

Practice-based research networks

What they are and why Australia needs them

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This article is part of a longitudinal series on research.

A PRACTICE-BASED RESEARCH NETWORK

(PBRN) is a group of primary care medical practices working together to undertake research of relevance to primary care. The first PBRNs likely developed in the UK¹ and Netherlands² in the late 1960s and in the USA in the 1970s.³ Similar groups formed in Canada in following years.³ Arguably, the earliest PBRN-like collaboration in Australia was established in 1962. At that time, the Research Committee of the (then) Australian College of General Practitioners organised 85 volunteer general practitioners (GPs) to collect data for one year on 174,000 patients in a national morbidity survey.⁴ The development of Australian PBRNs gained momentum in earnest with Commonwealth Primary Health Care Research Evaluation and Development (PHCRED) strategy funding from 2000 to 2011. Pirotta and Temple-Smith reported that over 20 Australian PBRNs received support during this period of dedicated funding.³

When functioning optimally, a PBRN is a collaborative learning community of academics and primary care clinicians, formed to generate, disseminate and integrate new knowledge in order to improve patient outcomes.⁵ PBRNs provide a mechanism for undertaking research in the community in order to inform community-based practice, rather than extrapolating findings from research based in tertiary centres. This offers the prospect of investigator-driven research,

with results that have greater validity and relevance to community-based practice and resultant improvements in community health outcomes.⁶ Additional benefits from PBRNs include the generation of clinically based research questions by PBRN members⁷ and research capacity building in primary care.⁸ This two-way traffic of enquiry in PBRNs has been conceptualised as ‘top-down’ and ‘bottom-up’ research development; undertaking academic investigator-driven research within a PBRN and addressing research questions from the PBRN members.² The typical model in Australia has been for university general practice academic departments to facilitate PBRN development and host the required administrative support. In the absence of dedicated external funding, departments have often struggled to maintain the staffing or financial viability of their associated PBRNs.¹ Temple-Smith et al were able to identify 18 Australian PBRNs in their 2021 report; all noted a lack of funding as a challenge.¹

The lack of investment in PBRNs in Australia is a missed opportunity with significant consequences. I will highlight just three, of many, reasons why Australia needs PBRNs.

First, we need PBRNs to address large gaps in the medical evidence base. Strict inclusion criteria and ideal, controlled trial conditions are usually required to demonstrate the efficacy of an intervention.⁹ However, an intervention’s effectiveness is its performance in typical practice settings and populations.⁹ Due to their restricted populations and non-typical trial settings, there are long-standing concerns about the extent to which the findings from many randomised

controlled trials (RCTs) can be applied in community clinical practice.^{9,10} Despite the abundance of RCT-derived data, there is a scarcity of clinical decision information for patients with common comorbidities (eg cardiovascular conditions).¹⁰ PBRNs are needed to provide real-world data¹⁰ and real-world research contexts⁹ to complement and enrich medical evidence to make it truly fit for purpose.⁶ Whether pragmatic trials, comparative effectiveness studies, observational studies, qualitative studies or post-marketing surveillance, we need PBRNs to provide the answers to gaps in our knowledge that tertiary centre-based studies are unable to supply.

Second, we need to close the time lag between the generation of evidence and consequent change in clinical practice. Hybrid effectiveness-implementation trial designs provide the potential to expedite the closure of the research-practice gap by simultaneously undertaking trials and evaluating their implementation in real-world practice environments.¹¹ Practice teams, clinicians and their patients are content experts in the delivery and reception of health services. In a PBRN, they can become equal and essential partners with research teams in developing robust understandings of the implementation process, whether that is application of new clinical evidence, policy or a funding model. A mature PBRN then becomes the ideal environment in which to undertake clinical trials, because we can also test how best to get the evidence into practice while the trial is being undertaken. Beyond the trials, PBRNs create communities of practice for the systematic translation of the research findings into routine clinical practice.

Third, we need PBRNs as an integral component of ensuring the future of general practice as a thriving specialty. The Australian health system faces a perfect storm of demographic- and pandemic-related demand, economic pressure and misdistribution of resources. As a medical speciality, we need to be constantly renewing our understanding and advocacy of how we can most effectively benefit our communities by building, challenging and refreshing our evidence base. I would argue that to thrive as a speciality we need to be driving the research effort for the evidence we need, or else be continually reacting to not quite fit-for-purpose data obtained from research driven by others.

With a return to profession-led training, we also have the opportunity to reimagine profession-led research. PBRNs are the missing link between professional and research institutions and the general practices that are partnering in that research,⁸ and an indispensable component of the future of general practice in Australia.

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