

Starting **University **C**linical **C**areers Efficiently, **S**cholarly, and **S**uccessfully**

How Can Clinician-Educators Contribute to Scholarship?

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Be Clear on Your Goals: What's Your 'Why?'

- To investigate a specific problem: pet peeve
- To contribute to advancement of knowledge
- To learn something new, try something different
- To make progress towards academic promotion
- To get famous
- To fill up all your unused extra time
- Because someone said you should
- Research takes time and effort, so important to be clear about your motivation



How Do Clinicians and Educators Meaningfully Contribute to Scholarship?

- **Generate critical insights into problems affecting health and health care**
 - Observations from frontline clinicians and educators can be gold
 - Call attention to important problems to study and questions to ask
 - Solving pet peeves, documenting the obvious, highlighting the hidden, understanding context
 - Reality testing: which interventions might actually work in real world practice and with actual patients, understand how clinicians, patients think, act
- **Use your doctor brain to perform true ‘natural language processing’**
 - Abstract medical charts, extract meaning from EMR notes/reports, review and coding transcripts from interviews/focus groups, review journal articles for a systematic review

Common Types of Clinical Research: Studying Processes & Outcomes of Care

- Assessing the quality, access, cost, safety, disparities, timeliness, coordination, outcomes (clinical and patient-centered)
- Examples:
 - Are patients getting guideline recommended care for a certain condition or disease? Which patients?
 - What are the patient, provider, system factors associated with better quality, access, outcomes?
 - What processes of care (drugs, devices, procedures, strategies) are associated with better outcomes?

Studying Patients and Providers

- **Patients:**
 - Attitudes, knowledge, beliefs about their disease, treatment, providers
 - Examples: knowledge/beliefs about COVID, vaccines, medical mistrust
- **Providers: MDs, APPs, RNs, clinics, hospitals, health systems**
 - Knowledge, attitudes, beliefs
 - Behaviors: practice style, prescribing patterns, communication style, procedural skill, teamwork
 - Experience: training, specialty, years in practice
 - Personal characteristics: impact of age, gender, race/ethnicity

Types of Scholarship You Can Realistically Do... With Some Assistance

- **Chart review studies: Abstract medical record/EHR data on:**
 - Quality, safety, disease severity, clinical/family history, social determinants of health, free text findings from imaging tests, procedure notes, pathology reports
 - What % of patients get guideline concordant care; reasons for lack of follow-up colonoscopy in patients with a positive FIT test; how many readmission or medical errors were potential preventable?
- **Qualitative research: interpret/code transcripts of conversations from interviews, focus groups (patients, providers, caregivers)**
 - Reasons for hospital readmission; barriers to end of life care among minorities with advanced cancer

Types of Scholarship You Can Realistically Do... With Some Assistance

- **Survey research: patients, providers, community members**
 - Help select important domains, refine questions/responses, interpret findings
 - Patient's positive/negative beliefs about statins, inhaled steroids; weighing pros/cons of carotid surgery vs. stenting vs. medical therapy for asymptomatic carotid artery disease
 - Physician attitudes about impact of EMR on quality, safety, pajama time, burnout
- **Medical education research:**
 - Assess trainees knowledge, attitudes, clinical reasoning, skills (exam, history taking, communication), intervention effects, progression, specialty choice
 - Often use survey research and direct observations techniques (OSCE)

Literature Review

- **Summarizes** a topic that is **broad** in scope (e.x. cancer treatment)
- **Qualitative**
- May use sources that are **biased**
- Does **not** define what types of studies will be included (looks at everything)

Systematic Review

- Answers a **specific clinical question** (e.x. PICO) (e.x. Is Vitamin C or Chemotherapy a better cancer treatment in patients over the age of 40?)
- **Defines** a specific search strategy; lists what will be **included and excluded** in articles selected
- Can include a meta-analysis within the review (but no necessary)

Meta-Analysis

- Looks at studies from a systemic review
- Purpose: Combines similar studies and pulls **data** to get a **statistically significant** result
- Important because **statistical analysis** may overturn results of smaller clinical trials

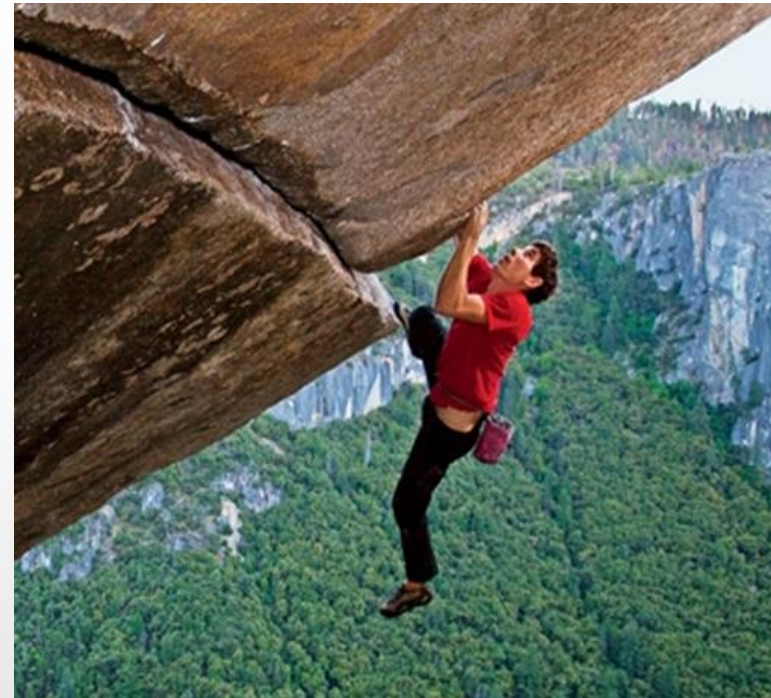
- Narrative and systematic reviews usually require multiple reviewers
- Scan article titles and abstracts for inclusion/exclusion
- Extract study characteristics and findings from articles
- Rate the methodological quality of studies using checklists
- Can often flow out of EBM questions arising from clinical care
- Can be a jumping off point for and from: lectures, clinical update talks, Grand Rounds, CME events, conference presentations, publications

Other Types of Scholarship You Can Realistically Do

Learn From Inspirational Leaders

- **Quality/safety improvement (Dr. Reed)**
- **Recruit patients for clinical trials/observational studies (Dr. Gerber)**
- **Scholarship in the Clinic (Dr. Bhavan)**

Think Team Science Not Free Solo



Moneyball Approach to Getting Involved In Scholarship: Think Team Science



- **Join an existing research team: ‘Don’t try this alone’**
 - Network: Make the rounds with other researchers and master educators
 - Find out what they are interested in and working on
 - Let them know your interests and that you’d be open to help on projects
 - Ask leaders in your Division/Dept. to keep you in mind for team research projects
- **If you are considering a self-initiated project: ‘Slow your roll’**
 - Seek professional help for: reality testing, mentoring, methodological advice, research support, finding other research teammates
- **Do something doable: ‘Get on base’**
 - Do something you can complete with finite time and effort
 - Gain satisfaction & confidence from having a successful research experience

Practical Tips for Judging the Worthiness of Proposed Studies

- Does it survive the ‘over-night test?’
- Do others think this is an interesting topic/question (v. who cares)?
- Can you or the study team realistically do the study?
 - Time, resources, expertise, adequate # of participants
- Is the study “results proof?”
 - Would negative results still be interesting and publishable?

Additional Advice

- **Be realistic**
 - Developing scholarly products take real time and effort, so make sure you are working on a project you find interesting or working team mates you will enjoy or learn something from
- **Some good ideas and studies will have zigs & zag or dead ends**
 - Don't be afraid to pivot to a more promising substudy, spin-off question
- **Do not be afraid to publish negative results**
- **Be a good research teammate**
 - Be interested, positive, accountable, complete your assigned tasks

Additional Information and Resources

1. Systematic reviews: Best practices, protocols, archives
 - UTSW librarians have systematic review search expertise
 - www.prisma-statement.org
 - www.cochranelibrary.com
2. Medical education research:
 - www.aamc.org/system/files/c/2/429856-mededresearchprimer.pdf
3. JAMA Users Guide to the Literature
 - Diagnosis, Prognosis, Therapy, Prevention, Screening
 - www.userguides.org
4. Designing Clinical Research by Hulley et al

How Can Clinician-Educators Contribute to Scholarship?

Summary of Key Points

- Be clear on your goals, motivation
- Think team science, not free solo
- Network: talk to researchers, leaders
- Be realistic: Get involved in something doable

Starting University Clinical Careers Efficiently, Scholarly, and Successfully Questions? Email me!



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