

Growing and retaining general practice research leaders in Australia: How can we do better?

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Background and objective

The aim of this study was to explore the experiences of Australian general practitioners (GPs) with a Doctor of Philosophy (PhD) about their choice to abandon or pursue an academic career.

Method

A qualitative study of 18 GPs (PhD obtained between 2006 and 2016) was conducted. Semi-structured telephone interviews were transcribed and analysed using concurrent thematic analysis.

Results

General practice researchers faced insecure career pathways. They often work in isolation, there is a lack of critical mass, and research was often described as a hobby (ie unfunded, done from home). Solutions included expanding academic general practice registrar positions to include advanced research training, building professional networks, mentoring, and better marketing of general practice research.

Discussion

Focused investment in developing clear and sustainable career pathways is essential to nurture and retain general practice researchers and research leaders. The research culture and professional standing of general practice researchers also need to improve. Support from professional bodies and colleagues, and enabling research collaborations, are key.

General practitioners (GPs) provide the vast majority of medical care,¹ yet the majority of medical research is based in hospitals. Evidence generated in the hospital setting is often not directly applicable to primary care because patients seen in hospitals usually present with more advanced and 'pre-selected' conditions.² As a result, treatment benefits may not be transferable to low-risk populations in primary care.³ Dealing with primary care populations requires a different approach and an evidence base that takes into account the uncertainty of a low-risk environment and the complexity of comorbidity and polypharmacy.

Therefore, evidence generated in general practice is important; GPs' research expertise is as contextually critical to primary care research as an academic oncologist is to cancer research.⁴ Unfortunately, building a general practice research workforce has been a challenge internationally as well as in Australia.⁵⁻⁹ This situation has been exacerbated by the recent defunding of several Australian general practice research capacity-building initiatives.³ The aim of this study was to describe the research career experiences of GPs within 10 years of achieving their Doctor of Philosophy (PhD) to address the question of how we can grow and retain general practice research leaders in an increasingly tight funding climate.

Methods

This qualitative study used semi-structured interviews with GPs who obtained a PhD between 2006 and 2016. Semi-structured interviews were chosen because this method is well suited for an exploratory study focused on elucidating participants' experiences and points of view.¹⁰

A list of potential participants was created by one author (GFG) using publicly available data.^{11,12} Additional participants were identified through a snowballing technique (ie participants were asked if they knew any other GP researchers who would be eligible to participate).¹³

An invitation to participate was sent by email to a purposefully selected subsample. We selected a diverse sample of GPs with different levels of involvement in academia and academic positions, aiming to include participants who had ceased and those who had continued research activity. We also strove to include equal numbers of men and women, and participants from all states and territories. Participants were interviewed by telephone or face to face. A single researcher (LD) conducted the interviews, following a semi-structured interview guide (Appendix 1; available online only).¹⁴

Interviews were digitally recorded and transcribed verbatim. Interview data were analysed using inductive thematic analysis.^{15,16} Two researchers (LD, GC) independently coded all interviews line by line. They compared, discussed and adjusted the themes that emerged from the first six interviews. The remaining interviews were separately coded against the agreed set of themes and adjusted if necessary. Subsequently, LD and GC discussed all themes until consensus was reached. The final thematic framework was verified by all authors. Interviews continued until data saturation was achieved, which we considered to be when no new major themes emerged from additional interviews.¹⁷

The Human Research Ethics Committee of the University of Queensland approved this study (reference number: 2015001131). Participation was voluntary and each participant signed an informed consent form.

Results

Of 74 GPs who completed a PhD, 35 were invited to participate. Eighteen GPs agreed to participate and were interviewed between April and May 2016 (two face-to-face interviews; 16 telephone interviews; mean duration: 26 minutes). The mean age of the participants was 50 years (standard deviation [SD] = 8.23) and eight were women. The majority of participants had official (paid) academic roles (15/18), and combined academic and clinical work

(14/18). Three participants were full-time GPs and their involvement in research was unpaid. One participant was a full-time academic who was not clinically active. The level of experience was diverse; participants included research fellows (2/18), (senior) lecturers (6/18), associate professors (2/18), professors (6/18), and honorary research fellows (2/18). Three main themes were identified from the interviews:

1. General challenges of research as a career path
 2. Specific challenges of general practice research
 3. Facilitators of career progression.
- Subthemes falling under these major themes and supporting quotes are provided in Table 1 (Theme 1 – subthemes A–F); Theme 2 – subthemes G–O) and Table 2 (Theme 3 – subthemes A–G).

Theme 1. General challenges of research as a career path

Overall, most participants were passionate about research, as they found it rewarding and valued the flexibility of an academic job. However, not all participants would recommend a research career to a younger colleague. Some participants perceived that they could have advanced more quickly in their academic career if they had done things differently (subtheme A) – for example, by being more ambitious, moving to another institution, prioritising research over clinical work and family (Table 1 – Theme 1).

Job insecurity (subtheme B) was an important impediment to an academic career. Even senior general practice academics did not have tenure and would have to leave academia if grant funds were no longer available. Similarly, the amount of time spent on teaching and administration was considered demotivating as it left little room for research (subtheme C).

For many participants, the first few years after finishing a PhD, when the transition to academia occurred, were challenging (Subtheme D). Lack of support for early career researchers (ie financially,

intellectually) was seen as a barrier to continuing a research career. The difficulty of maintaining a good work–life balance was also a recurrent theme (subtheme E).

Theme 2. Specific challenges specific for general practice research

Challenges specific to general practice research related to such research being conducted on a small scale, unfunded and informal – somewhat like a ‘cottage industry’ (Table 1 – Theme 2). Academic general practice departments are generally small, and general practice encompasses many fields. As a result, the overlap in research interests between department staff is limited, so general practice researchers often work alone (subtheme G). This lack of a critical mass was thought to be a barrier to collaborations with other researchers, limiting the ability to build and maintain a team of experienced researchers.

Participants perceived much research to be more of a ‘hobby’, unfunded and done from home (subtheme H). Participants also pointed to the lack of a long-established research culture in general practice (subtheme I). They note that general practice research has less ‘standing’ in universities and the professional community (subthemes J and K).

GPs often start their research career later in life, limiting the time they have to build a track record and become competitive as academics (subtheme F). The issue of track record is further complicated by the focus of universities on citations and journal impact factors as a determinant for career progression. General practice journals do not have high impact factors and, therefore, general practice research seems – in academia – not prestigious. In addition, general practice researchers aim to publish in highly regarded, often international, journals. As these journals may not be read by Australian GPs, the general practice community in Australia may not be aware of the research produced by their colleagues.

Table 1. Challenges to a career in general practice research

Theme	Quotes
Theme 1. General challenges of research as a career path	
A. Moving institutions	GP6: 'So the question is, are you prepared to move ... because the smaller regional universities are going to have a number of vacancies coming up soon and so you have to ask yourself, is that where I want to be and so you need to see if your family is prepared to accept that or not.' GP9: 'I think I could have done it faster if I was prepared to shift institutions. There's this difficulty with staying within one place that people, I think, take a little bit for granted and it makes it a little difficult to progress a bit more rapidly.'
B. Job insecurity	GP9: 'I do not have a permanent position although I am so highly qualified and experienced ... and yet I cannot get a real job, it is frustrating. I think one of the wasteful things is that people invest millions of dollars into training someone like myself ... and for the sake of you know one year of funding. In three years' time, I might leave the profession and that is crazy.'
C. Administrative burden	GP8: 'While I was doing my PhD, I recognised that the bulk of their job was not remotely attractive to me ... a lot of it was teaching and I like teaching students, I really enjoy that, but I do not aspire to be someone who has to do all the bureaucratic stuff around teaching.'
D. Transition to academia	GP7: 'I think it is because I am still very junior ... it is hard to get your name on a grant because you are not famous enough in your area ... for an early-career person to be competing with professors of general practice who have already been published in the BMJ.'
E. Work-life balance	GP14: 'I am not really keen to work all day, all night. The full-time academics that I see in senior positions do not get a lot of sleep.'
F. Stage of life	GP14: 'I think I may be more interested in academic work when the kids are a bit older.'
Theme 2. Specific challenges of general practice research	
G. Working in isolation	GP17: 'I'm not very well supported in the kind of project that I'm trying to do, so I kind of feel like I'm doing it all on my own ... I thought I was going to have people working with me, it was going to be a team kind of thing ... it has not worked out like that and that has also been very off-putting for me and very frustrating.'
H. Research as a hobby	GP14: 'If I'm going to have a research career over the next five years, a lot of that is just going to be on my own time, at my own expense. I will be sitting writing papers in my days off ... rather than actually funded in the position.'
I. No GP research culture	GP7: 'When I went into general practice training, I did not really know it was an option. We do not have [research] culture around general practice ... in broadsheet GP newspapers like <i>Australian Doctor</i> ... where instead of actually embracing research, a lot of people put it down, so I think that there is some work to be done on the culture of our profession.'
J. No professional standing in research community	GP9: 'The fact that general practice journals do not rate highly in terms of stature compared to the other specialty journals. So when we come to look at our track record ... we often have to mount an argument that our journals are aimed at clinicians, not at other researchers. Clinicians do not cite our work very often, we have to deliver impact in other ways, not through journal citations.' GP 6: 'The universities are not that interested in us because we don't produce Nobel Prizes, we don't produce patented drugs or diagnostic testing and we are not seen as being that important, but intriguingly ... about 70% of the years of health-adjusted life expectancy gained from the decline in cardiovascular disease, has been driven by the care provided in general practice.'
K. No professional standing in GP community	GP17: 'Other GPs ... There is that tendency to see people who work in academia as being separate ... and lacking hands-on experience ... They did not see the kind of things I would have learnt in my academic work as being of any value to my clinical work ... it was more seen as a potential hindrance.'
L. No added value of doing a PhD for GP	GP13: 'There is no advantage to you by and large for a career in general practice in having a research qualification ... whereas, if I was a cardiologist or a neurologist or a surgeon, then a PhD or a MD or a string of publications would be extremely useful to me because that would increase my chances of being employed at a prestigious hospital or having a position in a teaching hospital.'
M. Juggling multiple careers	GP5: 'Many of the opportunities for primary care researchers actually require some ongoing clinical connection. It would be very easy to lose touch with what is happening in clinical practice.' GP8: 'I think the two should go hand in hand. I should not really be telling other GPs how to live and work unless I am doing it myself.' GP17: 'I think it is less likely now [pursuing an academic career]. I am really interested in research, but it is really hard for me to balance the clinical work and the academic work.'
N. Funding	GP9: 'You might have a general practice musculoskeletal project that goes to a panel [that] is 50% diabetes researchers and 50% rheumatologists, and they do not get the more pragmatic nature of a lot of GP research compared to conventional RCTs and so forth.'
O. Remuneration	GP7: 'The money does matter at the end of the day.' GP5: 'The payment for research is at a much lower rate than the earning rate of a GP working in practice, so if you get accustomed to one income level ... you have to accept a much lower income level if you are going to be involved in research.'

Table 2. Theme 3: Facilitators of career progression

Theme	Quotes
A. Mentorship	GP14: 'In fact, probably the only reason I've continued this far has been through mentorship from senior academics.' GP7: 'I am lucky that people in my department are actively looking for opportunities for me ... they want to help me to succeed and I think that is very important as well.'
B. Alliances and collaborations	GP7: 'Keep on developing collaborations with key people in the area so that I could maximise the chances of getting funding for the areas that I really want to work in.' GP3: 'I have been lucky to work with good people and have good collaborators and to have good collaborators is usually important.'
C. Leadership training and support	GP11: 'Apart from being [in] the Brisbane Initiative, which is meant to have a leadership element, I've never really sought out leadership development courses or mentoring or it's not been my sort of personality I suppose ... I can see that if you were more proactive, you'd end up being more productive. I can see that people around me who pursue leadership skills and strategies and they are more proactive in really trying to lead a group and build collaborations and they are sort of more energetic on that front where I'm a bit more, you know let things grow naturally. I can see that if you were the former, the outcomes in terms of building the group would be stronger but it is not my style, I don't regret it. I am who I am.' GP2: 'The College [RACGP] can certainly do a lot of things to make sure that academic GPs are leaders of GPs in Australia ... it's time that GPs and general practice as a profession start creating our own knowledge base [that] is not just derived from what specialists think we ought to do but which is derived from our own research, our own data, our own experience and that needs to be led by clinician GPs and I think the College of GPs really needs to take that into account and lead that.'
D. Better marketing of GP-led research	GP5: 'The best way to achieve that might be to showcase the GP-led research from around the country.' GP7: 'I don't think there is enough to actively encourage people. You just can't say everything is bad all the time. You have to give some people a bit of hope otherwise why would they put themselves through all of that.' GP9: 'The RACGP Conference has lost a bit of its appeal for researchers to present there and, I mean, part of that might be the competition from the Primary Health Care Conference and part I know was a conscious decision to ensure the key membership, the grass roots GPs are engaged in that important activity, but you know if we can't reach our GP clinical colleagues through the RACGP's Conference, it's very hard for researchers to reach those people and link with those people.'
E. Combined fellowship	GP13: 'Seeing how a combined fellowship research qualification could be gained during that period of time [GP training] and that is something that really, I think, is probably crucial to maintaining a critical mass of GP researchers ... I like the idea of trying to incorporate research training into your fellowship training and somehow combining that.'
F. Academic general practices	GP8: 'I know in Canada for example, there are ... academic general practices, they do research in the practices, they teach in the practices and they see patients. I like the idea of working in a practice where I could be combining all of those things.' GP2: 'There is a new concept I think we need to come up with and that's basically an academic health centre type concept, so that's where you combine clinical practice and research and teaching in one job, done in the same centre.'
G. Funding support	GP8: 'In the UK ... GPs get paid the same basically to be a GP or to be an academic and that makes [being an] academic far more realistic and attractive.' GP6: 'What we need is to give people early in their careers some financial support because otherwise you have to earn it in general practice.'

This negatively affects the professional standing of general practice researchers within the community. Importantly, participants mentioned that there is little value for a GP in completing a PhD as it does not benefit their clinical career progression (subtheme L).

Participants also mentioned having to juggle three different careers: clinician, researcher and teacher (subtheme M). For some, this meant completely giving up their academic career; for others, giving up

clinical work. However, most participants mentioned that they try to combine clinical and academic work so they do not lose touch with clinical practice.

Funding was universally mentioned by the participants as a major barrier (subtheme N). Funding sources are often disease-focused and favour biomedical research. Participants felt that grant assessors did not seem to understand general practice research well. Another barrier to pursuing an academic career

related to remuneration (subtheme O). Most GPs acknowledged that they could earn more money as a full-time clinician than as an academic.

Theme 3. Facilitators of career progression

The main two facilitators in pursuing a research career were support from a good mentor or supervisor (subtheme A), and collaborations with other researchers (subtheme B). Specific advice on how to

foster collaboration with other researchers included joining professional organisations and attending conferences.

Several solutions were offered to improve the general practice research culture and professional standing (subthemes D and E). These included positions combining research and general practice training, more advanced research training in the vocational training program (eg through combined PhD and Fellowship), and better marketing of general practice research (eg increase the visibility of GP-led research through relevant journals and organisations).

With respect to university remuneration, participants mentioned that GPs can apply for a clinical loading, which helps to cover some of the drop in income that GPs experience when they take up a research job. Others suggested the re-establishment of more financially attractive funding programs, or ensuring remuneration is similar for university and clinical practice.

Balancing different careers could be achieved by integrating clinical practice, research and teaching. International examples of 'academic general practices' would be a welcome option in Australia (subtheme F). Support for writing grant applications and making funds available for pilot work were also mentioned as important enablers (subtheme G).

Discussion

General practice researchers face many challenges on their career paths. In this study, some identified barriers are universal to research careers (eg job uncertainty). However, some challenges were specific to general practice research. Examples include the lack of a research culture in general practice, low profile of primary care research and low impact factors of general practice journals. Research experience seems to have no added value for career progression as a GP, and academic GPs earn significantly less than those in clinical practice. Combining a clinical commitment with academic work, even if there is a shared part-time workload, has an impact

on research output, further hampering career progression in academia. Positive previous experiences and role models were important enablers for pursuing an academic career.

What we have learned from the participants in this study is consistent with previous research in the broader international and Australian primary healthcare research setting.^{8,18,19} For example, perceptions of a lack of clear research career pathways was demonstrated in a recent Australian survey among primary healthcare researchers (including but not limited to GPs). This survey showed that the predominant reasons for primary healthcare researchers leaving research were a lack of funding and positions, and the requirements of a teaching or clinical role limiting time for research.¹⁹ Other surveys have found that lack of clear career paths and uncertainty in employment were barriers to sustainable research careers in primary care.^{8,18}

For academic GPs to gain protected research time that is not impinged upon by teaching and administrative duties, the creation of academic career paths with a stronger research focus, supported by government investment, is required. Research funds appear maldistributed in major research funding schemes (eg the National Health and Medical Research Council [NHMRC]). Support for general practice researchers is very poor in these schemes in terms of project funds and salary support. This is especially crucial given the importance of general practice to the healthcare system, and potential for efficiencies in healthcare service delivery that can be achieved through primary care research-driven innovation.³

Active intervention is essential to prioritise investment into capacity building in general practice research – for example, through a sustained commitment to funding research fellowships at all career levels, and replacing the withdrawn funding from the 'Primary Health Care Research, Evaluation and Development' (PHCRED) program with new activities

targeted at building on successes from previous capacity-building efforts. A small beginning to this was the recent call for an 'NHMRC Centre of Research Excellence in Primary Health Care', but a much greater, systematic commitment is needed.

Nonetheless, given the current financial climate, how can we do better in growing and retaining Australian general practice researchers? Our study suggests that feasible options should focus on mentorship, positive role models and improving the visibility of general practice research. This is in line with recommendations from the UK, which suggest that the sustainability of primary healthcare researchers could be enhanced by good mentorship, positive organisational cultures⁵ and exposure to charismatic role models.⁷

The Oxford Primary Care Research Leadership Program ('Brisbane Initiative') is an example of how leadership training, networking and mentoring can connect primary care researchers worldwide and advance individual careers,²⁰ but that is not enough. There is a role for professional bodies such as The Royal Australian College of General Practitioners (RACGP) and Australasian Association for Academic Primary Care (AAAPC) to improve the visibility of general practice research. As the peak professional body of general practice, the RACGP in particular must continue to champion the importance of general practice research.

This begins at the earliest career stage through the RACGP's Oath of Fellowship, in which new fellows commit to 'contribute, wherever possible, to the science of general practice', and through RACGP publications and advocacy. In addition, expanding and further integrating research training into general practice vocational training would generate a more research-savvy and enabled clinical workforce. Enhancing the evidence base of general practice requires engagement at all levels, from users of research to research leaders.²¹ Creating a combined GP-PhD and fellowship pathway could be a strategy to expand the general

practice research workforce. This has been particularly successful in The Netherlands and the UK. Not surprisingly, these countries are among the best performers in primary care research output.²²

This study has some limitations. We interviewed a small sample of GPs with a PhD, and not all of those who were invited participated in the study. However, our purposive sampling approach across a wide range of GPs means that we are likely to have captured a range of different experiences. Further supporting the validity of our results is the observation that the same themes were recurring, and that our findings are in line with other studies in primary healthcare research.^{8,18,19} Unfortunately, the views of those not currently involved in research are not represented, despite actively attempting to recruit such participants. Therefore, the reasons for GPs completely abandoning research activity remain unknown. GPs were interviewed immediately after the announcement of the official defunding of the Bettering the Evaluation and Care of Health (BEACH) program.²³ The impact of this could have influenced participants' interview responses. Our qualitative findings point to a broad range of issues and their importance could be further explored in subsequent studies.

Implications for general practice

To nurture and retain general practice researchers and research leaders, focused investment in developing clear and sustainable career pathways is essential. In addition, the research culture of general practice and the professional standing of general practice researchers need improvement. Support from professional bodies and colleagues and efforts to enable research collaborations are key.

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