Developing Your Research Idea

We all struggle to generate a research idea that can be published in a reputable journal. In fact, this is the most difficult stage of research (Duncan et al 2023). Here are few tips to help you develop a good research question that can be pursued to the stage of publication.

a) Consider something novel: Is the idea new? Is this a new way of viewing the topic? Ideas for research should be aimed at developing new knowledge and not unnecessary replications. Think about the interesting patient you recently saw or a recent discussion you had with a colleague about evidence for a particular practice. Question the existing practice and be prepared to ask why. Look at research prioritization surveys done on this field. All these are potential areas for research.
b) Conduct a good literature review on the broad idea to identify gaps in knowledge that can be potential areas for future research. A good literature review, like in review papers, allows you to appreciate what is already known on the topic and what areas need further input.
c) Discuss with more experienced researchers: If new to research, it is essential to be guided by more experienced researchers. Think about research mentors in your unit, hospital or region. How about researchers you met in the last conference or professional meeting you attended. All these could offer invaluable insight and signpost you to useful resources.
d) Do not wait to have a perfect idea. Projects evolve with time. Start with the little idea you have and allow it to grow. You can edit the initial write up as many times as you want to but remember that “the hardest thing to edit is a blank page”.
e) If the idea is considered worthwhile and publishable then check if you have access to the data needed or if you must collect the data yourself.
f) Advocate for your research through posters, seminars and conference presentations to obtain feedback that helps you to refine the research idea. Be ready to take others with specific expertise on your team to help address the research question well.

Academic Resources:

1. RCPCH:

The RCPCH academic training page has lots of useful resources that can support trainees who wish to get involved in research involving babies, children and young people. The college also periodically organizes courses on research related topics. Visit the college academic training page to know more.
https://www.rcpch.ac.uk/resources/academic-training
https://learning.rcpch.ac.uk/courses/systematic-reviews/

2. NIHR

The NIHR has lots of opportunities to support trainees’ involvement in research. One of such opportunities is the associate PI scheme which allows trainees to have first-hand experience in a study of their choice under the supervision of a research team lead by an experienced principal investigator.

Check the Associate PI scheme link https://www.nihr.ac.uk/career-development/clinical-research-courses-and-support/associate-principal-investigator-scheme
NIHR also has various programs that allow trainees to get deeper involvement in research. Please visit the NHIR HEE Integrated Clinical Academic Programme below to learn more: https://www.nihr.ac.uk/explore-nihr/academy-programmes/hee-nihr-integrated-clinical-academic-programme.htm

3. Academic Toolkit
The academic toolkit of the Academic Paediatrics Association has many resources that help you to get a PhD. It shows success stories of trainees, details on how to have a successful PhD ranging from preparation for the application to full its completion. The page also lots more on academic writing skills, CV development, grant application and publishing research among others.
Home - Academic Toolkit - ACT!

4. Critical appraisal resources
It is common among trainees to appraise a paper to find the evidence base of our practice. The CASP checklist offers a structured way of analysing papers to have a meaningful evaluation of its credibility and applicability in a specific context.
https://casp-uk.net/casp-tools-checklists/

5. Cochrane
This site has variety of online resources on systematic reviews and evidence-based medicine. It also provides support to authors who wish to write a Cochrane review.
https://training.cochrane.org/online-learning

6. Prospero
Prospero is funded by NIHR to prospectively register systematic reviews at inception. It aims to ensure that systematic reviews are not duplicated. This is achieved through detailed documentation of all systematic reviews registered including the study protocol. It also helps to reduce reporting bias by ensuring that the final review is in keeping with what was planned initially in the protocol.
https://www.crd.york.ac.uk/PROSPERO/

7. Metanalysis resources
Meta-DTA app is an online easy-to-use platform funded by NIHR to help researchers conduct meta-analysis of diagnostic test accuracy data (DTA). It also allows the inclusion of qualitative assessment and sensitivity analysis. Researchers could use this app to develop graphical data that can be used in publications.
https://crsu.shinyapps.io/MetaDTA/

8. Ethical Approval
The Health Research Authority decision tool helps researchers to determine if their study requires any ethical approval. It asks series of yes and no questions on the study before suggesting a final decision for your study.
https://www.hra-decisiontools.org.uk/research/

9. OOPR

If you are keen to have in-depth research experience, it might be useful to consider OOPR to take up a research clinical fellowship or a doctoral fellowship. It is important to plan early and inform your ES and TPD well in advance. Often, you will need to give a 6 month notice to the deanery. If you need more information on this, contact the academic regional representative for more information.

Audit/QI Resources

Audit/ quality Improvement is something we all experience, but getting started can be daunting, and doing it well can be even more challenging!

Quality Improvement (QI) is a systematic approach to enhancing the effectiveness, efficiency, safety, and equity of care delivered to patients. It focuses on identifying gaps in current processes, implementing targeted changes, and using measurable outcomes to evaluate progress.

Clinical audit is an evaluation of clinical practices, processes, or outcomes against established standards or guidelines. Audit is often the first step in a QI process and is used to identify improvement opportunities, particularly where compliance with known standards for high quality patient care needs to be improved.

Points to consider while planning audit/QIP

1. **Choose a Topic**- Pick a small, achievable project. Make sure you have clear research question or aim e.g. using a SMART framework:
- Specific- what exactly you are trying to achieve and for who?
- Measurable- how will you document how much things have improved?
- Achievable- can you goal be done within the available timeframe and resources?
- Relevant- why is this improvement needed?
- Timely- when will you achieve your aims?

2. **Project registration**- Remember to get permission from the audit lead of the department and register it with the audit department

3. **Engage stakeholder**- A QIP aims to bring about changes in practice, so it is essential to involve other people in the process. Consider whether there arepeople in your clinical environment with expertise that can help? Are there patients who can help you with design/create the right change? Seek guidance from a mentor or supervisor with QI experience.

4. **Using a framework**- Follow established methods like the **PDSA (Plan-Do-Study-Act)** cycle or the **Model for Improvement**.

5. Present your audit/QIP at departmental meetings, teaching sessions, or conferences.

Consider writing it up for publication or using it as part of your portfolio for training.

Academic Resources

1. **QI Central**
   Quality Improvement central offers a variety of resources and examples of interventions across different areas of clinical practice.
   https://qicentral.rcpch.ac.uk/

2. **How to Improve: model for Improvement**
   The Model for Improvement is a framework designed to help organizations drive positive change and improvement in processes, particularly in healthcare settings. It guides through defining clear goals, measuring progress, and systematically testing changes using the Plan-Do-Study-Act (PDSA) cycle.
   https://www.ihi.org/resources/how-improve-model-improvement

3. **QI made easy**
   The Quality Improvement (QI) Made Easy section on the British Association of Perinatal Medicine (BAPM) website offers practical guides and tools to assist healthcare professionals in implementing QI initiatives within neonatal services.
   https://www.bapm.org/pages/209-qi-made-easy

4. **QIC learn course**
   The QIC Learn courses provide trainees, with the knowledge and skills necessary to implement and lead quality improvement (QI) projects. These courses typically focus on different aspects of QI, such as understanding QI methodologies, applying data to drive change, and fostering a culture of continuous improvement in healthcare settings.
   https://qiclearn.com/

Getting involved in audit/QIP

https://neotrips.org/