The HOMERuN Collaborative – Linking research, implementation, and outcomes improvement

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- Other financial relationships:
  - Funding from ABIM – Question writing and advisor to Hospital Medicine added certification
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  - None

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Overview

- Rationale for Hospital Medicine Reengineering Network (HOMERUN) and description of the network in 2014
- “Lessons learned" applicable to delirium research
- Recommendations for raising the profile of delirium in Hospital Medicine research

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What is the rationale for HOMERuN?

- Need to do evaluation of healthsystem innovation in acute care settings
  - Infrastructure:
    - Not bench space
  - Research team needs:
    - HSR-like, but with sociologists and industrial engineers
  - Translational models:
    - Not GCRC, more explicitly front line engaged

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Hospital Medicine Reengineering Network (HOMERuN)

- Leverage the role of hospitalists in the care of general medical patients in US hospitals
  - >60% of Medicare patients getting care from hospitalists
  - <1,000 in US in 1999, now >~~20,000~~ 30,000

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Why hospitalists?

- Hospitalists are a key 'line item' for hospitals
  - Hospitalists view systems reengineering as a key element of professional identity
- At UCSF-Mount Zion, 5 hospitalists assumed care previously provided by > 100 physicians
  - Easier to get front line engagement, implement research protocols

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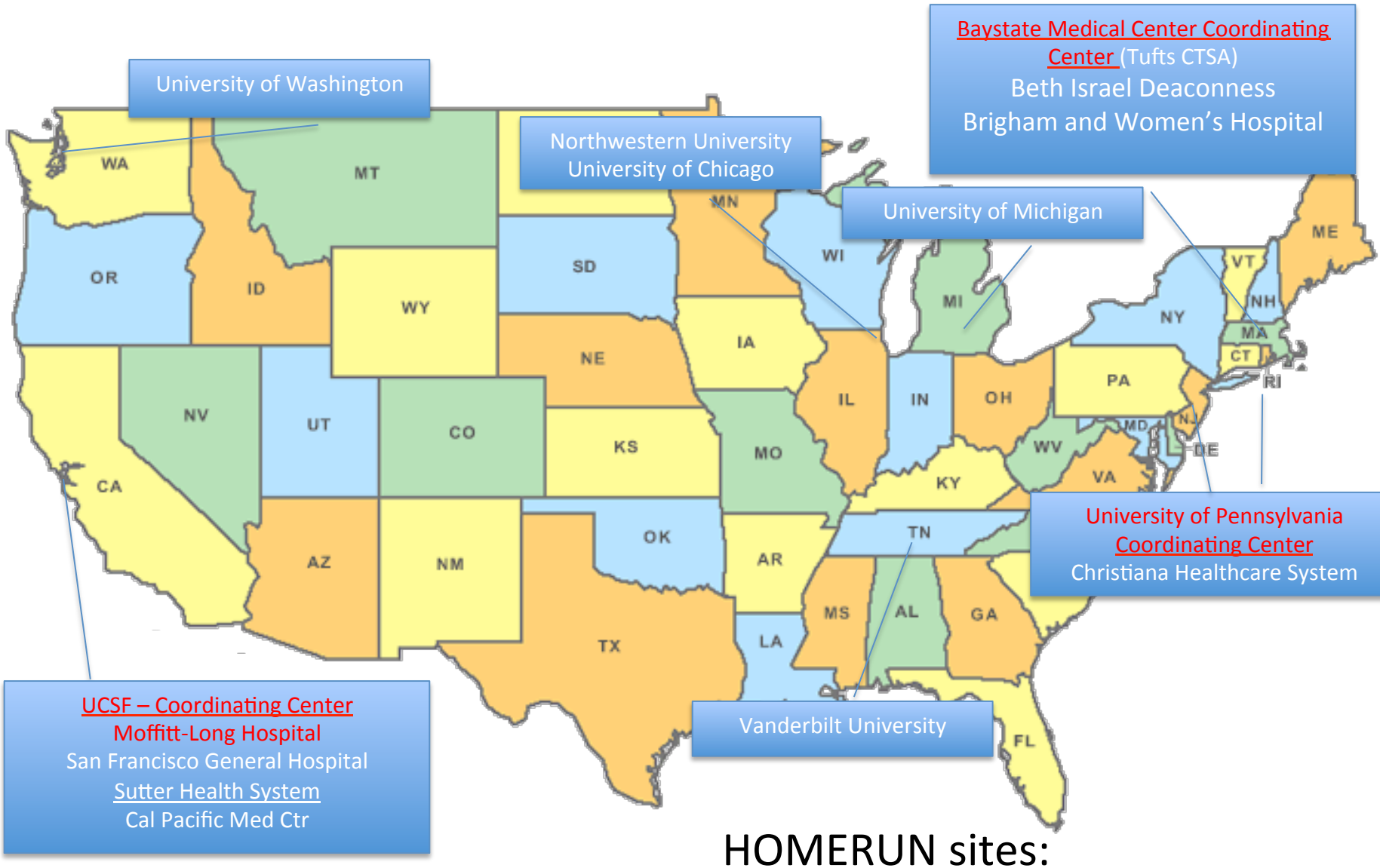

HOMERUN sites:
13 hospitals, 8 states

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HOMERUN Core values

- Core values:
  - Support the rigorous evaluation of clinical practices at our sites and identify opportunities for improvement
  - Support rigorous empirical evaluation of health systems innovations
    - Study 'QI' using experimental and quasiexperimental designs
  - Create feedback between outcome evaluation, program evaluation, and implementation teams.

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HOMERUN mission statement

To use measures that matter to patients and hospitalists to improve medical care in the hospital and community.

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HOMERUN 2012-3 work

- Developing a care-coordination benchmarking project
  - Care coordination audit
    - What is the current state of care coordination work at our sites?
  - Readmission audit
    - How often are readmissions 'preventable'?
    - Where could preventative measures been applied?
    - What are the opportunities for improvement?

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Prelim data (N=759 readmitted pts)

Patient age [Mean, (SD)]	55.4 (18)
Readmitted through ED [n, (%)]	688 (91%)
Had caregiver at home [n, (%)]	124 (16%)
Cognitive impairments [n, (%)]	86 (11%)
Had at least one visit with PCP before readmit [n, (%)]	309 (41%)

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In your opinion, was this readmission preventable?

No evidence	215 (29.3%)
Slight evidence	197 (26.8%)
Less than 50-50, but close call	105 (14.3%)
More than 50-50, but close call	**88 (12.0%)**
Strong evidence	**108 (14.7%)**
Virtually certain	**21 (2.9%)**

~30% preventability - consistent with smaller studies

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Where would interventions to prevent the readmission have been effective (n=215 preventable readmits)?

In hospital during prior discharge	106 (50%)
Home	38 (18%)
Usual provider's clinic	31 (15%)
ED/Other	39 (19%)

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Most common targets for improvement

- Better self management plan (30% of preventable readmissions)
- Better or different home services (~15%)

- Not as common: Discharged too soon, medication errors or problems

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Some lessons

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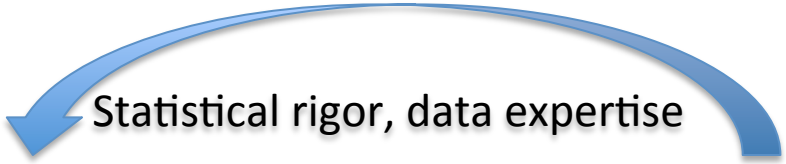
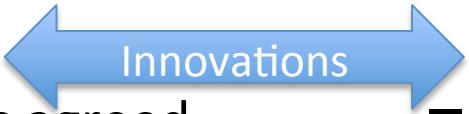
Lesson: Can we thread the needle?



- Collaborative networks
  - Examples: VT Oxford, IMPAACT, NSQIP
  - Data collection and membership expectations
  - Benchmarking
  - Focused projects agreed upon by group
  - Generic infrastructure for broad goals, focused research



- Research network
  - Traditional NIH (e.g. ARDSnet, BRAIN-ICU)
  - Multiple projects supported by individual grants
  - Narrow(ish) projects with defined data requests
  - PI-initiated ideas, local PI
  - R&D for new measures, focus areas

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Lesson: Can we thread the needle?

- Can we link 'research' and 'QI' in a way that aligns all stakeholders' needs?
  - NIH – Can knowledge be advanced in a generalizable way?
  - Payors/health systems – Can costs be constrained?
  - Physicians – Can you help me take care of my patients?
- Patients
  - Will I be able to walk? Care for myself?
  - Can you make my care cheaper, better, faster?

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Lesson: Can we thread the needle?

- Why is linking QI and research important?
  - Practical reason:
    - Most of Hospital Medicine research is QI or implementation-focused
  - Strategic reasons
    - Alignment of goals will speed adoption of new practices
    - Increase likelihood of sustainability of new practices (and the network)

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Lesson: Hospitalists don't have a disease (to study)

- Broad based specialty caring for wide range of clinical problems, no home NIH institute
  - PCORI funding concordant with our mission of 'measures that matter to patients'

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Lesson: Hospitalists don't have a disease (to study)

- For HOMERuN
  - Research:
    - Pushing forward with developing grants targeting specific diseases (e.g. COPD, CAP) and transitions (PCORI) using shared data collection approach
    - Collaborations with NIH Foundation, COPD networks
  - Quality collaborative:
    - Simultaneously seeking to develop our collaborative structures and benchmarking tools

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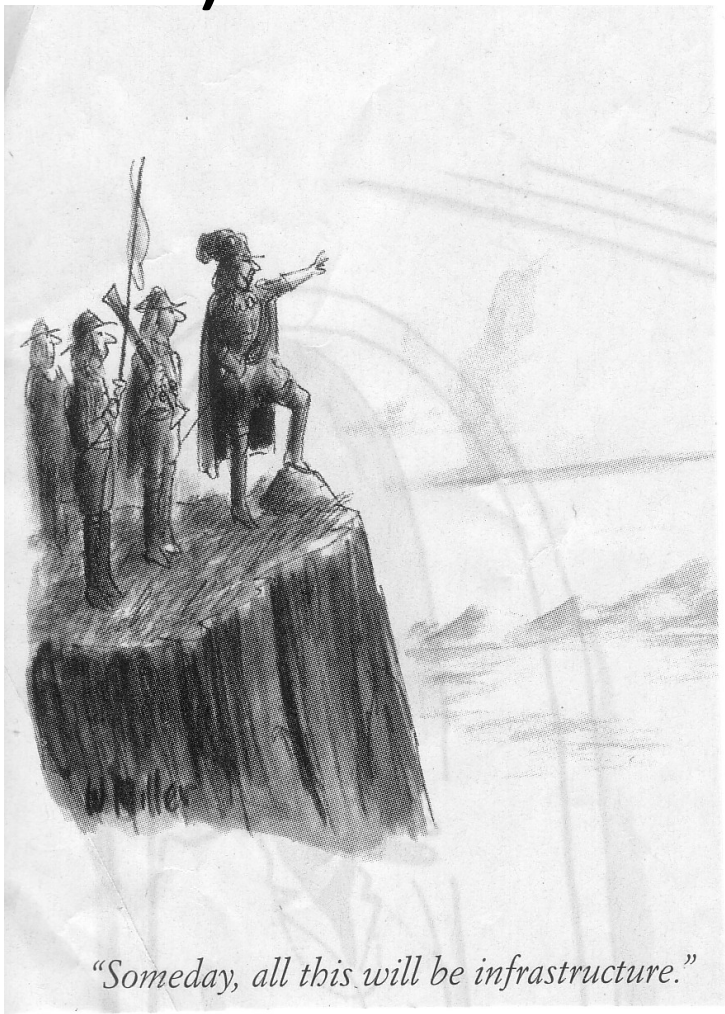
Lesson: Infrastructure (is hard to build and maintain)

- What is the ROI?
  - How can we build infrastructure that leads to both operational improvements and good research?
- For HOMERUN
  - Need for information no one else is collecting
  - Opportunities to gain broader view of practices through benchmarking
  - Use cases critical



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Lesson: IRB's, DUA's and sharing

- IRB's inconsistent on how to deal with QI and research
  - HOMERUN: Using UCSF IRB as a stepping off place
  - Now have DUA's in place at all sites

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Lesson: Doesn't someone do this already?

- HOMERUN may seem similar to other benchmarking organizations
  - For most benchmarking organizations, patient level (or patient reported) outcomes uncommon
  - Limited front-line provider engagement
  - Often support collaboration, but no specific interest or expertise in research

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Raising the profile of delirium in Hospital Medicine

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Raising the profile of delirium in Hospital Medicine

- Hospitalists see it as an important problem
  - Care for post-ICU patients
  - Comanagement models
  - ACE(like) units

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Raising the profile of delirium in Hospital Medicine

- Collaboration
  - Connect Delirium (and Perioperative, and Geriatric) researchers to the (growing) community of HM researchers.

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Raising the profile of delirium in Hospital Medicine

- Develop and validate innovations
  - Healthsystem innovations
  - Sensors, monitors and apps

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Raising the profile of delirium in Hospital Medicine

- Work together to define the business case for delirium detection and prevention models in the current healthcare environment
  - HELLP, ACE unit models' business cases are strong
  - But – how to implement and sustain them in the era of ACO's and shared risk models is less clear.

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Conclusions

- Hospitalists
  - Not geriatricians, but doing the majority of inpatient care for elders in the US
  - Key frontline partners in hospital (and increasingly in postacute) settings

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Conclusions

- HOMERuN
  - Example of a network concept that (we hope) will speed the final translational step

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Conclusions

- Many opportunities for engagement with hospitalists exist
  - Research and collaboration on a number of fronts welcome

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HOMERuN collaborators

- UCSF – Moffitt Long Hospital
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