Starting University Clinical Careers Efficiently, Scholarly, and Successfully

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)
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<tr>
<th>Literature Review</th>
<th>Systematic Review</th>
<th>Meta-Analysis</th>
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<tbody>
<tr>
<td>• Summarizes a topic that is <strong>broad</strong> in scope (e.g. cancer treatment)</td>
<td>• Answers a <strong>specific clinical question</strong> (e.g. <strong>PICO</strong>) (e.g. Is Vitamin C or Chemotherapy a better cancer treatment in patients over the age of 40?)</td>
<td>• Looks at studies from a systemic review</td>
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<td>• Qualitative</td>
<td>• <strong>Defines</strong> a specific search strategy; lists what will be <strong>included and excluded</strong> in articles selected</td>
<td>• Purpose: Combines similar studies and pulls <strong>data</strong> to get a <strong>statistically significant</strong> result</td>
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<td>• May use sources that are <strong>biased</strong></td>
<td>• Can include a meta-analysis within the review (but no necessary)</td>
<td>• Important because <strong>statistical analysis</strong> may overturn results of smaller clinical trials</td>
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<td>• Does <strong>not</strong> define what types of studies will be included (looks at everything)</td>
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<td>• Narrative and systematic reviews usually require multiple reviewers</td>
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<td></td>
<td>• Scan article titles and abstracts for inclusion/exclusion</td>
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<td>• Extract study characteristics and findings from articles</td>
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<td>• Rate the methodological quality of studies using checklists</td>
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<td>• Can often flow out of EBM questions arising from clinical care</td>
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<td>• Can be a jumping off point for and from: lectures, clinical update talks, Grand Rounds, CME events, conference presentations, publications</td>
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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
1. Systematic reviews: Best practices, protocols, archives
   • UTSW librarians have systematic review search expertise
   • [www.prisma-statement.org](http://www.prisma-statement.org)
   • [www.cochranelibrary.com](http://www.cochranelibrary.com)

2. Medical education research:

3. JAMA Users Guide to the Literature
   • Diagnosis, Prognosis, Therapy, Prevention, Screening
   • [www.userguides.org](http://www.userguides.org)

4. Designing Clinical Research by Hulley et al
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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
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Questions? Email me!

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