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Fostering registrar research

A model to overcome barriers

Background

Research and critical thinking are essential skills for general practitioners. However, evidence indicates that GPs tend to lack confidence in their research ability. Regional training providers can address this by integrating primary care research education and skills development into their general practice training programs.

Objective

The Adelaide to Outback GP Training Program developed a model that aims to overcome existing barriers to GP research and to promote a research culture across the organisation. It includes a research and critical thinking program for all registrars, a support structure for registrars wanting to extend their research expertise, and an organisational structure to promote and support research for registrars as well as throughout the organisation.

Discussion

Since the implementation of the model there has been an increase in the frequency and quality of research outcomes at the Adelaide to Outback GP Training Program.

Keywords: general practice; research; education, medical



is the poor volume of general practice research publication as compared with other medical specialties.⁸⁻¹⁰

It has been suggested that the research capacity of GPs would be improved by positive experiences with, and early exposure to, research.¹¹ Regional training providers (RTPs) who provide vocational training in general practice are in a prime position to help develop future GPs' research skills. Traditionally, research has been a compulsory component of medical and surgical specialties. General practice is now re-orienting toward developing research skill and capacity.⁶ Statements from both The Australian College for Rural and Remote Medicine and The Royal Australian College for General Practitioners curriculum include research as a core component. To date, 95% of RTPs have incorporated a research component into their education programs.^{11,12} Teaching activities that focus on research and critical thinking across RTPs are highly variable in terms of educational methods used and the intensity of education.¹¹ Only 48% of RTPs require the demonstration of practical research skills through the submission of a research project. Descriptions of the various research programs and the associated outcomes have not been published.

Research has identified a number of barriers to registrar research education.⁵ In the literature, registrars have reported finding research dull and difficult at the beginning of their training, although registrar attitudes to research vary.^{13,14} Providing research training can positively influence the interest of general practice registrars in research.¹⁵ There are other educational barriers identified that include different levels of research expertise held within the registrar group, and the quality and organisation of the education and support available. The most common organisational

It is essential that general practitioners have the skills to critically appraise research as well as the capacity to apply the findings in order to improve patient outcomes.¹ General practitioners need access to primary care based research that answers practical clinical questions encountered in daily practice.² Therefore, it is important that they are able to conduct and publish research in their specialty.

Internationally, the majority of GPs report inadequate training in research and critical appraisal skills.³⁻⁷ A possible consequence of this

barriers are lack of time, money or resources.⁵

The Adelaide to Outback GP Training Program (AOGP) has developed a model that addresses these known barriers to GP research. It aims to develop and support a research culture within our registrars and more broadly across the organisation.

The AOGP research model

The AOGP model was developed to provide research education and support across the organisation, with a primary goal of encouraging and supporting registrars to develop their research skills. Within this model, all registrars must demonstrate critical appraisal skills, learn to apply evidence based medicine in practice and conduct a small research project. Registrars are also encouraged to extend their research skills by driving a large research project, most commonly undertaken as part of an academic skills post.

The AOGP model is shown in *Figure 1*. The key components of the model are:

- the registrar research and critical thinking program (RCTP)
- a formalised support process for academic skills post registrars
- an organisational support structure to underpin and nurture research both within the organisation and for our registrars.

Registrar research and critical thinking program

The RCTP has been a core component of training at AOGP since 2004. This program aligns with the curriculum of both colleges, and is overseen by a medical educator with a specialist interest

in research. Local universities, GP academics and GP supervisors provide input into the program, which consists of two half day workshops and submission of a research project by each registrar. *Figure 2* illustrates the current program objectives, structure and integration within training.

The program has been structured to overcome identified barriers that may deter registrars undertaking research. The RCTP emphasises the relevance of research to clinical practice, a successful approach to motivate GPs to participate.¹² It is ensured the program is engaging by:

- including dynamic facilitators with backgrounds in general practice and research
- providing practical examples
- encouraging registrars to have an enquiring mind and explore their clinical questions
- demonstrating that research is a skill that can be used by all GPs.

To address the variation in registrars' previous research experience, the AOGP has clear guidelines and a range of project options suitable for registrars with varying levels of interest, skills and time. There are resources and customised support available to those wishing to engage in larger projects. There is a clear process for recognition of prior learning.

The program is structured to ensure that by completion, registrars have had adequate training to be able to engage in research and critical thinking. The workshops are designed to develop skills in formulating research questions, searching medical databases and critical appraisal. Support is given to all registrars to complete a small research project and potential barriers are addressed by providing information about available resources and supports within and

external to the organisation. There is discussion of primary care research grants available and research tools that can be utilised. These aspects are covered in a simple, practical and applied manner. The sessions are interactive to ensure that those registrars with more experience in research are able to contribute and guide those with less experience.

In 2007, the program was significantly enhanced by the development of a comprehensive research program handbook. The level of support available to registrars to complete research projects was increased and research project submission was made a compulsory training requirement.

Support for academic skills post registrars

The AOGP encourages registrars who are interested in developing their research skills to complete an academic skills post. These posts are funded through General Practice Education and Training (GPET) and support registrars to undertake a placement within a university academic department for a 6–12 month period. During the placement, registrars undertake their own research or participate in a larger study.

Since 2004, these posts have been promoted during AOGP research workshops, in the AOGP newsletter and by direct contact with registrars. The AOGP has a formal support structure to streamline enrolment, commencement and completion of academic skills posts. We provide a clear and articulated relationship with universities in Adelaide (South Australia), assistance with the application process, and ongoing support.

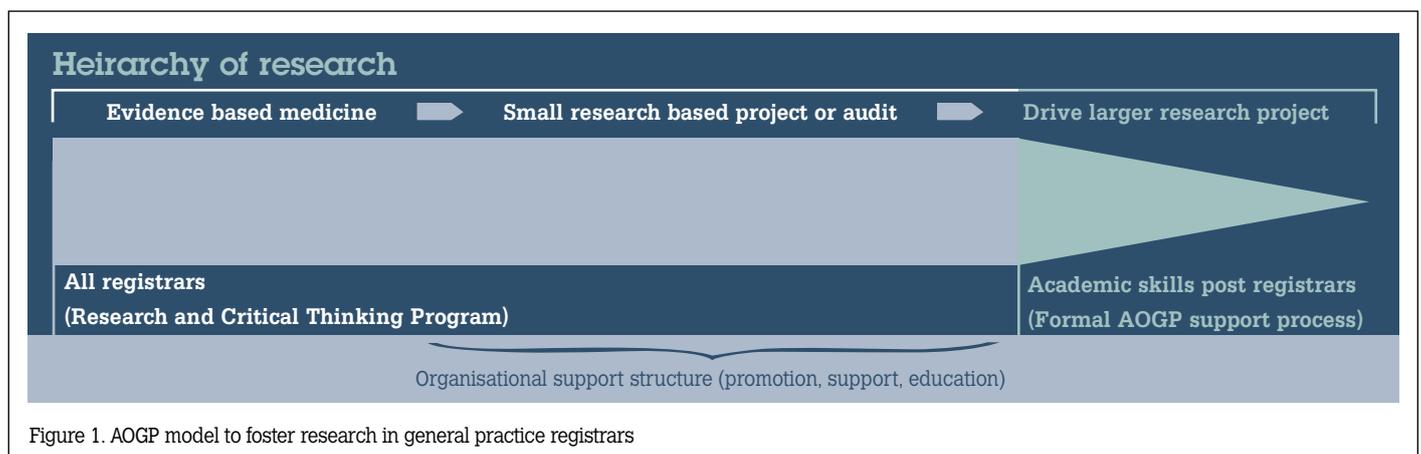


Figure 1. AOGP model to foster research in general practice registrars

In 2007, the support for academic skills posts was enhanced through initiatives developed and maintained by the AOGP research committee. Now, in addition to previous support, registrars receive a copy of the AOGP academic skills post handbook, and there is a formalised process for regular support and assistance with conference presentations and publications.

Organisational support framework

The AOGP saw the need to provide a structure to support and progress research. In 2007, AOGP implemented an organisational support framework that includes a research working group and a research committee bought together under the auspice of a research and development manager.

The research working group consists of internal staff who hold research and general practice expertise. They plan, coordinate, drive and contribute to AOGP research.

The research committee comprises a representative group of those involved in research at AOGP: AOGP research staff, a medical educator, a registrar, a supervisor and all registrars undertaking an academic skills post. The committee:

- seeks opportunities to promote research at AOGP and in general practice
- supports academic skills post registrars
- supports and advises staff, registrars or supervisors engaged in or beginning research
- reviews and responds to external requests for research involvement
- reviews conference abstracts and journal submissions.

Since the inception of this structure, the development of the research model at AOGP and the frequency and quality of research outcomes have both increased.

Development of the AOGP research model

Table 1 shows the various components of the research model and their development across time. Since the inception of the research committee and formalised organisational support structure in 2007, both the RCTP and the academic skills post support have been enhanced. In addition, the committee has

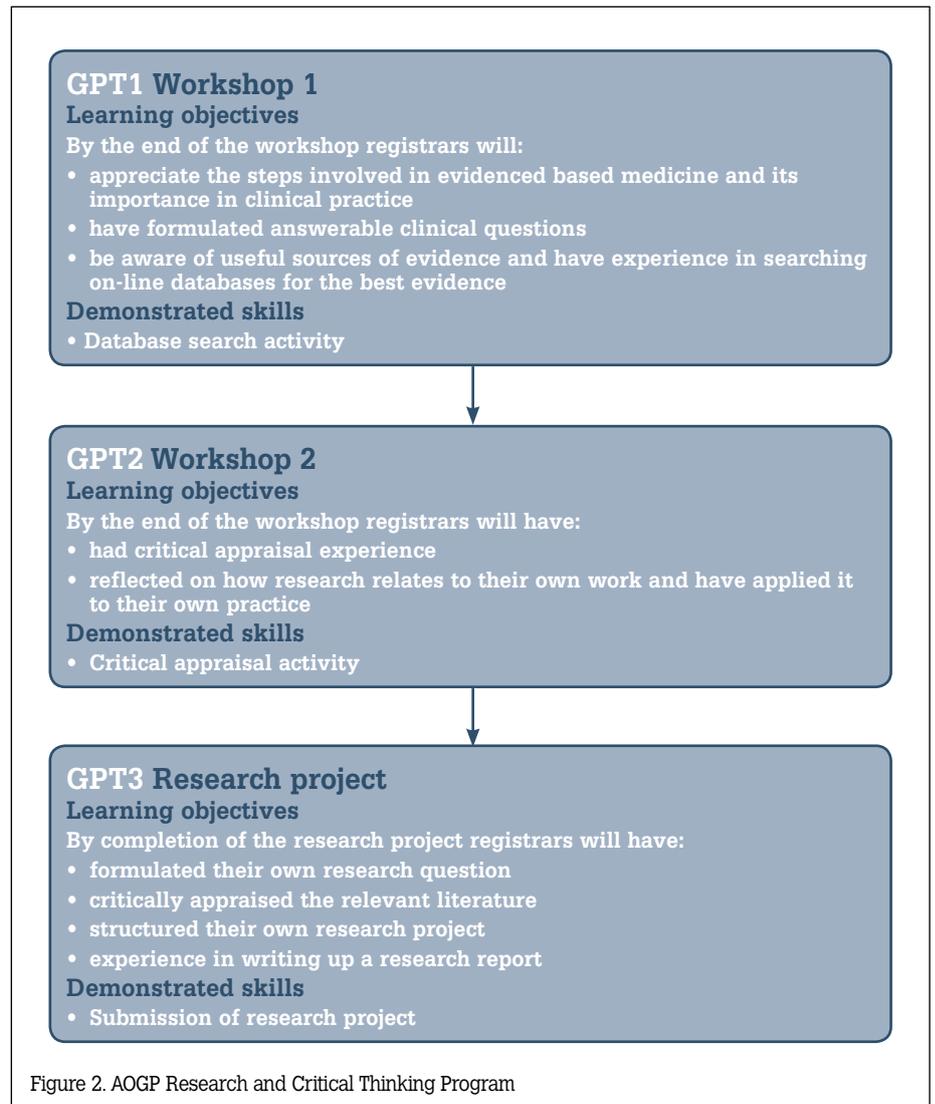


Figure 2. AOGP Research and Critical Thinking Program

introduced the annual research forum and optional skills workshops. Table 2 describes the identified issues that led to the development of these additional components.

Outcomes

We have used both qualitative and quantitative information to describe the outcomes of the development of the AOGP research model. Table 3 describes a number of outcomes that have been collected, including positive qualitative results. Since 2007, AOGP has seen positive evaluations for both the RCTP and annual research forum, an increase in the number of completed registrar research projects, an increased number of academic skills posts, an increased number of conference presentations and an increase in peer reviewed journal articles (Table 3).

Summary

The AOGP research model addresses the key disincentives for research by registrars.⁵ As the model has developed we have seen increased research activity and increased registrar interest in driving larger research projects as part of academic skills posts. A long term benefit could be that more GPs incorporate research into their day-to-day general practice.

The outcomes presented are based on the available data, both quantitative and qualitative. While they do indicate a correlation between the development of the program and the increasing number and quality of research outcomes, there is no evidence to claim a definitive link. Further research should explore whether the AOGP research model increases involvement in research postgraduation.

While the number of registrar authored conference presentations and publications have increased, this has been primarily due to academic skills post registrar work. Our challenge is to further encourage and support all registrars to contribute to the general practice evidence base.

Supervisors have been engaged in the research program at AOGP through exposure to the annual research forum and the opportunity to be involved in the research committee. In the future, the authors would like to extend the AOGP in a more formal manner to GP supervisors, who tend to have low confidence in teaching

research.¹² Supervisors will be provided with opportunities to refresh their research skills. Those who are interested in further engaging with research will be linked with available resources and university support through university departments of general practice and the Primary Health Care Research, Education and Development organisation. If research interest aligns with AOGP's research priorities and plan, AOGP may be able to provide more direct support. It is hoped that this enhancement to the AOGP program will develop the capacity of supervisors to support their registrars in GP research.

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Table 1. Development of the AOGP research model from 2004–2009

Program component	Recipients		Research program components offered each year					
	Registrars	Supervisors	2004	2005	2006	2007	2008	2009
RCTP	✓							
Academic skills post support	✓							
Research committee and organisational support structure	✓	✓						
RCTP enhancement	✓							
Enhanced academic skills post support								
Annual research forum	✓	✓						
Additional research workshops	✓	✓						

Table 2. Description of additional AOGP research model components since 2007

Issues identified	Solution	Component developed
<ul style="list-style-type: none"> Registrars were unclear about the program requirements and support available Research projects were often not completed 	<ul style="list-style-type: none"> RCTP handbook developed Clear process for supporting research projects communicated to registrars Research projects made compulsory 	Enhanced RCTP
<ul style="list-style-type: none"> Registrars felt they lost connection with AOGP throughout their academic skills post Feedback was received by registrars that the existing written information about academic skills posts was difficult to access and digest Registrars who were interested in academic skills posts wanted a clear information book to inform their decision making 	<ul style="list-style-type: none"> Academic skills post registrars participate in and receive support from the research committee Support is given by AOGP staff to review abstracts, presentations and articles Academic skills post handbook developed 	Enhanced academic skills post support
<ul style="list-style-type: none"> There was no opportunity for registrars and supervisors to showcase their research for their AOGP peers The value that AOGP place on research was not adequately reflected to our supervisors and registrars No vehicle existed to communicate to registrars and supervisors that conducting research in general practice is important, achievable and supported through AOGP 	<ul style="list-style-type: none"> AOGP registrar, supervisor and staff research is showcased during a forum Forum is attended by registrars, supervisors and staff Forum promotes opportunities to engage in research with support from AOGP 	Annual research forum
<ul style="list-style-type: none"> As registrars became more interested in research, requests were made for further research education 	<ul style="list-style-type: none"> Short, tailored workshops that focus on identified research skills Workshop topics are based on common requests made by registrars or supervisors 	Optional skills workshops

Table 3. Outcomes from development of the AOGP research model

Component	Outcome	Description of outcome					
Enhanced RCTP	Registrar confidence	Eighty-five percent of registrars who completed the enhanced program are confident that they can apply the skills learnt to their everyday clinical practice					
	Increased research activity	Since the research project became compulsory, there has been an increase in the number of research projects undertaken and submitted by registrars completing their training, from three in 2007 (20% of graduands), to 13 in 2008 (80% of graduands) and 15 in 2009 (75% of graduands). Examples of projects include 'exploring patient perceptions of mental healthcare plans', 'factors that impact on GP referral to an orthopaedic surgeon' and 'auditing factors that cause GPs to run late within a practice'. The transition period has meant that registrars who commenced training before 2007 have not been required to complete the mandatory research requirement. By 2011, we anticipate that the majority of registrars who complete training will be required to complete the compulsory research project					
Enhanced academic skills post support	Increased number of academic skills posts	All AOGP academic skills posts have involved registrar driven research projects. The AOGP have had a 150% increase in academic skills posts filled from the period 2004–2006 (two posts) to the period 2007–2009 (five posts). This compares to national numbers of posts showing a small decrease of 9% across this same period. The percent of registrars enrolled in AOGP who complete an academic skills post and the percent of national posts filled by AOGP registrars has also increased	Year	Percentage of total national academic skills posts held by AOGP registrars	Percentage of AOGP registrars undertaking an academic skills post		
			2004	7%	1%		
			2005	0%	0%		
			2006	7%	1%		
			2007	0%	0%		
			2008	12%	2%		
			2009	18%	3%		
	Diversification of posts	We have seen a diversification of posts. While most posts have been based in departments of general practice, we have also had posts in medical education, public health and obstetrics and gynaecology					
	High quality outcomes	The quality of the academic skills post outcomes were particularly high in 2009 – one registrar published a Cochrane review, another presented at an international conference, and a third influenced policy change at the university health clinic based on her research findings					
Annual research forum	Increasing number of attendees	The number of attendees at the annual research forum has increased since 2008. Seventy-five attended in 2008 (39% of those invited) and 99 attended in 2009 (48% of those invited)					
	Improved evaluation outcomes	The evaluation has become more positive. The overarching objective for the forum is for attendees to develop an increased awareness of opportunities to undertake research in general practice. At the first forum in 2008, 63% of participants felt this objective was fully met and in 2009, 79% felt that it was fully met					
Optional workshops	Workshops based on feedback from registrars	In 2009, a statistics workshop was organised by the registrar liaison officer as a voluntary after hours workshop. In 2010, there was a workshop focusing on writing research papers					
	Increasing number and diversity of attendees	The number of attendees has increased with five registrars and one AOGP staff member who attended the 2009 workshop. The 2010 workshop was attended by five registrars, two supervisors and four AOGP staff					
Publications and presentations		Since 2004, AOGP have consistently produced a number of conference publications. With the support of the research committee, we are now seeing an increased number of published peer reviewed papers and conference presentations. This is consistent for AOGP staff and registrars who participate in academic skills posts	Year	Registrar publications (peer reviewed)	Registrar conference presentations	Organisation publications (peer reviewed)	Organisation conference presentations
			2004	1	0	0	0
			2005	0	0	0	4
			2006	0	0	0	10
			2007	0	1	5	5
			2008	1	2	0	10
			2009	4	4	3	16

Conflict of interest: The research model and this work were funded by the Adelaide to Outback GP Training Program.

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