RACP
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Paediatric Academic Pathways for Paediatric Trainees and Fellows 2018

Introduction

As you progress through your career, you may wonder if research is for you. Many clinicians decide to conduct research during their careers, either as a main focus or in a supporting role. However, understanding the academic pathway is not always easy. This document has been compiled by the Paediatric Child Health Division Paediatric Research Committee. It aims to help fellows and trainees understand academic pathways in medicine, the pros and cons of undertaking a career in research, and how to do it.

What kind of researcher can I be?

There are many different "types" of clinician researchers including those who want to lead research projects and those who want to contribute to projects but not lead necessarily them. Typically, those who lead research:

- Have a research higher degree such as a PhD, MPhil;
- Devote at least 0.4 EFT to research;
- Want to lead research including submitting grants, writing papers, and growing capacity in the next generation of researchers through supervision and mentoring;
- Have funded research time, protected from clinical or other duties; and
- Are prepared to do some work out of hours (weekends, nights) to get their research done.

Typically, those who contribute to research:

- May or may not have a higher degree including a PhD, MPhil or Masters;
- Contribute < 0.4 EFT to projects;
- Have no or little funded research time; and
- Want to contribute their expertise but not run projects.

What is the academic pathway?

Towards the end of your FRACP or after you have completed it, you may decide to complete a higher degree. Doing so will set you on the academic pathway. The degree may be a PhD, MPhil or Masters. Each university has specific requirements to get into a higher degree. In general, a Master's degree takes two years (or can be done part time over a longer period) as does an MPhil. A PhD takes 3-4 years (full time) and can be done part time although this may lessen your chances of getting a stipend (salary) for your PhD.

Salary funding or stipends are available for clinicians undertaking a PhD or MPhil. These are not as large as a clinical salary but are tax free (you are a student after all) and come with clinical loading for doctors. Stipends are available through annual competitive processes from:

- the National Health and Medical Research Council (Aus);
- Health Research Council of New Zealand (NZ);
- the RACP Foundation (typically 1 year only);
- the university in which you are enrolling; and sometimes,
- your local medical research institute or disease specific funding bodies.

Whilst you are undertaking your higher degree, you can continue with part time clinical work.

Where can I get funding for my project?

You may need funding for your higher degree project (over and above your stipend) or post higher degree, you will need funding for new projects. Often the first port of call for funding should be an exploration of local funding sources from the local hospital, hospital foundation or an affiliated research institute or university. Sometimes there are designated grant funds available for junior staff or emerging researchers or for specific topics or for research related travel. There may also be a designated office or person to assist with grants and grant finding at the local hospital, research institute or university. To access resources at research institutes or universities may require an admission as an honorary staff member.

There is a range of national funding available, as outlined below:

In Australia, national funding bodies include:

- National Health & Medical Research Council: https://www.nhmrc.gov.au/grants-funding/apply-funding
- Australian Research Council: http://www.arc.gov.au/grants

There are also state funding bodies, condition specific (e.g. Heart Foundation, Asthma Foundation), and not-for-profit organisations - see http://philanthropy.org.au

The RACP Foundation also offers several grants each year; see: https://www.racp.edu.au/about/racp-foundation-awards.

The Australian Paediatric Research Network, in their "*How to Conduct Research*" Toolkit, lists further funding sources as well as tips on how to budget and seek funding. See: http://www.aprn.org.au/resources/cid/151/parent/0/pid/246/t/resources/title/6-budget-and-seek-funding

In New Zealand, national funding sources include:

Health Research Council: http://www.hrc.govt.nz/
Marsden: https://www.royalsociety.org.nz/what-we-do/funds-and-opportunities/marsden
Cure Kids: https://curekids.org.nz/
Lotteries Health: https://www.communitymatters.govt.nz/lottery-health-research/
Local funding resources include the Auckland Medical Research Fund: https://www.medicalresearch.org.nz/. There are similar funding bodies for other local regions.

Post higher degree salary funding

After you finish your higher degree, you enter your "*early career research fellow*" stage – typically up to 3 years from the date of completion of your higher degree. After this, you enter your "*mid-career research fellow*" stage, typically between 3-12 years post award of your higher degree. There are different salary options you can apply for based on the stage of your career.

In Australia, there are two main sources of salary funding post higher degree: the National Health and Medical Research Council and the Australian Research Council. The NHMRC focuses on medical research and the ARC on other areas which may be related (e.g. education) but are not directly medical.

In New Zealand, there are several sources including the HRC (see above), university post-doctoral awards, and local options (refer to local Research Offices for local options).

The RACP Foundation also offers several early and mid-career scholarships to fellows. See: https://www.racp.edu.au/about/racp-foundation-awards

Getting a research salary funded is a competitive process and depends on your track record (number and quality of publications, grants received, number of students supervised and mentored etc).

How do I set up and protect my own research?

- Establish a defined area of expertise
- Develop collaborators and connections
- Develop areas of confidence
- Carefully consider publication strategies (what to present as abstract before publication: how much to say publicly before publication).
- Consider application for patent for major breakthroughs – talk with local experts/IP offices as to processes

A good mentor to guide and advise on your strategic research directions can also be invaluable. Many universities, research institutes and hospitals run formal mentorship

programmes. Also look for programmes that are well run and provide support for early career researchers. If they do not exist in your institute/hospital – advocate for their set up.

What are the positives about being a researcher?

There are many good reasons to do research. Some of them include:

- intellectual stimulation;
- connections with peers, often across different health disciplines as well as statisticians, health economists, laboratory scientists, social scientists etc.;
- development of academic skills;
- diversity in your role (i.e. not seeing patients all the time)
- inter/national travel; and…perhaps most importantly….
- a chance to generate and translate evidence into clinical care or policy so as to improve outcomes for children and their families.

What are the challenges of being a researcher?

Being a researcher is not without its challenges which include:

- salary and grant uncertainty;
- uncertainty of university tenure (if applicable) for both the individual and the team
- perception of a threat to hospital administration;
- time taken away from education and patient care; and
- rejection!

To be a researcher you have to be 'Teflon coated'. You will likely get many rejections of papers and grants along the way. This happens to even the best researchers and you need to learn to not take it personally! Having meetings with a regular mentor or supervisor can help to manage this as well as ensure you develop a career strategy around your research goals and vision.

Different pathways (e.g. PhD path, post PhD path, MPhil, contributing to evidence and research in the private sector).

Whilst the above has covered the academic pathway for fellows and trainees, you may want to contribute to research as a clinician e.g. by helping to recruit patients, completing audits and surveys, and even taking part in the odd trial (e.g. by delivering an intervention yourself). In Australia, there are two complimentary research organisations that can allow you to do this. One is the Australian Paediatric Research Network (www.aprn.org.au) and the other is the Australian Paediatric Surveillance Unit (www.apsu.org.au).

The APRN is a practice-based research network of over 500 Australian paediatricians who are keen to contribute to new research that is relevant to both public and private practice. It builds research capacity by involving more clinicians in research activities and enhancing recruitment for community-based research projects. The APRN runs trials (eg treating sleep problems in children with ADHD, shifting allergy care from the hospital to the community), surveys, practice audits and Delphi surveys of member's research priorities. Membership is free and you can join here: www.aprn.org.au

The APSU facilitates national, prospective, active surveillance of rare childhood diseases, rare complications of common diseases or adverse effects of treatment. Each month over 1500 Paediatric Fellows receive an email card listing up to 18 selected rare diseases currently under study and are asked to indicate whether or not they have seen a newly diagnosed case in the last month. Clinicians who report cases are asked to complete an online questionnaire, which includes de-identified epidemiological and clinical data. Diseases are chosen for their public health significance and impact on health resources. The APSU has studied 68 rare infectious, vaccine preventable, mental health, congenital and genetic conditions, as well as injuries in childhood. For many of these conditions, the APSU is the only source of national data. In 2018, the APSU celebrates 25 years of surveillance. It has been used by over 300 individual researchers, and any paediatric fellow or trainee can propose a study. Proposals for new surveillance studies facilitated by the APSU are always welcome and are assessed by a scientific review panel. The APSU also offers opportunities for RACP trainee projects. All study protocols, publications and information for parents are available on the APSU website (www.apsu.org.au). For more information, please email: SCHN-APSU@health.nsw.gov.au or telephone (02) 9845 3005.

New Zealand also has a paediatric surveillance unit which facilitates national surveillance to improve the knowledge of a number of uncommon high-impact childhood conditions in New Zealand, see: https://www.otago.ac.nz/nzpsu/index.html

For junior staff in the acute care setting there may be the possibility to participate in PREDICT (Paediatric Research in Emergency Department International Collaborative) research network studies. PREDICT has a track record of combining the contribution of trainees from a number of centres to allow the conduct of larger, multi-centre studies with resulting papers led by individual trainees from the collaboration. Membership of PREDICT is free and open to trainees.

There may well be other opportunities to take part in research through your hospital or medical research institute.

For more information regarding paediatric research via the RACP, or to get in touch with the Paediatrics & Child Health Research Committee, please contact Paed@racp.edu.au.