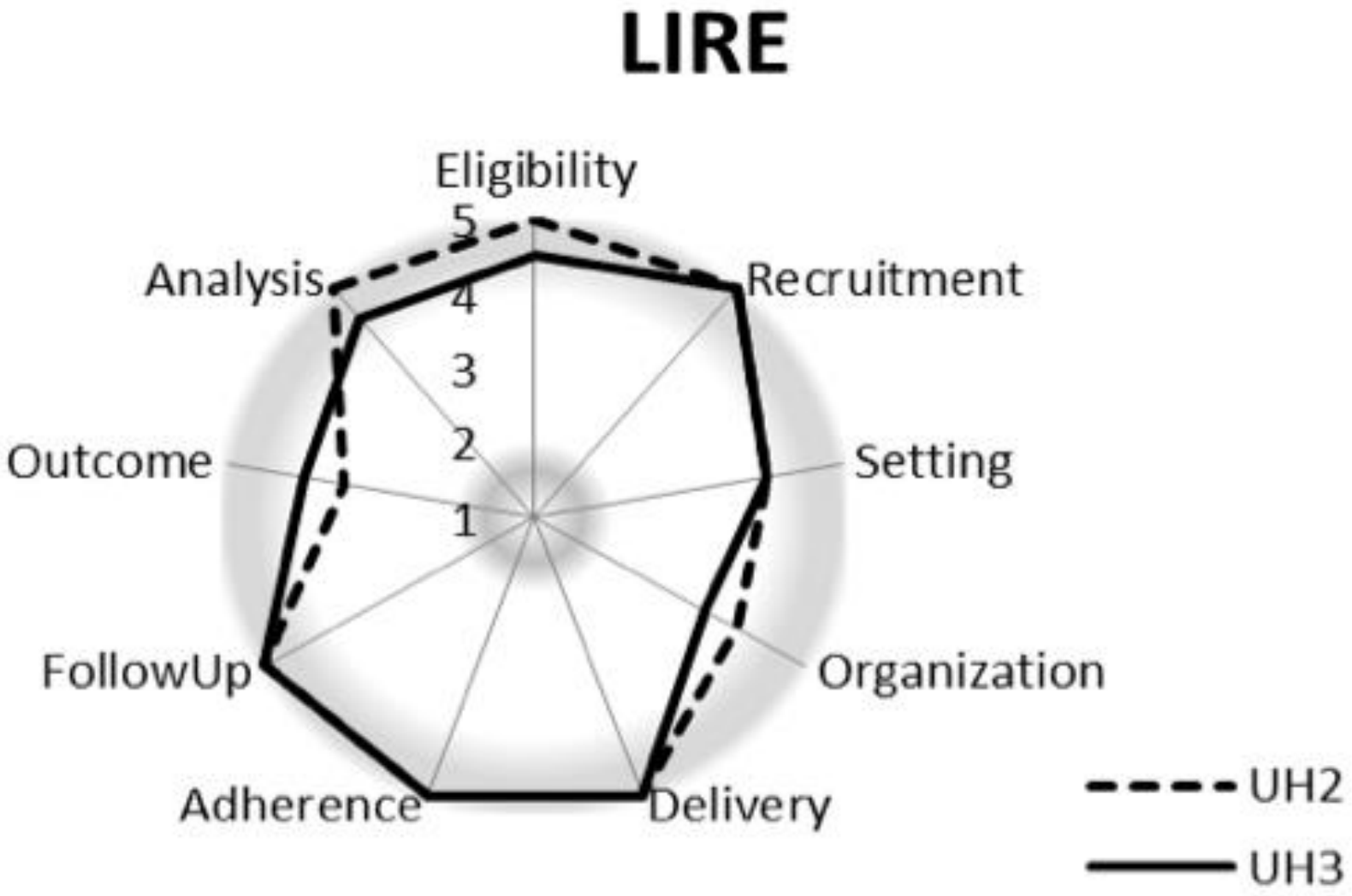
Hypothesis

- Inserting benchmark information into reports will influence subsequent management of primary care patients with LBP
  - Primary: 12-mo spine-related RVUs
  - Secondary
    - Subsequent X-sectional imaging
    - Subsequent opioid prescriptions

Cluster, Stepped Wedge RCT

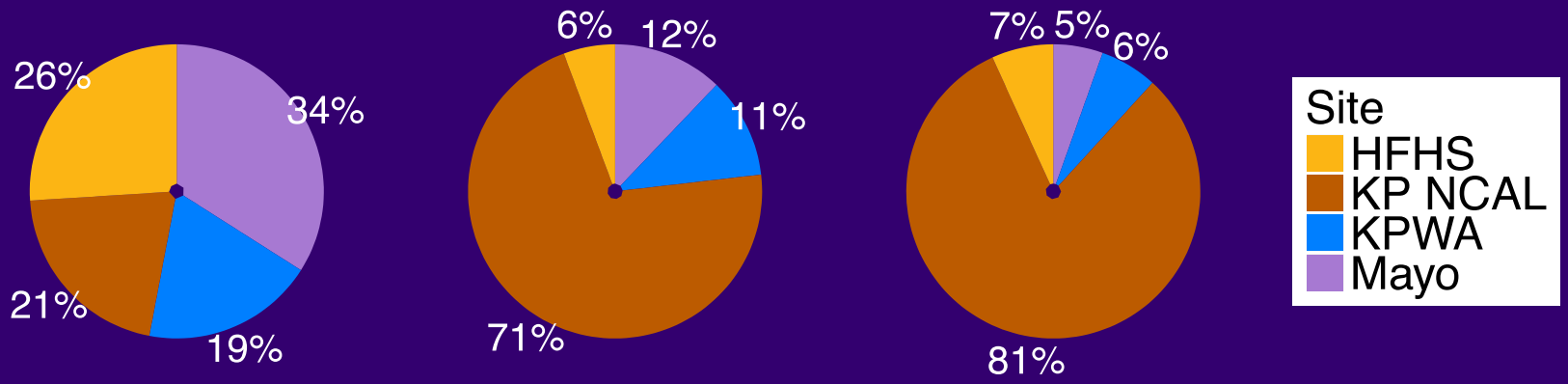


LIRE PRECIS


LIRE
Eligibility
5
4
3
2
1
Recruitment
Setting
Organization
Delivery
Adherence
FollowUp
Outcome
Analysis
UH2
UH3

LIRE: Enrollment

Clinics	PCPs	Pts
n=98	n=3304	n=250,876



Preliminary Results

- Analysis completed for cross-sectional imaging and opioid outcomes, both pre-specified secondary outcomes
  - No difference in subsequent cross-sectional imaging between randomization groups as previously discussed
  - Small but statistically significant reduction in subsequent opioid prescriptions by LIRE providers in the intervention group.

Barriers Scorecard

Barrier	Level of Difficulty				
	1	2	3	4	5
Enrollment and engagement of patients/subjects	X				
Engagement of clinicians and Health Systems		X			
Data collection and merging datasets		X			
Regulatory issues (IRBs and consent)	X				
Stability of control intervention		X			
Implementing/Delivering Intervention Across Healthcare Organizations		X			

1 = little difficulty
5 = extreme difficulty

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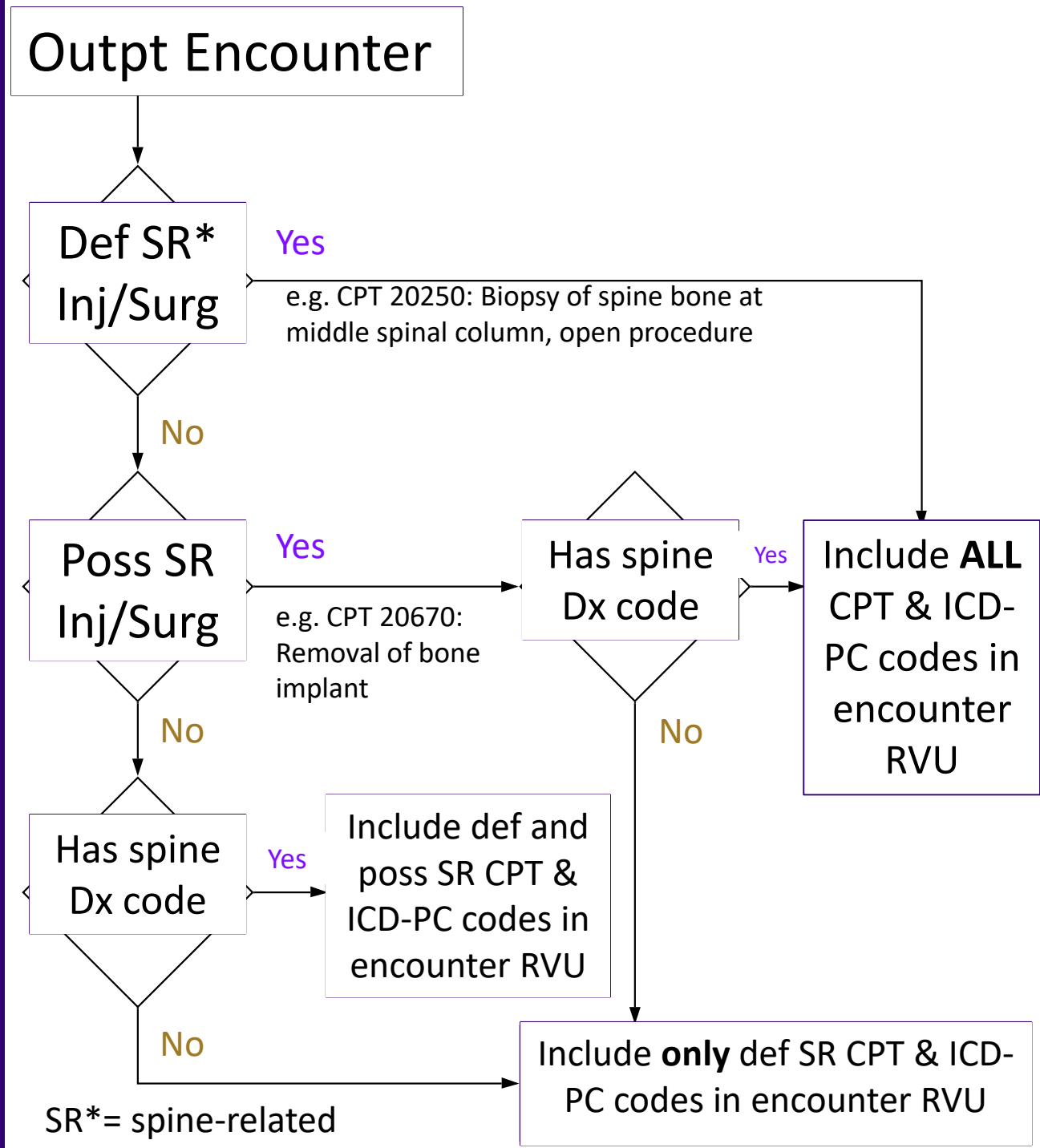
Primary Outcome: Spine-related RVUs

Outpatient Algorithm



Top Barrier: Dealing with EMR Data Heterogeneity

- Within and between site data system heterogeneity→ merging data from disparate sources (CPT, ICD9-Dx; ICD9-PCS; ICD10-Dx; ICD10-PCS; KPNC site codes; KPW site codes)
- Iterative process to obtain clean data set: requires engagement of both programmers and site PIs

Prior Lessons Learned

- Returning results in the setting of “no consent” is trickier than it seems
- That partners were going to change their EMR in the middle of the study
- Budget for changes
- Be ready to drop/add sites, early on
- Don’t underestimate stakeholder engagement importance; success depends mostly on people
- Make sure communication flows through all level of personnel (PIs, programmers, coordinators, etc)
- Get cumulative vs. serial data for QC checks
- Get schematic of feeding data sources
- Work with an experienced team

Top Lesson Learned

Keep your sense of humor

What have you learned or gained through the Collaboratory program that you would not have gotten elsewhere?

- Group knowledge
- Advice from Cores (biostats, stakeholder engagement, health system, etc)

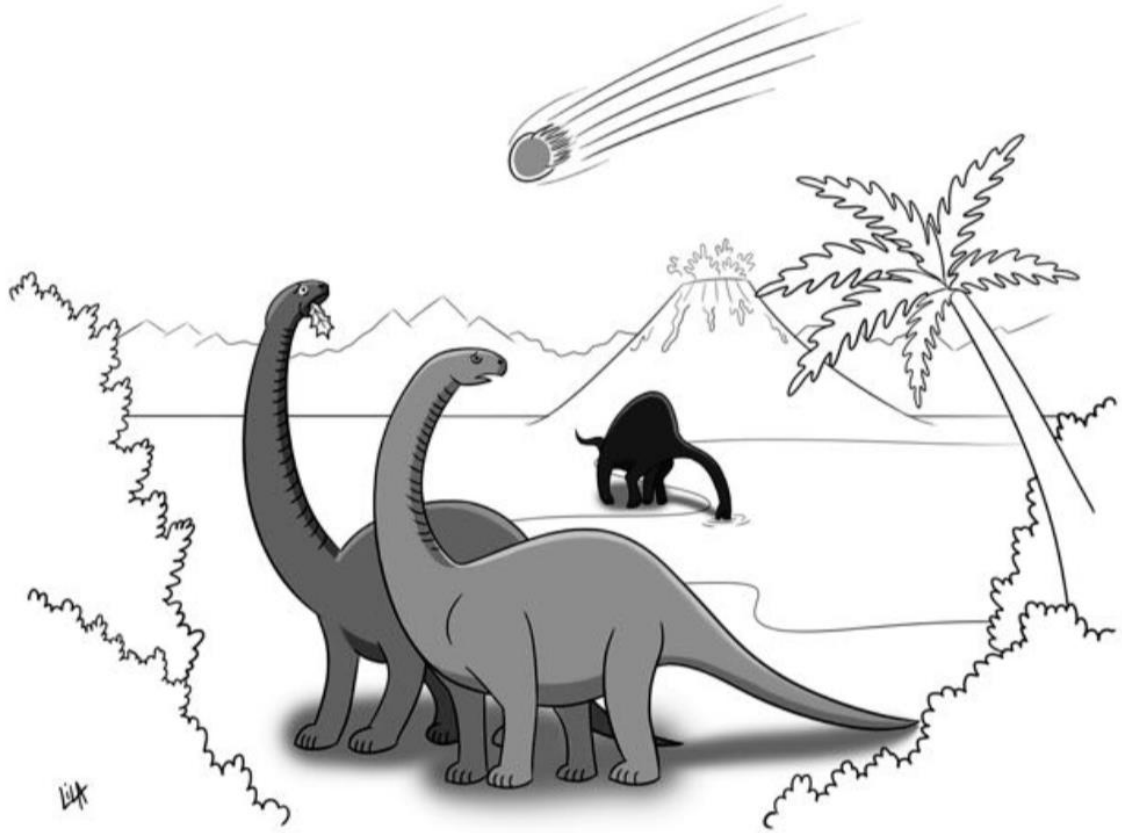
Key People

UW

- Katie James, PA-C, MPH- PD
- Brian Bresnahan, PhD- Hlth Econ
- Bryan Comstock, MS- Biostats
- Janna Friedly, MD- Rehab
- Laurie Gold, PhD- Radiology
- Patrick Heagerty, PhD- Biostats
- Larry Kessler, PhD- HSR
- Danielle Lavallee, Pharm D, PhD
- Eric Meier, MS- Biostats
- Nancy Organ, MS- Biostats
- Kari Stephens, PhD- Informatics
- Judy Turner, PhD- Psychol/Psych

Non-UW

- Rick Deyo, MD, MPH- OHSU
- Dan Cherkin, PhD- GHRI
- Karen Sherman, PhD- GHRI
- Heidi Berthoud- GHRI
- Brent Griffiths, MD- HFHS
- Dave Nerenz, PhD- HFHS
- Dave Kallmes, MD- Mayo
- Patrick Luetmer, MD- Mayo
- Andy Avins, MD, MPH- KPNC
- Luisa Hamilton- KPNC



"I can't believe I ate all that salad for nothing."