

NOVEMBER 10, 2021: 1PM - 2PM

Discovering Your Inner Detective: How to Write Effective Inquiry Questions to Improve Care

Jennie Aitken, MA

MANAGER, PHYSICIAN QUALITY IMPROVEMENT, ISLAND HEALTH

Victor Espinosa, MSc

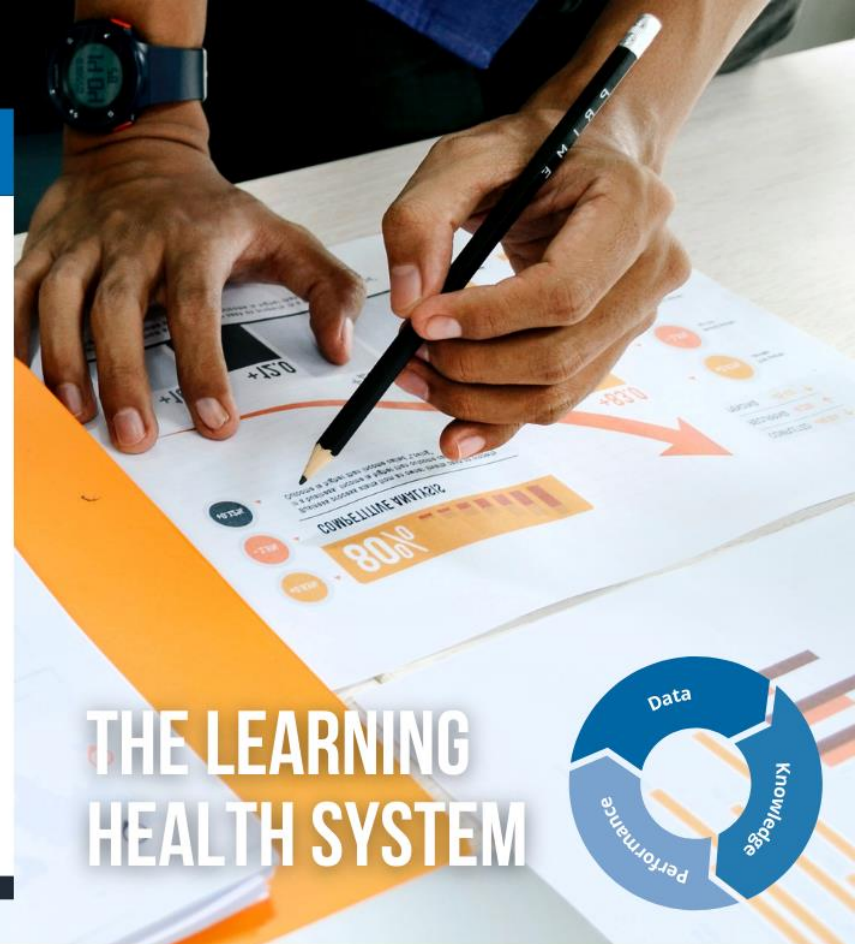
MANAGER, RESEARCH INFORMATICS/STATISTICS, ISLAND HEALTH

Amanda Leddy, MSc

RESEARCH FACILITATOR, ISLAND HEALTH

Diane Sawchuck, BSN, MN, PhD

LEAD, EVIDENCE, EVALUATION, AND KNOWLEDGE TRANSLATION, ISLAND HEALTH



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continuous improvement cycles



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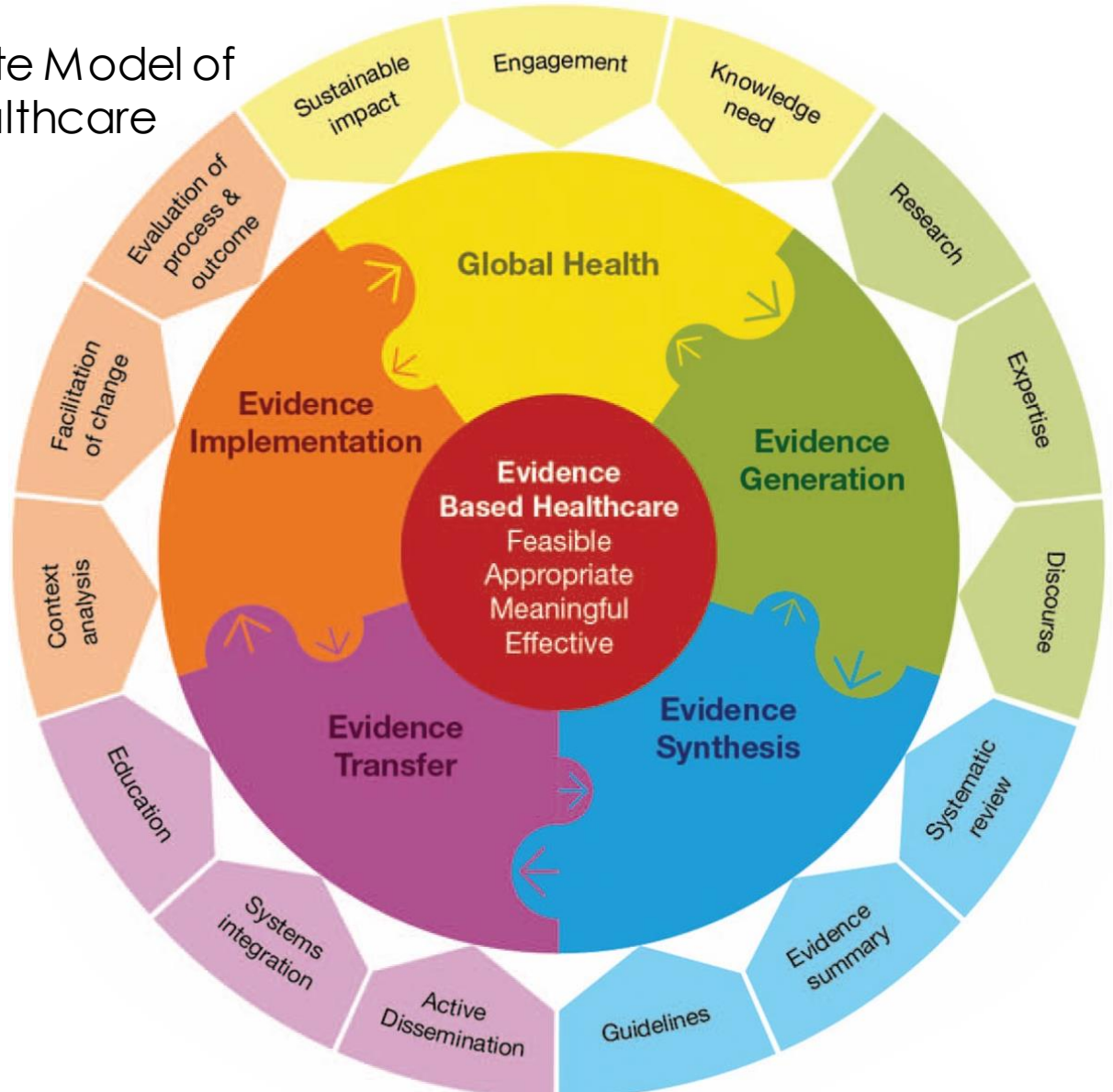
- Jennie Aitken, Manager, Physician Quality Improvement
- Victor Espinosa, Manager, Research Informatics/Statistics
- Amanda Leddy, Research Facilitator
- Dr Diane Sawchuck, Lead, Evidence, Evaluation and Knowledge Translation

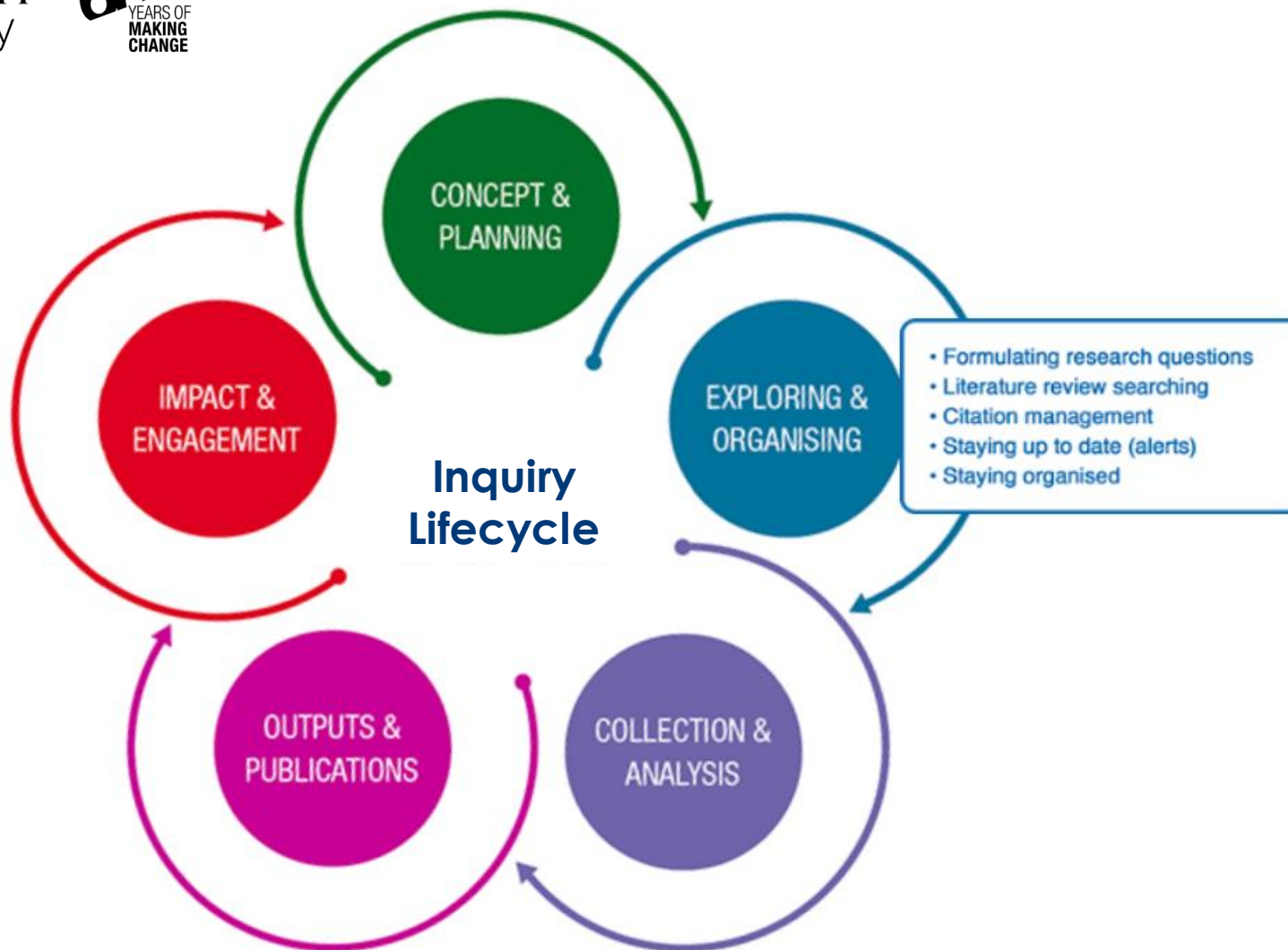


Objectives

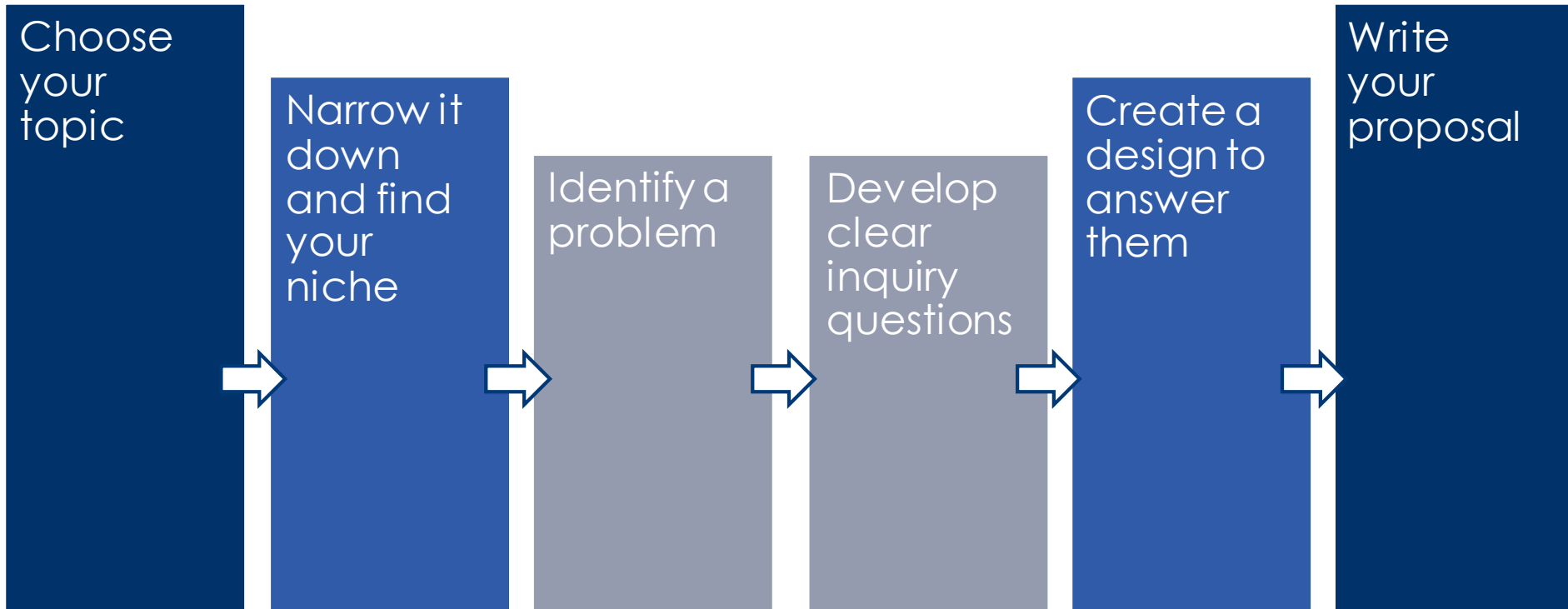
1. Identify the key steps to develop a clear inquiry question from a clinical observation
2. Appraise the characteristics of an inquiry question using the FINER criteria
3. Apply PICOT and other frameworks to structure your inquiry question
4. Distinguish between quantitative, qualitative and mixed methods

Joanna Briggs Institute Model of Evidence-Based Healthcare





Starting the inquiry process





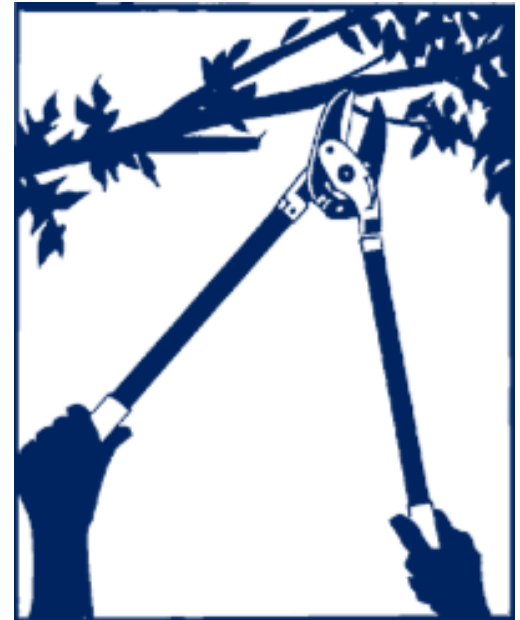
- Start with the subject matter you're interested in
- Build on prior experience: yours, your colleagues, your mentors
- Talk to experts, stakeholders, colleagues, collaborators, industry and community groups, patients and people with lived experience
- Review the literature, clinical guidelines, policies and other documents
- Be alert to new ideas – clinical observation
- Be skeptical, challenge accepted ideas and keep the imagination roaming

- What has been found so far?
- What areas need further exploration?
- Is there already an answer? Has this already been explored?
- What are the current conversations or debates?
- Do sources conflict with each other? Are there inconsistencies or variations?
- Is the current evidence of low quality or limited?
- What is the current local situation?



Pruning

- Refine and focus a broad topic to a narrower scope
- Overly general inquiry questions are too ambitious to be actioned
- Finding your niche: hone in on what is unexplored, what you can examine with your own twist
- What knowledge gap do you hope to fill? What is the goal of your project?



Falls

Falls in
acute care

Mandatory
hip protectors
and fractures

Cognitive
aging

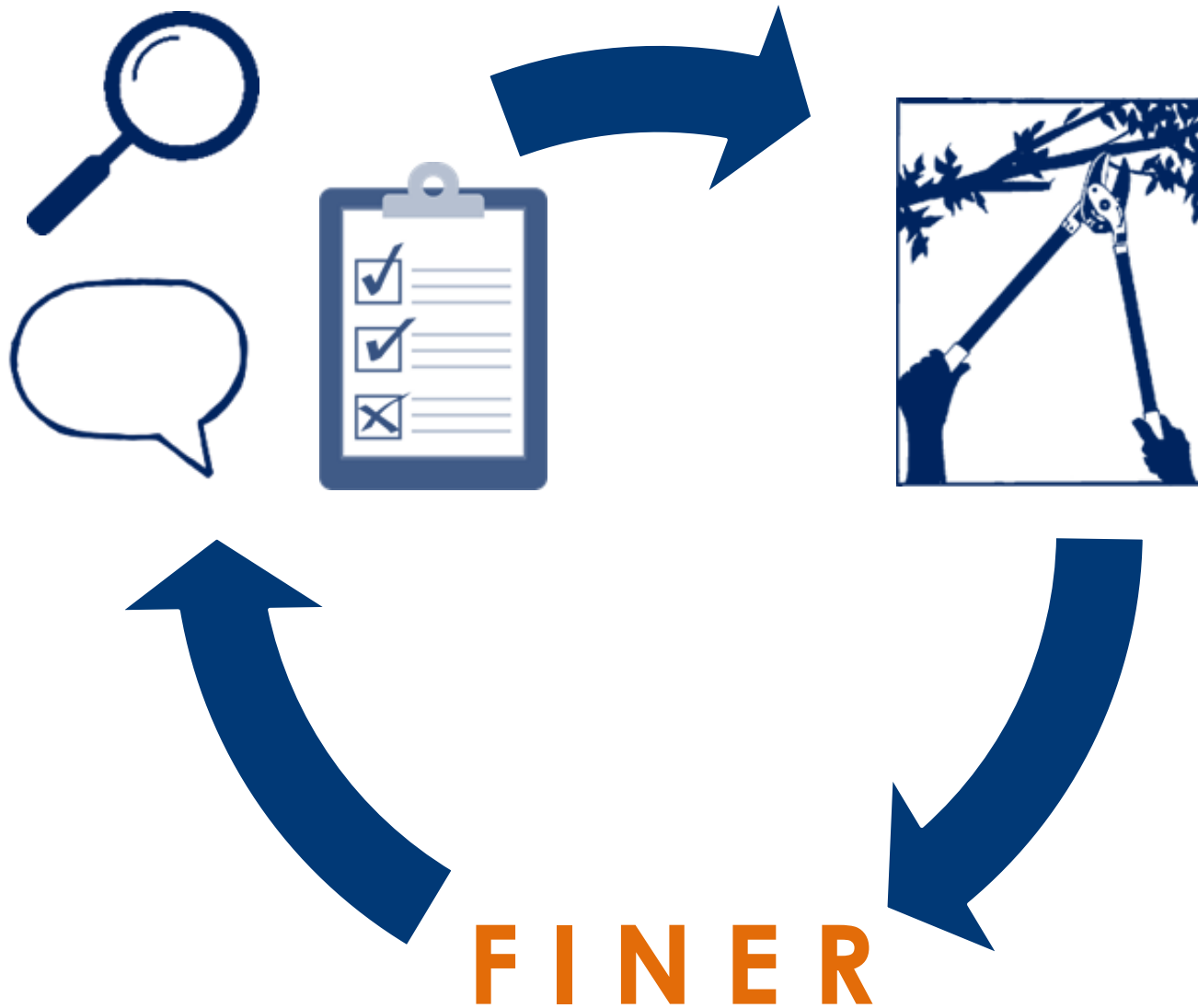
Memory
and aging

Memory
and aging in
depression

Could your question be

FINER?

Feasible	<ul style="list-style-type: none">-Ensures adequacy of research design-Guarantees adequate funding-Recruits target population strategically-Aims an achievable sample size-Prioritises measurable outcomes-Optimises human and technical resources-Accounts for clinicians commitment-Procures high adherence to the treatment and low rate of dropouts-Opts for appropriate and affordable frame time
Interesting	<ul style="list-style-type: none">-Engages the interest of principal investigators-Attracts the attention of readers-Presents a different perspective of the problem
Novel	<ul style="list-style-type: none">-Provides different findings-Generates new hypotheses-Improves methodological flaws of existing studies-Resolves a gap in the existing literature
Ethical	<ul style="list-style-type: none">-Complies with local ethical committees-Safeguards the main principles of ethical research-Guarantees safety and reversibility of side effects
Relevant	<ul style="list-style-type: none">-Generates new knowledge-Contributes to improve clinical practice-Stimulates further research-Provides an accurate answer to a specific research question



Structuring an inquiry question

- Frameworks can be useful tools to identify the key elements of your project, and determine inclusion and exclusion criteria
- Translating the clinical problem into a testable, answerable question
- Using a framework shown to improve search results during literature review
- Many frameworks to choose from

Type of project	Example	Tools to structure the question	
Comparison	Do differences exist? Is the treatment effective? Does the condition change over time?	PICOT	Population Intervention/exposure Comparator Outcome(s) Time
Prognostic	What is the link between prognostic factors and an outcome? Do prognostic factors predict the likelihood of a disease occurring?	PFO	Population Prognostic factors Outcome(s)
Prevalence	What is the prevalence and/or incidence of a condition?	CoCoPop	Condition Context Population
Economic evaluation	What is the cost effectiveness of a treatment strategy?	PICOC	Population/problem Intervention Comparison (<i>optional</i>) Outcome(s) Context
Experiences, perspectives	To investigate the experience or meaningfulness of a particular phenomenon	SPICE	Setting Perspective Intervention Comparison Evaluation
Apply evidence to improve local practice	100% of all code blues will have time to first shock within 120 seconds at CGH by Dec 15, 2021	QI Aim Statement	To improve (process) from (baseline)% to (target)%, by (timeframe), in (population)

Risks of a poorly defined question

- Using an inappropriate design or methods
- Difficult to interpret study results
- Difficult for readers to determine whether the answer is relevant
- Focused inquiry question supports systematic planning
- A strong inquiry question should always pass the “so what?” test

Risks of a poorly defined question

Has there been an increase in patients attending clinic X in the past 5 years?	Can be answered with a simple yes or no
Why is there a shortage of GPs in BC?	Starting with “why” is too broad
What design features in long-term care homes promote resident well-being?	Unoriginal, extensively investigated

Risks of a poorly defined question

Has there been an increase in patients attending clinic X in the past 5 years?

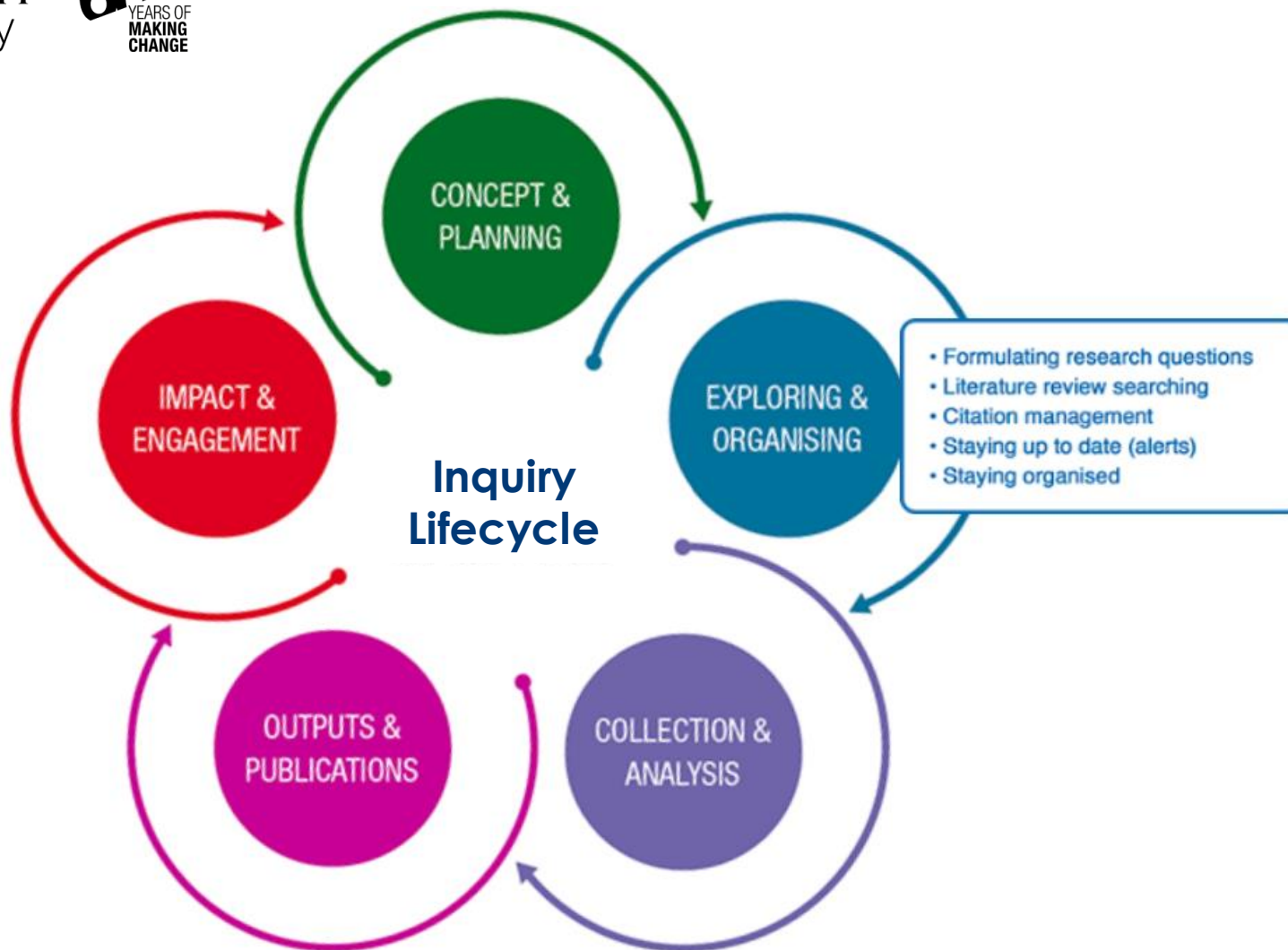
How have economic, political and social factors affected patient use and access of clinic X over the past 5 years?

Why is there a shortage of GPs in BC?

What impact have XYZ policies had on the recruitment and retention of GPs in BC?

What design features in long-term care homes promote resident well-being?

What are the perspectives of residents who use wheelchairs toward common design features of long-term care homes?



Teaching EBP: "Getting from Zero to One." Moving from Recognizing and Admitting Uncertainties to Asking Searchable, Answerable Questions

Special Article

Linda Johnston, RN, PhD, Ellen Fineout-Overholt, RN, PhD

Formulating a good research question: Pearls and pitfalls

Address for correspondence:
Dr. Wilson Fandino,
Anaesthesia Department,
St Thomas' Hospital NHS

Wilson Fandino

Guys' and St Thomas' Hospital National Health Service Foundation Trust, London, United Kingdom

Clinical Epidemiology

Open Access Full Text Article

PERSPECTIVES

From ideas to studies: how to get ideas and sharpen them into research questions

Can J Anesth/J Can Anesth (2009) 56:71-79
DOI 10.1007/s12630-008-9007-4

SPECIAL ARTICLE

This article was published in the following Dove Press journal:
Clinical Epidemiology

Jan P Vandenbroucke¹⁻³
Neil Pearce³

¹Leiden University Medical Center, Leiden, the Netherlands; ²Department of Clinical Epidemiology, Aarhus University Hospital, Denmark

Abstract: Where do new research questions come from? This is at best only partially courses or textbooks about clinical or epidemiological research. Methods are taught assumption that a researcher already knows the research question and knows which method fit that question. Similarly, the real complexity of the thought processes that lead to an undertaking is almost never described in published papers. In this paper, we first di

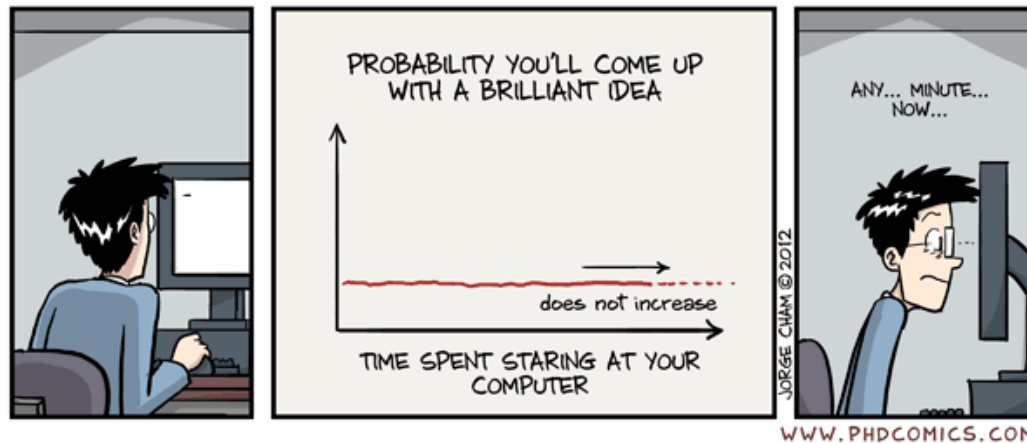
Posing the research question: not so simple

Poser la question de recherche: pas si simple!

Lehana Thabane, PhD · Tara Thomas, MD · Chenglin Ye, BSc · James Paul, MD

Have questions?

- Let's move to breakout rooms to discuss
 - 1 – QI
 - 2 – Data management
 - 3 – Design
 - 4 – Research questions
- Bring your clinical observations or new inquiry questions to share!



Resources

- Fandino W. Formulating a good research question: Pearls and pitfalls. Indian J Anaesth 2019;63:611-6. DOI: [0.4103/ija.IJA_198_19](https://doi.org/10.4103/ija.IJA_198_19)
- Riva JJ, Malik KMP, Burnie SJ, Endicott AR, Busse JW. What is your research question? An introduction to the PICOT format for clinicians. J Can Chiropr Assoc 2012;56:167-171. PMID: [22997465](https://pubmed.ncbi.nlm.nih.gov/22997465/)
- Thebane L, Ye C. Posing the research question: Not so simple! Can J Anesth 2009;56:71-89. DOI: [10.1007/s12630-008-9007-4](https://doi.org/10.1007/s12630-008-9007-4)
- Vandenbroucke KP, Pearce N. From ideas to studies: How to get ideas and sharpen them into research questions. Clinical Epidemiology 2018;10:253-264. DOI: <https://doi.org/10.2147/CLEP.S142940>

Resources

- Hanson BP. Designing, conducting and reporting clinical research. A step by step approach. Injury, Int J Care Injured 2006; 37:83-594. DOI: [10.1016/j.injury.2005.06.051](https://doi.org/10.1016/j.injury.2005.06.051)
- Johns Hopkins University & Medicine. Inquiry question frameworks. Retrieved from: <https://browse.welch.jhmi.edu/searching/formulating-research-question>