CODA

Comparing Outcomes of Drugs & Appendectomy

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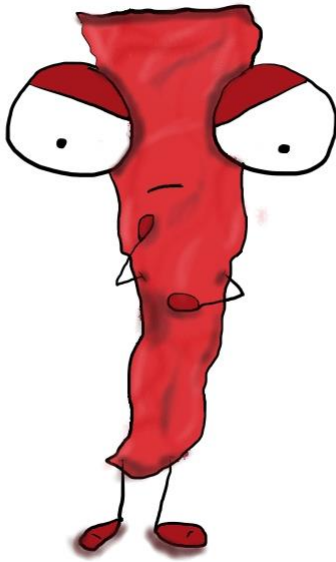
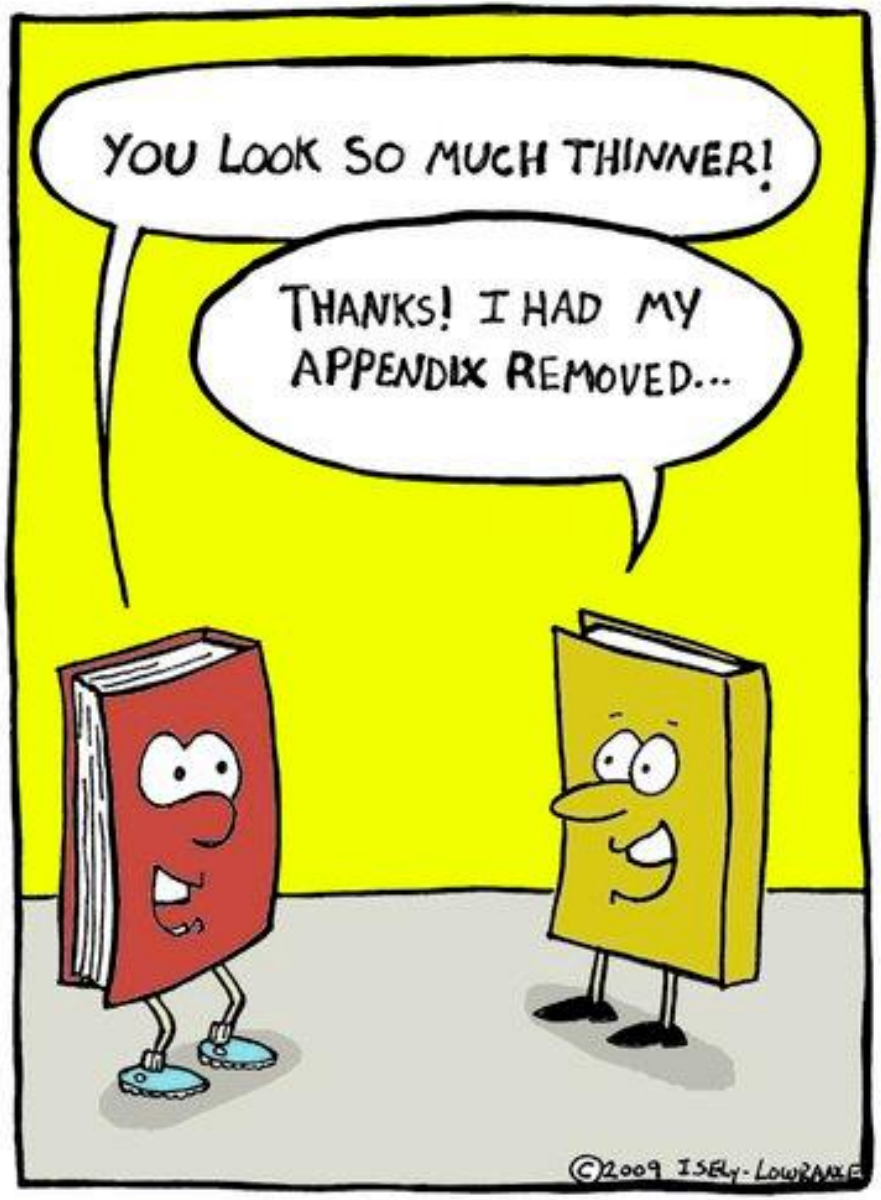
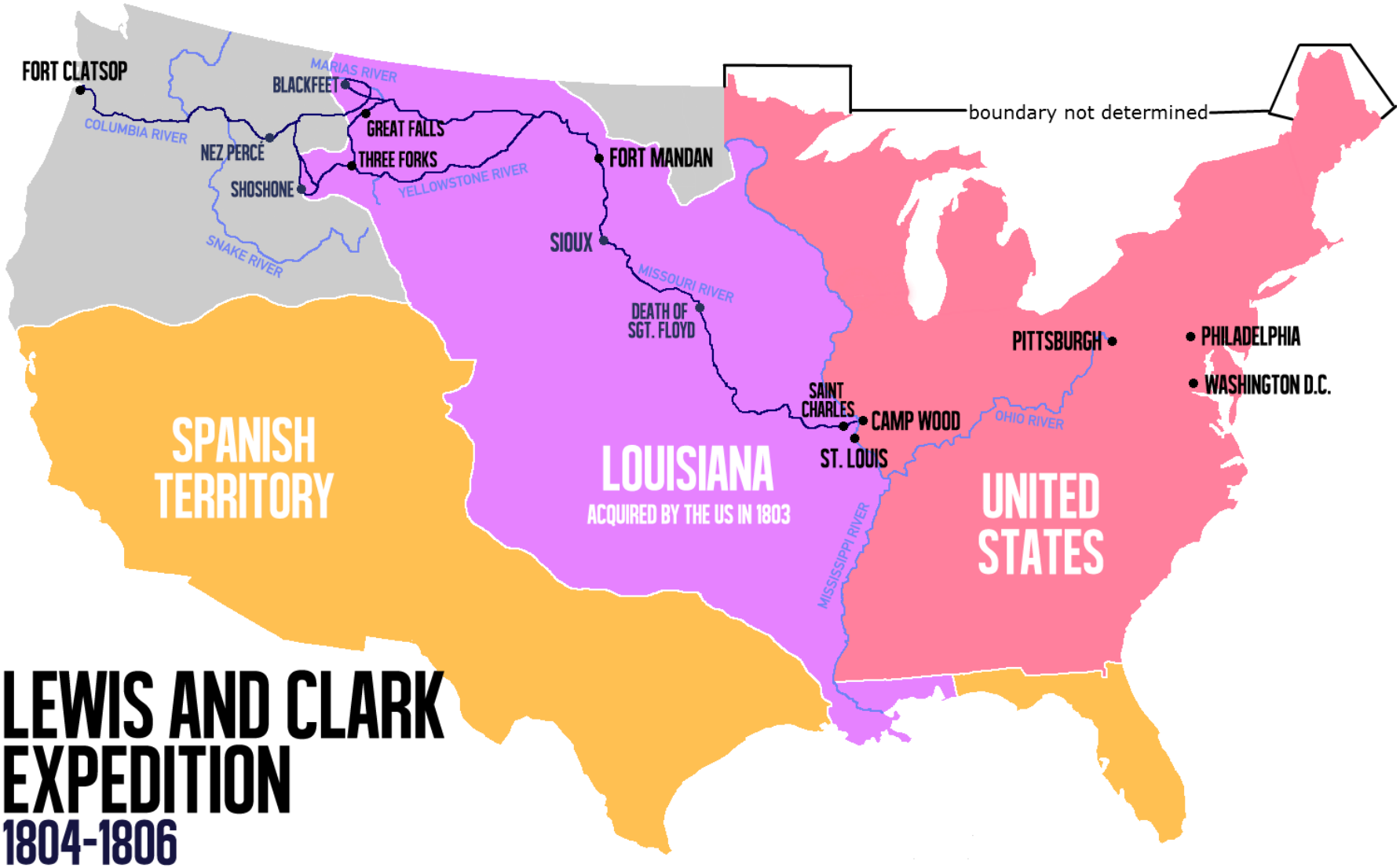
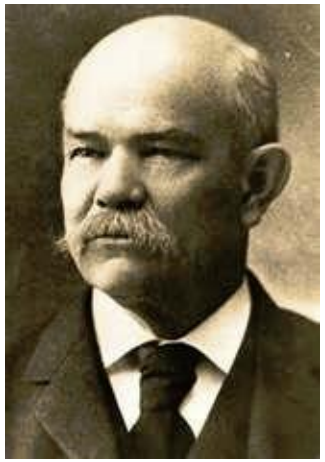



YOU LOOK SO MUCH THINNER!
THANKS! I HAD MY APPENDIX REMOVED...
©2009 ISELY-LOWRANCE



LEWIS AND CLARK EXPEDITION
1804-1806

Claudius Amyand
1735



Reginald Fitz
1886

King Edward VII
1904

Five Years of Conservative Treatment of Acute Appendicitis

ERIC COLDREY, M.D., F.R.C.S.*
ROTHERHAM, ENGLAND

A description is given of a five-year study showing that, in a hospital surgical clinic, acute appendicitis can be safely and satisfactorily treated by conservative measures.

Four hundred and seventy-one cases of acute appendicitis were treated conservatively, with 1 death, that of a man aged 78 who was a very poor surgical risk.

The Editorial Board of the Journal is aware that the author's theme may arouse controversy. In line with our policy of a fair hearing for all, however, we publish his article objectively, neither affirming nor denying the validity of his hypothesis.

the first twenty-four hours. If vomiting

Research in the 1990s

American surgeons focus on technique of surgery

European surgeons focus on value of surgery

British Journal of Surgery 1995, **82**, 166–169

Turkish Journal of Trauma & Emergency Surgery
Original Article

Ulus Travma Acil Cerrahi Derg 2009;15(5):459-462
Klinik Calışma

Original Investigation

Antibiotic Therapy vs Appendectomy for Treatment of Uncomplicated Acute Appendicitis

The APPAC Randomized Clinical Trial

Paulina Salminen, MD, PhD; Hannu Paajanen, MD, PhD; Tero Rautio, MD, PhD; Pia Nordström, MD, PhD; Markku Aarnio, MD, PhD; Tuomo Rantanen, MD, PhD; Risto Tuominen, MPH, PhD; Saija Hurme, MSc; Johanna Virtanen, MD; Jukka-Pekka Mecklin, MD, PhD; Juhani Sand, MD, PhD; Airi Jartti, MD; Irina Rinta-Kiikka, MD, PhD; Juha M. Grönroos, MD, PhD

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The New York Times

HEALTH

Antibiotics Resurface as Alternative to Removing Appendix

By GINA KOLATA MAY 18, 2015

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A Look at the Evidence

- N=1,724
- Women 0-47%
- Average or median age: 26-38
- LOS similar
- Complications higher for surgery
- Less pain for antibiotics
- Fewer days away from work for antibiotics

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Evidence Gaps

- Selection bias
- Inconsistent or unstandardized diagnostic criteria
- Inadequate antibiotic coverage
- High rates of open surgery (44-95%)
- Outcome dependent on treatment strategy

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Selection Bias

- Informed consent materials
- Minimal information on comorbidities
- Poor description of those refusing randomization

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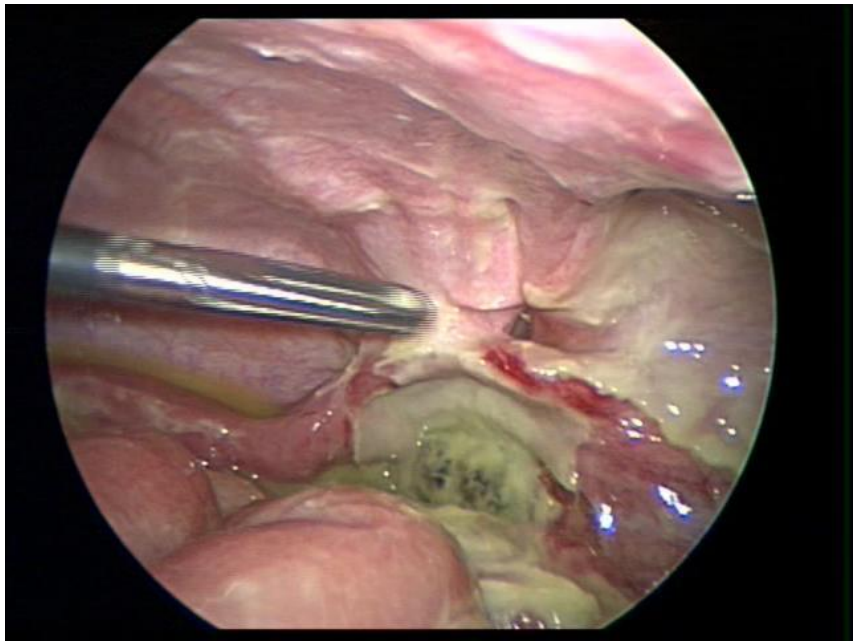
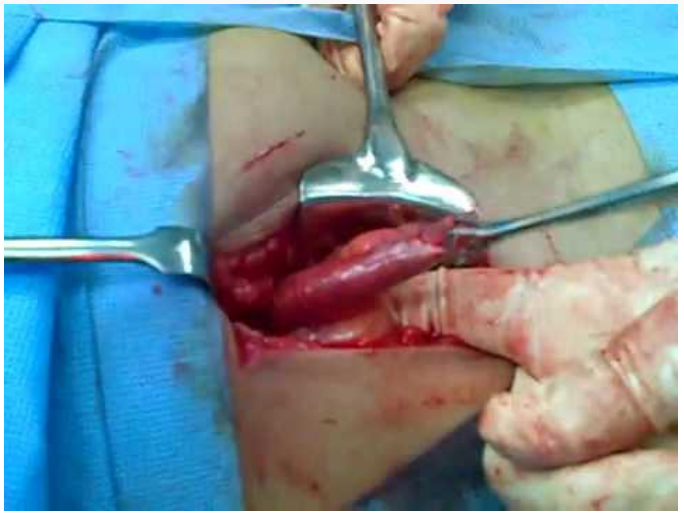
Diagnostic Criteria

- Non-standardized approach
- Potential for patients with complicated disease to be included



Treatment Strategy

- Open surgery: 44-95%
- Inadequate antibiotic coverage



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Outcome Selection

- Outcome dependent on treatment assignment
- Outcomes not meaningful to pa
  - Improvement in WBC
  - "Treatment effi
- R inimum LOS for antibiotics-first

~1.5% uptake in the USA in 2013

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Big questions still need to be addressed…

Antibiotics can be used to treat appendicitis…

…but is it worth it?

What information do different types of people need to make this treatment decision?

- Who does this work best in?
- What matters most to stakeholders?

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you don't have to remove your appendix just because you don't know what we do!
BUT IF YOU DON'T, I WILL KILL YOU IF THE URGE STRIKES ME!
theAwkwardYeti.com
but I might help your immune system!
MAYBE.
theAwkwardYeti.com

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Leverage Healthcare Data

Patient Voices

Stakeholder Input

Clinician Offices

Hospitals SCOAP

Long-term Care

Partners in QI and Research

Evidence generation CER/PCOR

Evidence into Practice

Stakeholder Engagement in Practice: Research Proposal Development

CODA Research Proposal Development

- Engaged Patients, Clinicians, Healthcare Administrators, Funders, and Researchers
- Multi-modal approach
- Planning took place over 7 months
- Non-funded work

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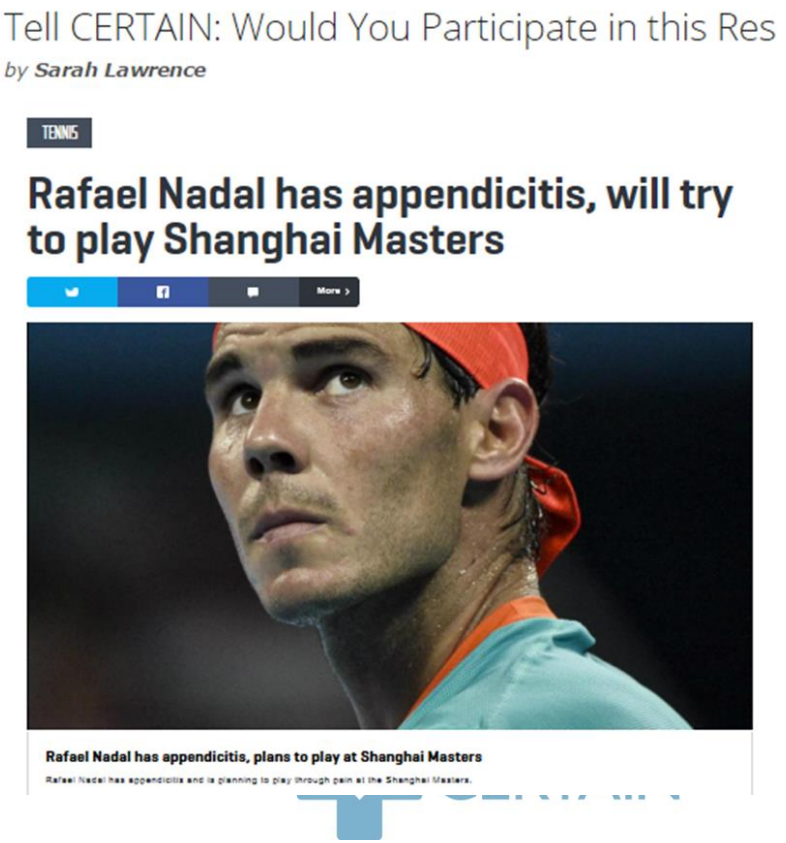
Patient Engagement

- Engaged for help in:
  - Addressing willingness to participate
  - Advising on study design
  - Crafting education materials
- Modes of engagement:
  - Blog posts
  - Social media
  - Crowdsourcing (mTurk)
  - Direct outreach



What Does Patient

834 patients

- 4 worked on proposal and educational materials
- "Would you randomize?"
  - 45% Yes
  - 41% No
  - 14% Unsure

Clinician Stakeholder Engagement

- Clinicians at 15 hospitals:
  - Weekly meetings for proposal development
  - Develop protocol and patient-facing materials
  - Study champions
- Surveyed clinicians in Europe (ASGBI) to learn how antibiotics-first evidence is being used in practice:
  - How frequently they offered antibiotics-only
  - How often patients chose antibiotics-only
  - Percentage of patients who “failed” on antibiotics-only

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What Does Clinician Engagement Look like?

- 81 surgeons
- Signed attestations:
  - Allow patients to be recruited for study
  - Adhere to study protocol
  - Work with site clinician advisor to address barriers
- 196 European surgeons responded to survey
  - 1 in 5 now using this approach

- Feedback changed exclusion criteria, logistics, and criteria for failure of antibiotics strategy

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Payer/Employer/Professional Org Engagement

- C-suite letters of support from:
  - 7 Payers – major insurance companies and ACOs
  - 3 Policy-Makers – from AcademyHealth, American College of Surgeons, and American College of Emergency Physicians
  - 4 Employers – companies with large workforces, including aviation industry and Costco Wholesale
- All committed to disseminate results to networks

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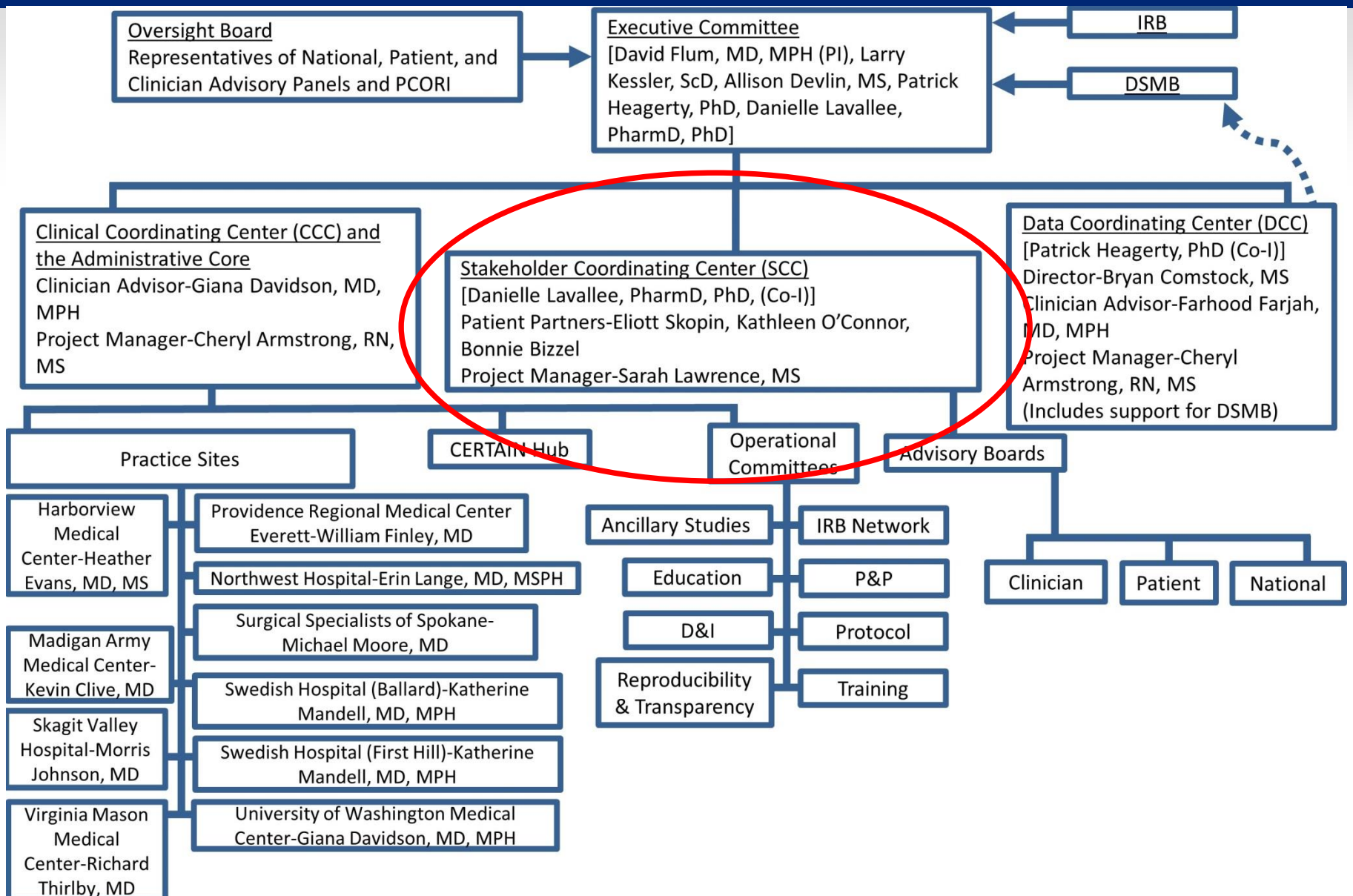
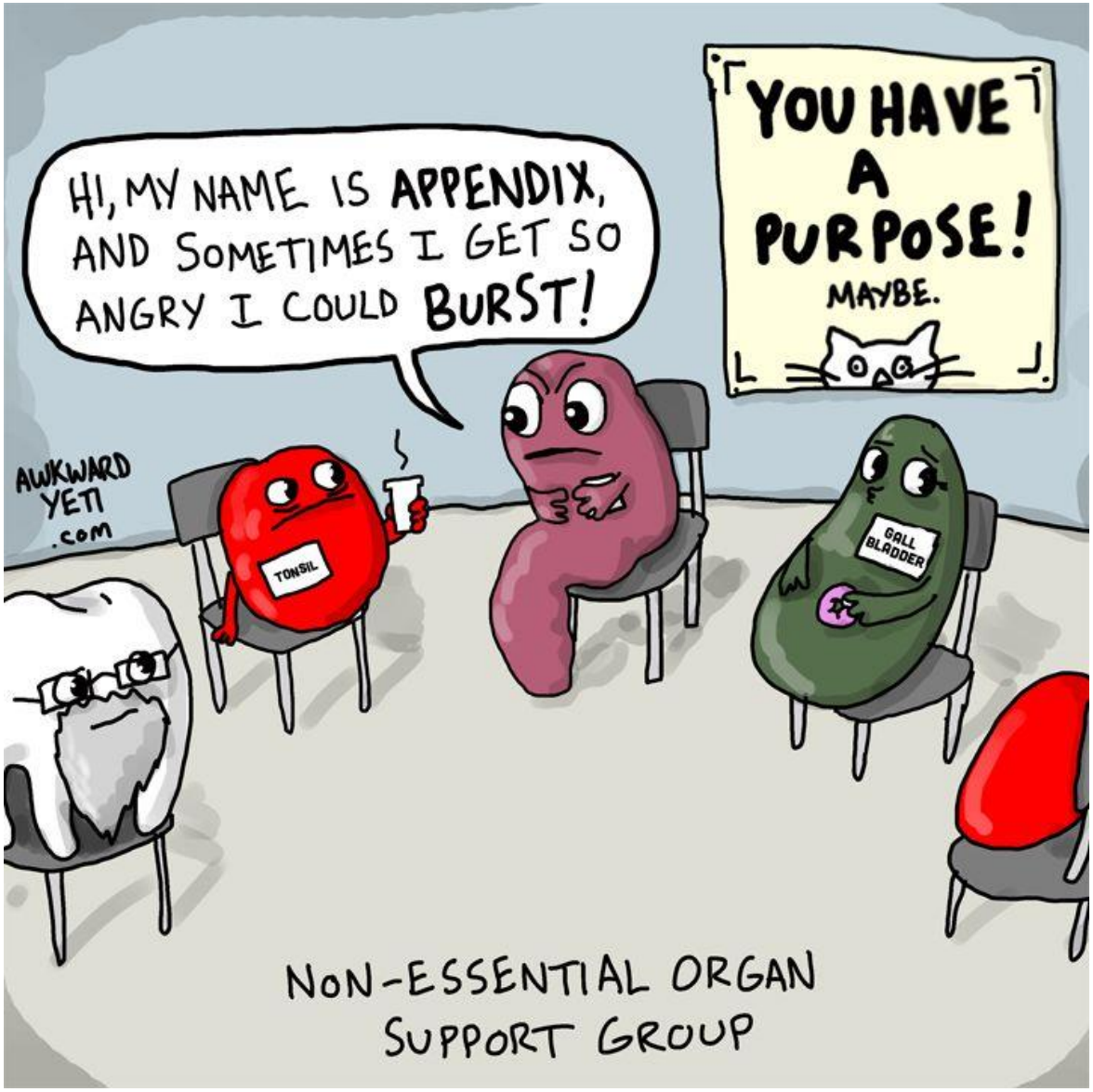
Translating Engagement into Organization




HI, MY NAME IS APPENDIX, AND SOMETIMES I GET SO ANGRY I COULD BURST!
YOU HAVE A PURPOSE!
MAYBE.
AWKWARD YETI .com
TONSIL
GALL BLADDER
NON-ESSENTIAL ORGAN SUPPORT GROUP


CODA
Comparing Outcomes of Drugs & Appendectomy

CODA –Study Questions

"Is an antibiotics-first strategy as effective as appendectomy-first for uncomplicated appendicitis?"

"Which patients are most likely to have a successful outcome with antibiotics-first?"

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What matters to patients…

Are the benefits outweighed by the potential burdens?

- Recurrence and eventual surgical intervention
- Lingering symptoms
- Anxiety and uncertainty impacting Quality of Life
- Return to work/school
- Long-term antibiotics

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CODA – Study Design

- Randomized-controlled trial
  - Large-scale (n=1,552)
  - Non-inferiority based
    - Antibiotics “just as good as” appendectomy
  - Pragmatic
    - Routine clinical practice settings, heterogeneous population
- Concurrent observational cohort (n=500)

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CODA - Study Population

- Consecutive patients recruited 24/7 from up to 10 practice sites
- Diverse demographics – CERTAIN Network
  - Urban and rural
  - Includes non-English speakers (Spanish)
  - Populations not typically engaged in research (non-academic sites)
  - Varying socioeconomic status

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CODA – Patient Eligibility

Inclusion:

- 18 years and older
- Presenting with a diagnosis of uncomplicated appendicitis (i.e., CT, ultrasound, or MRI confirmed)

Exclusions:

- Perforation or phlegmon
- Sepsis
- Immunocompromised state
- Pregnant
- Implantable devices
- Non-English or non-Spanish speaking
- Unable, unwilling to participate

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CODA – Study Aim 1

Compare Patient Reported Outcomes

- Primary Outcome:
  - EQ-5D at 90-days
- Secondary Outcomes:
  - 10 PROMIS Global Health Short Form
  - Decision Regret Scale
  - Gastrointestinal Quality of Life Index (GIQLI)
- Time points:
  - Baseline and months: 1, 3, 6, 9, 12, 24

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CODA – Study Aim 2

Compare Clinical Outcomes

- Rates of perforated appendicitis
- Complications and extent of operation among operated patients
- Complications associated with antibiotics
- Antibiotic days beyond initial treatment
- Time in healthcare
- Caregiver/patient “time in healthcare”

- Time points: Baseline, Weeks 1-4

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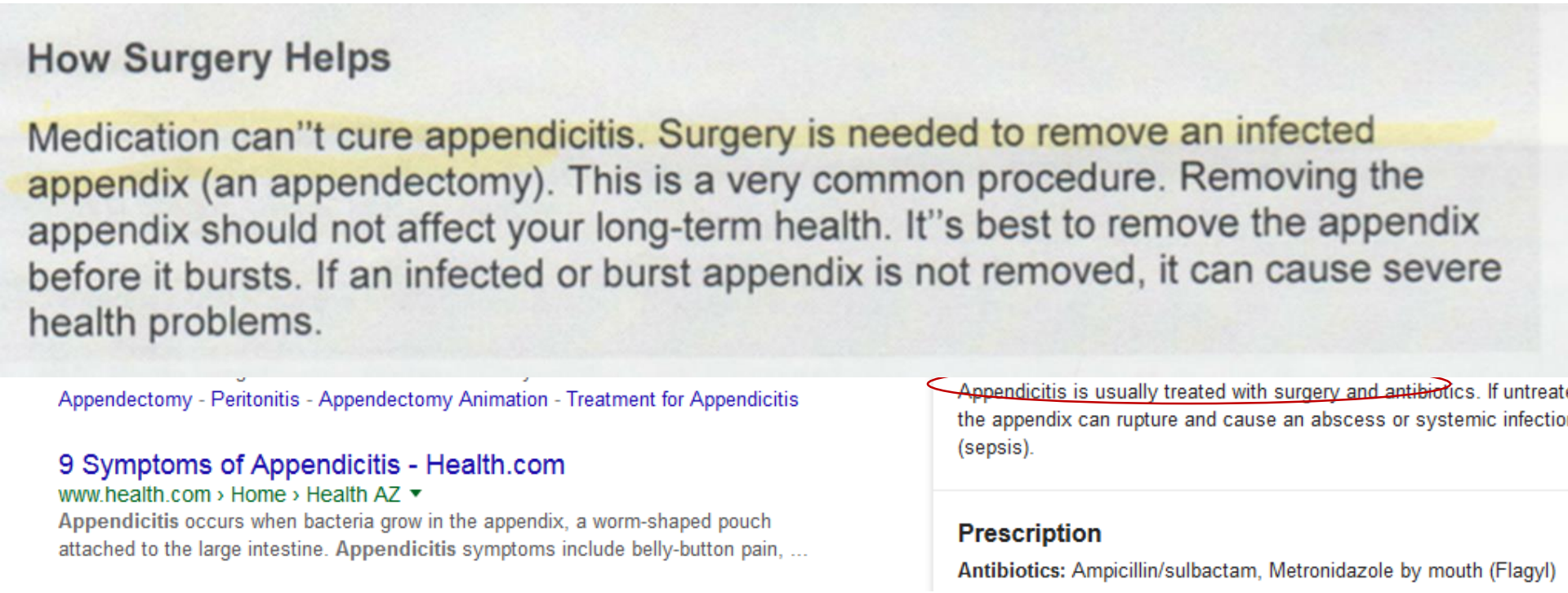
CHALLENGES
AHEAD

Changing 130 years of precedent



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Normalizing the antibiotics-first strategy

- Deliver standardized patient information across all sites
  - Urban & Rural
  - Academic & Private
  - Variation in information
    - Doctors (residents, ED, surgeons), Nurses (ED, triage) Radiology (imaging techs, radiologists)

PCORI funded project at Nationwide Childrens, Columbus OH (PI-Minneci/Deans)

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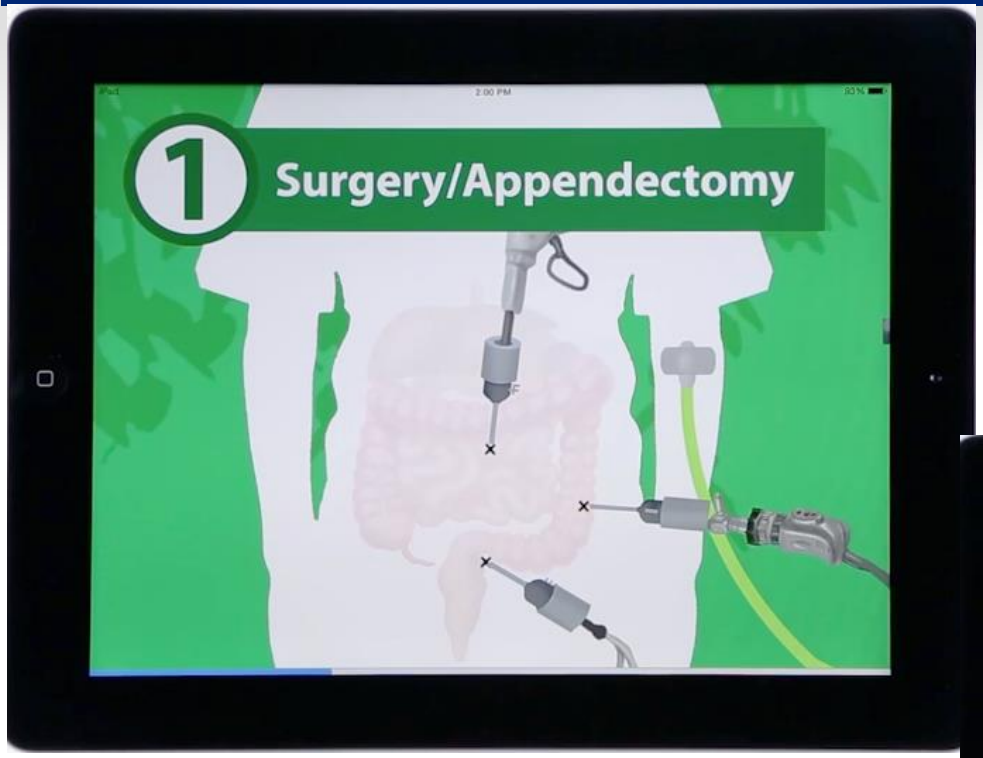
Standardizing Messaging



- Improve expectations
- Avoid cross over

6461. Misbranding of Tubbs' Bilious Man's Friend. U. S. * * * v. Tubbs Medicine Co. Plea of guilty. Fine, $100. (F. & D. No. 8717. I. S. No. 11074–m.)

On March 30, 1918, the United States attorney for the Western District of Wisconsin, acting upon a report by the Secretary of Agriculture, filed in the District Court of the United States for said district an information against the Tubbs Medicine Co., a corporation, River Falls, Wis., alleging shipment by said company, in violation of the Food and Drugs Act, on or about August 21, 1916, from the State of Wisconsin into the State of Minnesota, of a quantity of an article labeled in part, "Tubbs' Bilious Man's Friend," which was misbranded.

Analysis of a sample of the article by the Bureau of Chemistry of this department showed that the sample was a hydroalcoholic solution of sugar and plant extractives (rhubarb), with a very small amount of aromatics and 13.2 per cent of alcohol by volume.

It was alleged in substance in the information that the article was misbranded for the reason that certain statements appearing on the labels of the carton and bottle falsely and fraudulently reported it as a remedy for liver and kidney troubles, rheumatism, backache, indigestion, sick headaches, colds with feverish conditions, nervous disorders, scurvy, worms, piles, malaria; as a preventive of appendicitis and rheumatism; as a remedy for overheated conditions from overwork or sun exposure, when, in truth and in fact, it was not. Misbranding of the article was alleged for the further reason that the statement, to wit, "Contains, alcohol 20%," borne on the labels regarding the article and the ingredients and substances contained therein, was false and misleading in that it represented that the article contained 20 per cent of alcohol, whereas, in truth and in fact, it did not, but contained a less amount, to wit, 13.2 per cent of alcohol; and for the further reason that it contained alcohol, and the label failed to bear a statement of the quantity or proportion of alcohol contained therein.

On July 23, 1918, the defendant company entered a plea of guilty to the information, and the court imposed a fine of $100, which was paid.

J. R. RIGGS, *Acting Secretary of Agriculture.*

How is this study pragmatic?

- "Real world" setting and practice
  - Routine practice
    - European vs American
  - Open vs. laparoscopic surgery
  - Outpt vs inpatient management
  - Antibiotics adherence
    - Antibiotics-first approach requires 7-days treatment at home
  - Antibiotics regimen
    - Flexibility in antibiotics choice
- Heterogeneity of treatment effect
  - Large sample/site size
  - Patients
  - Clinicians and healthcare settings

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Current Status of CODA

- Just funded (summary statement reviewed)
- Lots to be decided and done….
- …but ambitious

"the concluding passage of a piece or movement, typically forming an addition to the basic structure."

"the concluding section of a dance, especially of a pas de deux, or the finale of a ballet in which the dancers parade before the audience."

"a concluding event, remark, or section"

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Take Home Messages

We think you should…

- Weave patient perspectives into all phases of research organizations
  - Link these to the research proposal explicitly
  - Document as you go
- Engage stakeholders as serious partners
- Pick problems with clear clinical choices
- Demonstrate that you can do the work
- Define a path to changing system and individual decision making behavior
- Follow the methodology committee's report

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