

Prioritising general practice research

Cuts to federal funding put us in grave danger of wasting the investment made to achieve current gains in research capacity

General practice is critical to the provision of primary health care (PHC) for Australians. About 85% of the Australian population claim at least one general practice service from Medicare per year.¹ Over 137 million such consultations were delivered by 33 279 general practitioners in 2014–15.¹ In 2011–12, PHC spending was \$50.6 billion (36.1% of total health expenditure), with \$28.6 billion spent on predominantly general practice-based medical services and medications.² Multiple studies have shown that a strong PHC system is associated with greater efficiency, lower rates of hospitalisation, fewer health inequalities and better health outcomes, including lower mortality.³ Thus, ensuring that the cornerstone of PHC delivery, general practice, has a robust evidence base is of paramount importance. Despite this, there are major gaps in the evidence supporting clinical practice and health service delivery in general practice.

From the perspective of general practice, health and medical research appears poorly targeted. There is a mismatch between the burden of diseases commonly managed in general practice and the number of randomised controlled trials exploring their effective management,^{4,5} and between the frequency with which conditions are encountered in general practice and publication rates of research and clinical guidelines.⁶ There are unmet needs for evidence specific to general practice in the recognition and management of early stage disease; assessment and management of disease risk for prevention; and patient care in complex situations, including multimorbidity.⁷

Recommendations for PHC made in disease-specific clinical guidelines are often based on evidence from studies performed outside general practice. For example, in 22 National Institute for Health and Care Excellence guidelines, only 38% of the publications that were cited to support primary care-relevant recommendations had studied patients typical of primary care.⁸ Yet, patients seen in tertiary referral centres with morbidities commonly seen in general practice differ markedly from the average general practice patient. This affects judgements on the risk–benefit ratio of treatments and the performance of diagnostic tests. Treatment benefits are usually higher in people at higher risk of adverse outcomes from their disease (eg, those attending tertiary referral centres) than in lower-risk patients seen in general practice, so testing an intervention in a hospital setting and then applying that expected benefit to general practice patients may result in overtreatment or less cost-effective treatment.

Further, exclusion criteria of clinical trials frequently eliminate patients with complex conditions, leading to potential underestimation of the risks of harm from treatment for general practice patients, in whom multimorbidity is common. In one example of this, at best 21% and at worst only 3% of “ordinary patients” would



have been eligible to participate in a range of trials of osteoporosis treatments.⁹ Most were excluded due to comorbidities and concurrent medications such as glucocorticoids, but these patients still require treatment in the real world of general practice! The dangers of applying diagnostic testing in general practice, where diseases typically have a lower prevalence or are early stage, are also known. In an Australian study, just over half of general practice patients with fatigue had pathology testing performed, but only 3% had a significant clinical diagnosis based on an abnormal pathology test result.¹⁰ The low pre-test probability of illness in general practice patients¹¹ reduces the post-test probability of them having a condition, given a positive test result. As post-test probability drives clinical decision making, applying an overestimated post-test probability observed in a high risk population to general practice patients can lead to inappropriate management.

None of this is news. Recognition of the importance of general practice research to the profession, government and community has been increasing since the 1990s, coinciding with a period of substantial commitment to building general practice and PHC research and evaluation capacity. As early as 1990, the General Practice Evaluation Program (GPEP) was established to develop the evaluation skills of researchers in general practice.¹² The GPEP was part of the federal government's General Practice Strategy, the review of which, in the late 1990s, increased focus on the need for a strong general practice research culture and workforce, with part of its vision into the 21st century being that GPs would be “actively involved in research, evaluation and teaching and be appropriately remunerated for these activities”.¹²

In 2000, the Primary Health Care Research, Evaluation and Development (PHCRED) program commenced, with four key components:

- the Australian Primary Health Care Research Institute (APHCRI), with a focus on providing leadership in PHC research;

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- the Research Capacity Building Initiative (RCBI), which funded university departments of general practice and rural health to provide training and support in PHC research, particularly for GPs;
- PHC research grants, administered through the National Health and Medical Research Council (NHMRC); and
- the Primary Health Care Research and Information Service (PHCRIS), established to support dissemination and exchange of knowledge.

These efforts have resulted in many high quality research projects being conducted, and their results published. A small sample of such research conducted by Australian GPs includes a decade of research altering post-excision wound care in general practice^{13,14} and publications in the world's top clinical medical journals on other important matters for GPs and their patients, such as counselling for women disclosing intimate partner violence¹⁵ and treatment for chronic knee pain.¹⁶

So why do we have to justify the importance of prioritising general practice research yet again? Put simply, the plug is being pulled on federal funding when the job is only partly done! The RCBI was defunded in 2011. More recently, funding to APHCRI has ceased; PHCRIS has just received a 6-month reprieve of withdrawal of funding; and the federal government contribution to the Bettering the Evaluation and Care of Health (BEACH) program has ceased. BEACH has been the major source of data on general practice activity in Australia. Government provided only about 18% of the total funding for this longstanding program (Associate Professor Helena Britt, University of Sydney, personal communication) but, combined with other difficulties in securing funding, BEACH now has to close.¹⁷ This incredibly cost-effective source of data for government and the profession will not readily be replaced.

Two ways to measure general practice research capacity and output are publication rates and numbers of successful doctoral candidates. General practice publication rates increased threefold from 1990–1999 to 2000–2007,¹⁸ which sounds impressive until one examines the absolute figures — this still amounts to only three publications per 1000 GPs per year, comparing poorly with rates for physicians (160/1000/year) and surgeons (68/1000/year).¹⁸ From 2005 to 2014, 76 GPs were awarded a PhD from an Australian university.^{19,20} There are no corresponding data for other disciplines but, in the same period, at least 200 physicians completed a doctorate under NHMRC scholarships.

Access to research funding for general practice research remains very challenging. The General Practice Strategy review noted that, “in Australia there is a considerable imbalance between the amount of funding devoted to research in secondary care compared with what is spent on primary and community-based research (including general practice)”.¹² This imbalance remains. From 2000 to 2008, only about 1.9% of NHMRC-administered grants were PHC-related, and over a quarter of these were actually funded through the PHCRED strategy.²¹ This suggests two things. First, the moiety of research funds

directed at PHC research is completely out of proportion when one considers the health dollars spent on PHC and its importance to the community. Second, PHC researchers may not yet be sufficiently developed to be competitive in what is arguably the most important health and medical research funding stream to which they have access in Australia.

This latter point is critically important. Underpinning the decisions to withdraw funding from capacity-building initiatives appears to be a failure to recognise that progressing high-performing general practice researchers from PhDs to independent research leaders is a long term challenge. Specific people support for the career development of general practice researchers has been sporadic and inconsistent. From 2009 to 2014, NHMRC grant outcome data show that eight general practice or PHC Early Career Fellowships (available to researchers within 2 years of achieving their PhD) were awarded, but none subsequent to this.²² In 2011, four NHMRC/PHCRED Career Development Fellowships (aimed at people 2 to 12 years after achieving their PhD) were awarded.²³ Data before 2013 specifying if other levels of people support for GP researchers were awarded are not available on the NHMRC website at this time, but from our knowledge of the general practice research environment, this support has been minimal.

General practice research workforce issues are substantial. The challenge of supporting general practice research is now left to the university departments of general practice and rural health, which are hamstrung by lack of resourcing for capacity-building since the RCBI funding was withdrawn. As they are currently structured, general practice academic departments will find it hard to increase their activities. From examining university websites, we estimate that in June 2015 there were 72 GPs with Level D or E (Associate Professor or Professor) appointments employed at Australian universities, only 52 of whom had a doctorate. Only two universities had a sufficient concentration of these appointments at the one site to make an effective potential research team. A quarter of these GP academics were aged 60 years or older. The median time since primary medical qualification for successful GP PhD candidates was 23 years, giving them a potential median research career of about 17 years.²⁰ Replacing the ageing GP research workforce will be difficult if this low rate of young doctoral students continues.

There are other problems affecting general practice research capacity, including:

- lack of funding for the infrastructure needs of general practices to participate fully in data collection and research;
- lack of support for practice-based research networks (PBRNs);
- lack of clearly defined clinical research career pathways; and
- the ongoing need for strengthening research culture within general practice.

PBRNs provide the equivalent of the biomedical laboratory for primary care. Currently, there are 17 university-linked PBRNs in Australia, whose research efforts are coordinated

Recommendations of the Royal Australian College of General Practitioners (RACGP) for prioritising general practice research*

The RACGP recommends that the federal government prioritises primary health care research and:

- commits \$27 million over nine years to establish a general practice research fellowship program, offering eight 4–5-year fellowships to develop general practitioner (GP) research leaders
- allocates 10% of the National Health and Medical Research Council's (NHMRC's) project grants budget to general practice-specific research projects (ie, projects with direct relevance to general practice and which involve one or more GPs as chief investigators)
- invests \$2.5 million to establish an NHMRC Centre for Research Excellence in General Practice/Primary Care
- invests \$200 000 per annum to support the maintenance of practice-based research networks, specifically the Australian Primary Care Research Network (APCRen)
- provides \$2 million per annum across university departments of general practice and rural health to facilitate practice-based research networks
- implements a practice incentive payment to enable practices to facilitate and implement research

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“progressing high-performing general practice researchers from PhDs to independent research leaders is a long term challenge”

by the Australian Primary Care Research Network (APCRen). These networks have contributed to quality Australian research, including some mentioned above and the internationally important ASPREE randomised controlled trial of low dose aspirin for primary prevention in healthy older people,²⁴ which has recruited over 16 000 general practice patients. Overseas, public funding has proved essential for the development and governance of PBRNs,²⁵ but federal government funding of APCReN has been limited and may not be ongoing.

Prioritising general practice research was a key part of the Royal Australian College of General Practitioners' (RACGP's) pre-Budget submission to the federal government this year.²⁶ The RACGP's recommendations (Box), if implemented, would go a long way towards overcoming the obstacles blocking the continued development of sustainable, long term general practice research capacity for Australia. This is doable, through a more balanced distribution of current research funds to

prioritise general practice research or through the Medical Research Future Fund, given the Australian Government's wish “to support the sustainability of the health system and drive medical innovation through transforming how health and medical research is conducted in Australia”.²⁷ In the meantime, we are in grave danger of wasting the investment made to achieve current gains in capacity, leaving our profession and the Australian population to make do with a severely restricted evidence base to support PHC in this country.

Competing interests: Tania Winzenberg is Chair of the RACGP Expert Committee – Research and a member of the Australasian Association for Academic Primary Care and has at various points in her career been supported by the PHCRED program. Gerard Gill has previously been a member of the RACGP Council (2002), the RACGP National Research Committee (1994–2000) and the Australian Medical Association Council of General Practice (1991).

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