



Rationale

All general practitioners (GPs) are research users on a daily basis, accessing the best available evidence from a wide number of sources to deliver high-quality care to their patients.¹ Critical thinking is an essential core skill of general practice that enables the translation of research evidence into consideration of the most appropriate management for each individual patient. This process involves consciously seeking out the best available research evidence, and appraising and combining with clinical experience and an understanding of the individual patient's values and beliefs to inform clinical decision-making. This underlies the principles of evidence-based medicine.

This contextual unit has been developed to highlight the important role of GPs, not only in use of research evidence, but in participating in, and leading, research by identifying important questions, and in developing, supporting and facilitating research projects. In order to effectively use research evidence, it is important to have a basic understanding of epidemiological and statistical concepts.

General practice research aims to identify and solve the problems that arise within the specific context of general practice. GPs need to be researchers in order to pose relevant clinical questions and to understand the complexity of the general practice context. For the following reasons, general practice research must be conducted within general practice to address the specific and unique problems that arise within this context.

- The general practice context is different to specialist and hospital contexts, especially in regard to the holistic treatment of people with multimorbidities and undifferentiated illness within situations of uncertainty. General practice research focuses on prevention and early detection of disease, undifferentiated clinical presentations, chronic conditions, and multi-system comorbidities, which are issues that are less frequently managed in secondary settings.^{2,3}
- GPs play a pivotal role as gatekeepers to the health system, and the absence of research evidence can lead to costly over-investigation, inappropriate treatment and diagnostic delay through inappropriate referrals.
- General practice research concentrates on applied research that goes beyond the biomedical aspects of illness and incorporates issues that address psychosocial aspects of wellbeing,⁴ which inherently requires multidisciplinary approaches and multiple methodologies.⁵

Involvement in research at medical school and during general practice training is associated with increased ability and confidence in interpreting research findings in subsequent clinical practice, in addition to increased subsequent involvement in general practice research.^{6,7,8}

GPs can participate in general practice research in a variety of ways and in varying degrees. Research leaders are GPs who conceptualise, design, find funding for, conduct and publish research. Another level of GP participation may

be those who are intellectually engaged in the research, understand and feel aligned to its purpose, could describe the project to a third party, and are interested in the results. Usually, they are sufficiently part of the research to earn authorship. Lower order participants may recruit patients or facilitate access to patient data for research projects conceptualised and instigated by others such as universities, specialist colleagues, or pharmaceutical companies.

Any level of participation in general practice research is useful for the profession as it contributes to generating the evidence needed to underpin the vital role of general practice.⁹

Related contextual units

General practice research is relevant to every population and presentation in general practice.

References

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6. Lloyd T, Phillips BR, Aber RC. Factors that influence doctors' participation in clinical research. *Med Educ* 2004;38(8):848–51.
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8. Smith M. Research in residency: Do research curricula impact post-residency practice? *Fam Med* 2005;37(5):322–27.
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Useful general practice research resources and tools

Australian Society for Medical Research (ASMR), www.asmr.org.au

Primary Health Care Research and Information Service (PHCRIS), www.phcris.org.au

National Health and Medical Research Council (NHMRC), National statement on ethical conduct in human research 2007 (Updated May 2015), www.nhmrc.gov.au/guidelines-publications/e72

Glossary

Basic statistical concepts

These are used to collect, analyse, interpret, present and organise research data. Examples of important medical research statistical concepts to understand include P values, confidence intervals, absolute and relative risk, odds and hazard ratios, positive and negative predictive value, number needed to treat, sensitivity and specificity.

Basic epidemiological concepts

These are used to study and analyse the patterns, causes, and effects of health and disease conditions in defined populations. Useful epidemiological concepts include prevalence, incidence, crude and standardised incidence rates, different quantitative and qualitative study design types, confounding, bias and determining causation.