

# Postgraduate medically related qualifications of early career general practitioners

Ashley Blowes, Alison Fielding, Andrew Davey, Dominica Moad, Amanda Tapley, Elizabeth G Holliday, Jean Ball, Jason Dizon, Michael Bentley, Kristen FitzGerald, Catherine Kirby, Allison Turnock, Mieke van Driel, Parker Magin

## Background and objective

General practitioners' (GPs) specialised qualifications and upskilling in medical roles strengthen healthcare systems and improve patient outcomes. This study aimed to describe additional qualifications attained, or being undertaken, by early career GPs and establish associations of obtaining/undertaking postgraduate and post-Fellowship qualifications.

## Methods

This was a questionnaire-based, cross-sectional study of early career college-Fellowed GPs in NSW/ACT, Tasmania and Eastern Victoria (New alumni Experiences of Training and independent Unsupervised Practice [NEXT-UP] study). Univariable and multivariable logistic regression analyses estimated associations of additional postgraduate/post-Fellowship qualification attainment with personal factors and factors related to their current practice and to their vocational training experience.

## Results

Of 339 participants, 43% reported having obtained postgraduate, medically related qualifications, 23% had obtained or were undertaking post-Fellowship qualifications and 35% reported no additional qualifications. There was a strong negative association of additional qualifications with having dependent children (odds ratios 0.76 and 0.63 for postgraduate and post-Fellowship qualifications, respectively).

## Discussion

Most early career GPs obtained or were pursuing postgraduate/post-Fellowship qualifications. A barrier to obtaining postgraduate or post-Fellowship qualifications might be having dependent children.



**PRIMARY CARE IS THE MOST** important component of healthcare systems,<sup>1</sup> and general practitioners (GPs) are central to primary healthcare.<sup>2</sup> It is recognised that extending and providing specialist GP training (both pre- and post-Fellowship) strengthens healthcare systems, improves accessibility to care and contributes to GP self-efficacy and supportive peer mentoring.<sup>3,4</sup>

Much focus in the area of GP qualifications is on vocational training programs leading to licensure for independent practice (in Australia, this is known as College Fellowship).<sup>5</sup> This is understandable as general practice, in comparison to other specialties, has been much delayed in recognition as a medical specialty and in introduction of specialist training programs (GP vocational training programs in many countries remain rudimentary).<sup>6</sup> A further consideration, however, is acquisition of further skills or particular skills beyond the necessary 'basic' attributes of an independent Fellowship-holding GP.<sup>7,8</sup> These are often obtained by formal study and reflected in specific qualifications.<sup>9</sup>

Some GPs might have a particular clinical area of interest within the wide remit of general practice – areas such as skin disease/surgery, women or children's health, mental illness or drug and alcohol medicine.<sup>8</sup> GPs engaging in special interest clinical areas – 'General Practitioner with Special Interest' (GPwSI)<sup>10</sup> – provide services with good patient satisfaction and clinical outcomes.<sup>3,11</sup> Postgraduate qualifications can be seen as a means of demonstrating 'evidence of training and experience and the acquisition of competencies' necessary for working as a GPwSI. Alternatively, some GPs might seek skills/qualifications to deepen their competency in particular clinical areas while fully remaining in comprehensive practice.<sup>12</sup> GPs might also seek to deepen their broader general practice skills, including understanding of evidence-based practice, epidemiology, research methodology or public health (which might inform their clinical practice and/or lead to 'portfolio career' work in research or education).<sup>9,13</sup>

Thus, postgraduate qualifications provide further specialised education, which improves GPs' self-efficacy and patient and community outcomes, as well as being beneficial for practices.<sup>9</sup> Completing a postgraduate qualification in Australia (usually a university qualification) is often expensive, time-consuming and, historically, there has been variable availability of online flexible learning options.<sup>14,15</sup>

There is also less imperative for Australian GP registrars and early career GPs, compared to other specialist groups, to have acquired postgraduate qualifications. Although further qualifications and skills might sometimes improve GP employability, this is much less a factor than in non-GP disciplines where many aspiring trainees pursue further qualifications, including research qualifications (along with research publication), in order to increase their competitiveness for selection into specialty training programs and/or for post-Fellowship employment.<sup>15</sup> This is not the situation for aspiring applicants to the Australian GP training programs,<sup>15</sup> or generally, for GP registrars and early career GPs. As a result, registrars and early career GPs (unless anticipating an academic/educational career<sup>2,16</sup>) might be more likely to have acquired postgraduate qualifications for personal interest/satisfaction (including job satisfaction) or for 'altruistic' reasons (improving patient care or providing specialised patient services).<sup>17</sup>

This study aimed to document the medically related postgraduate and post-Fellowship qualifications recently-Fellowed GPs have obtained or are pursuing, and to establish associations of pursuing/having obtained these qualifications.

## Methods

This was an analysis of data from the New alumni EXperiences of Training and independent Unsupervised Practice (NEXT-UP) study. NEXT-UP was a cross-sectional, questionnaire-based study. Detailed methodology is available in the study protocol.<sup>18</sup>

## Participants

Participants were GPs who had achieved Fellowship of the Royal Australian College of General Practitioners (RACGP) and/or the Australian College of Rural and Remote Medicine (ACRRM) between January 2016 and July 2018, and who had undertaken GP training with one of three regional training organisations (RTOs). The RTOs' footprint comprised contiguous regions covering the south east of Australia. The individual RTOs were GP Synergy (NSW and the ACT),

General Practice Training Tasmania (GPTT) and Eastern Victorian General Practice Training (EVGPT). They delivered training to approximately 44% of Australian General Practice Training (AGPT) registrars. At the time of completing the questionnaire, participants were six-months to two-years post-Fellowship.

## Recruitment and data collection

Potential participants ('alumni' of each RTO) were contacted via mail and email. Practice details held by each RTO and publicly available sources were used to establish alumni contact information. Participants provided consent to participate via an online survey (SurveyMonkey Inc; San Mateo, CA, USA) or hardcopy questionnaire.

Information elicited included participants' demographic details, current practice location and details of their current practice, as well as postgraduate attainments and perceptions of their training experience. With participant consent, routine RTO-collected training data were included to provide contemporaneous training-related variables.

## Outcome

The outcome variable was having: (1) medically related postgraduate qualifications prior to Fellowship; or (2) post-Fellowship qualifications – obtained or currently being pursued. The first category excluded participants who had subsequently attained or were pursuing post-Fellowship qualifications. The second category included participants who had obtained pre-Fellowship qualifications in addition to obtaining/pursuing post-Fellowship qualifications.

## Independent variables

Considered for inclusion as covariates in analyses were: gender; age; relationship/spouse employment status; dependent children; country of primary medical qualification; rurality of current practice (Modified Monash Model [MMM]: MMM 1 vs MMM 2–7); socioeconomic status (SES) of current practice location (by decile of the Socioeconomic Index for Area-Index of Relative Social Disadvantage [SEIFA-IRSD]); currently working full-time or part-time; having practised rurally during vocational GP training (defined as completing

≥1.3 full-time equivalent weeks of training in practice locations classified as MMM 2–7); having undertaken any GP training part-time; having worked in a region of relatively high socioeconomic disadvantage during training; having taken leave from training; and having failed any Fellowship exam component on first attempt.

## Statistical methods

Descriptive statistics included frequencies for categorical variables and mean with standard deviation (SD) for continuous variables.

The associations of independent variables with having postgraduate qualifications, and with having or pursuing post-Fellowship qualifications (rather than no postgraduate/post-Fellowship qualifications) were estimated using multinomial logistic regression.

Univariable analyses were conducted on each covariate, with the outcome. Covariates with a univariable *P* value <0.20 were considered for inclusion in the multiple regression model.

Once the model with all significant covariates was fitted, model reduction was assessed. Covariates that were no longer significant (at *P*<0.2) in the multivariable model were each tested for removal from the model. If the covariate's removal did not substantively change the resulting model, the covariate was removed from the final model. A substantive change to the model was defined as any covariate in the model having a change in the effect size (odds ratio or coefficient) of greater than 10%.

Significance was declared at the conventional 0.05 level, with the magnitude and precision of effect estimates also used to interpret results.

Analyses were programmed using STATA 14.2 (StataCorp LLC, College Station, TX, USA) and SAS V9.4 (SAS Institute, Cary, NC, USA).

## Ethical approval

Approval for this study was obtained from The University of Newcastle Human Research Ethics Committee (reference H-2018-0333).

## Results

A total of 354 alumni completed the questionnaire (response rate 28%).

The data of 339 participants were available for analysis of postgraduate and post-Fellowship qualifications. Refer to Table 1 for characteristics of participating alumni and their practices. Of respondents, 145 (43%) reported having postgraduate (but pre-Fellowship) medically related qualifications, 77 (23%) reported having and/or working towards post-Fellowship qualifications and 117 (35%) reported no additional postgraduate/Fellowship qualifications. Fifty respondents (15%) reported having postgraduate qualifications, while also having or working

towards post-Fellowship qualifications.

The common qualifications obtained by participants are presented in Table 2.

The participant characteristics of having postgraduate and post-Fellowship qualifications are presented in Table 3.

The univariable and multivariable multinomial logistic regression models with outcomes of postgraduate and post-Fellowship qualifications are presented in Table 4.

On multivariable analysis, currently having dependent children was negatively associated with lesser odds of having

post-Fellowship qualifications (odds ratio [OR] 0.63; 95% confidence interval [95%CI] 0.45, 0.87) compared with participants with no dependent children. There was also some evidence ( $P=0.053$ ) for association with (only) postgraduate qualifications (OR 0.76; 95%CI, 0.58, 1.00).

Training in a lower socioeconomic status (SES) area was associated with greater odds of postgraduate (only) qualifications (OR 1.35; 95%CI, 1.02, 1.77). There was some evidence ( $P=0.074$ ) for association of current practice location being in an area of higher SES with lesser odds of postgraduate (only) qualifications (OR 0.91; 95%CI, 0.83, 1.01 for each additional SEIFA-IRSD decile). Noting that SES of the location during training was a dichotomous variable (low vs high) and SES of current practice location was measured by decile of SEIFA-IRSD (with a higher decile representing less socioeconomic disadvantage).

## Discussion

### Main findings

One-third of early career GPs in our study sample had not obtained (and were not pursuing) any postgraduate or post-Fellowship qualifications. There were more participants with only postgraduate qualifications than with post-Fellowship qualifications (43% and 23%, respectively, with 15% having both postgraduate and post-Fellowship qualifications), noting however that the duration of individual participants' postgraduate (but pre-Fellowship) periods might not be equivalent. Having dependent children was associated with lesser odds of having or pursuing both postgraduate and post-Fellowship qualifications (statistically significantly so for post-Fellowship qualifications). Training in a lower SES area and currently practising in a lower SES area were associated with greater odds of postgraduate (only) qualifications (statistically significantly so for being in a lower SES area during training).

### Comparison of findings with previous literature and interpretation of findings

A 2003 study of postgraduate qualifications of Australian doctors found only 14% of GPs had a PhD, Master's degree or postgraduate diploma.<sup>19</sup> We are unaware of more

**Table 1. Participant characteristics**

Characteristics	Class	n=339 <sup>A</sup>
Currently practising full time in clinical general practice <sup>B</sup>	Yes	96 (30)
Age	Years (mean±SD)	36.4 (6)
Gender	Female	221 (67)
Country of primary medical qualification	Australia	256 (77)
Rurality of current practice location	MMM 1	219 (69)
	MMM 2–7	86 (31)
Currently practising in a low socioeconomic status area <sup>C</sup>	Yes	83 (26)
Lives with a spouse/partner	No spouse	44 (13)
	Spouse employed full time	188 (57)
	Spouse employed part time	61 (18)
	Spouse not in the workforce	38 (12)
Has dependent children	Yes	132 (60)
Year of Fellowship	2016	110 (34)
	2017	125 (38)
	2018	91 (28)
Any part-time work during training	Yes	101 (31)
Trained in a rural practice <sup>D</sup>	Yes	153 (50)
Trained in a practice located within an area of relative socioeconomic disadvantage <sup>E</sup>	Yes	126 (40)

<sup>A</sup>n does not total 354 for all items because of missing data within each variable. Number and percentage are presented unless otherwise stated.

<sup>B</sup>Defined as nine or more clinical general practice sessions per week, with a session being equivalent to approximately 3.5 hours.

<sup>C</sup>Defined as a practice located in SEIFA-IRSD deciles 1–4.

<sup>D</sup>Defined as ≥13 full-time equivalent weeks in a modified MMM 2–7 location.

<sup>E</sup>Defined as ≥13 full-time equivalent weeks in a SEIFA-IRSD decile 1–4 location.

MMM, Modified Monash model; SD, standard deviation; SEIFA-IRSD, Socioeconomic Index for Areas – Index of Relative Social Disadvantage.

**Table 2. Most common postgraduate and post-Fellowship qualifications**

Course	Postgraduate	Post-Fellowship
Child Health/Paediatrics Diploma/Certificate	147	17
Women's Health Diploma/Certificate	33	5
Dermatology Certificate/Diploma/Masters	11	19
Sexual Health Diploma/Certificate	17	6
Master of Public Health	14	5
Anaesthetics Advanced Certificate	5	3
Medical Education Certificate/Masters	4	4
Emergency Medicine Certificate	5	1
PhD	5	1
Sports Medicine Masters/Diploma/Certificate	3	2

Data are presented as n.

contemporary data for GPs or GP registrars. Although not being directly comparable (including our study participants being early career GPs), the markedly higher proportion of our participants having or undertaking postgraduate qualifications, compared to those of the 2003 study, suggests that the proportion of GPs pursuing postgraduate qualifications might have increased considerably from 2003 to 2019. A 2019 Australian study of non-GP specialty registrars found 2.4% had PhDs, 10% had a Master's degree and 18% a postgraduate diploma.<sup>14</sup> These findings and those from our study are not meaningfully comparable – their population is of specialist registrars in training; our study involves early career Fellowed GPs.

The present study findings were that the most common postgraduate qualifications were the Diploma of Child Health (DCH), Diploma of Royal Australian and New Zealand College of Obstetrics and Gynaecologists (DRANZCOG), Master of Public Health (MPH), dermatology-related qualifications (including Advanced Certificate in Skin Cancer Medicine, Diploma/Master of Dermatology and Diploma of Dermoscopy) and the Joint Consultative Committee on Anaesthesia (JCCA) qualification.

Thus, participants tended to obtain more clinically related and practical

qualifications rather than research higher degrees or research methodology/evidence-based medicine-related qualifications, suggesting that they are selecting specialist training areas to directly support their clinical practice. GPs can embark on further qualifications and education for many reasons including personal interest, to secure specialty roles or to diversify and upskill for support within healthcare roles, which are gradually increasing in demand within increasingly pressured healthcare systems.<sup>5,14</sup>

There were no associations with participant gender. There was, however, a strong negative association of having dependent children (24% lesser odds of having postgraduate qualifications and 37% lesser odds of post-Fellowship qualifications). Previous literature has demonstrated that, despite an increase in females entering the GP workforce, accounting for 50.2% of RACGP members, there is a higher turnover for females, with more females leaving the industry as opposed to their male colleagues.<sup>20–22</sup> Embarking on a specialist or generalist career has been found in previous studies to be influenced by life and career stage.<sup>17,23–25</sup> One Australian study found multiple contextual factors that influence GPs' career choices including personal interest and lifestyle factors (including life

stage and gender).<sup>23</sup> Pursuing specialist qualifications might provide more stability and flexibility for GPs balancing work and family life.<sup>21,23</sup> It is recognised that women face more financial inequalities compared to male colleagues, especially when starting families and taking up primary carer roles, which is also evident in international studies.<sup>20–22,26,27</sup> Given that females disproportionately take up primary carer roles, it might be thought that female GPs would be less likely to pursue and obtain postgraduate and post-Fellowship qualifications.<sup>20,21,28</sup> But even on univariable analysis, unadjusted for dependent children status (refer to Table 3), we found no statistically significant association with gender.

Similarly, there was no association of qualifications with rurality of practice. This might reflect the advent of accessible and convenient online learning options.

There were associations, however, of SES of training practice and of SES of current practice location with postgraduate qualifications. The nature of the association is uncertain, which might reflect the more challenging nature of practice in lower SES locations, with consequent imperative to enhance skill sets to meet these clinical challenges.<sup>24,29</sup>

### Strengths and limitations

The contemporaneous or near-contemporaneous collection of a range of independent variables has allowed us to multivariably estimate the associations with qualifications of a number of relevant factors in this exploratory analysis.

Limitations include low numbers of registrars training in more remote practice locations necessitating collapsing MMM2–7 classifications into a heterogeneous 'rural' classification for analysis purposes. All participants trained within the south-eastern Australian states but generalisability to other regions is likely to be good (especially as the curricula and regulatory training requirements were national and because accessible and convenient university online learning options might attenuate any geographic effect on our outcome).

The response rate, while quite reasonable for questionnaire-based surveys of GPs,<sup>30</sup> entails potential for non-response bias.

## Conclusion

Gaining postgraduate and post-Fellowship qualifications is time-consuming and costly but has been accomplished or is being undertaken by a majority of early career GPs.

Qualifications obtained by GPs were mostly clinically related rather than academic, suggesting GPs are taking up more specialised education to support their clinical practice or, possibly, improve

employability. We have identified that having dependent children was an apparent barrier to obtaining further postgraduate qualifications.

**Table 3. Characteristics associated with postgraduate and post-Fellowship medical qualifications**

Variable	Class	Postgraduate qualifications			P
		No postgraduate	Only postgraduate	Post-Fellowship	
Australian medical graduate/International medical graduate	IMG	21 (19)	38 (26)	16 (21)	0.34
	AMG	91 (81)	106 (74)	59 (79)	
Dependent children	No	35 (31)	65 (45)	38 (51)	0.018
	Yes	77 (69)	79 (55)	37 (49)	
SES of current practice location	Mean (SD)	7 (3)	6 (3)	7 (3)	0.14
Current practice location	MMM 1	74 (65)	95 (69)	50 (75)	0.40
	MMM 2-7	40 (35)	43 (31)	17 (25)	
Current FTE	Part time	79 (69)	98 (71)	47 (69)	0.94
	Full time	35 (31)	40 (29)	21 (31)	
Gender	Male	39 (35)	41 (29)	27 (36)	0.40
	Female	72 (65)	102 (71%)	47 (64)	
Relationship status/spouse employment	No spouse	9 (8)	22 (15)	13 (17)	0.45
	Spouse employed FT	64 (57)	82 (57)	42 (56)	
	Spouse employed PT	26 (23)	24 (17)	11 (15)	
	Spouse not in workforce	13 (12)	16 (11)	9 (12)	
Any part-time work during training	No	75 (68)	99 (69)	52 (70)	0.96
	Yes	35 (32)	44 (31)	22 (30)	
Failed any exam component	No	78 (75)	113 (82)	59 (81)	0.40
	Yes	26 (25)	25 (18)	14 (19)	
Leave during training	No	80 (73)	105 (73)	52 (70)	0.88
	Yes	30 (27)	38 (27)	22 (30)	
Low SES practice location during training	No	73 (69)	73 (54)	40 (57)	0.053
	Yes	33 (31)	63 (46)	30 (43)	
Rural location during training	No	54 (51)	66 (49)	36 (51)	0.93
	Yes	51 (49)	68 (51)	34 (49)	
Registrar age (years)	Mean (SD)	36 (6)	36 (7)	36 (6)	0.99

AMG, Australian medical graduate; FT, full time; FTE, full-time equivalent; IMG, international medical graduate; MMM, Modified Monash model; PT, part time; SD, standard deviation; SES, socioeconomic status.

Data are presented as n (%) unless otherwise specified.

**Table 4. Associations with postgraduate qualifications: Univariable and multivariable models**

Variable	Class	Response	Univariable		Adjusted	
			OR (95% CI)	P	OR (95% CI)	P
Dependent children	Yes	Only postgraduate qualifications	0.55 (0.33, 0.93)	0.025	0.76 (0.58, 1.00)	0.053
		Post-Fellowship qualifications	0.44 (0.24, 0.81)	0.008	0.63 (0.45, 0.87)	0.005
SES of current practice location	Yes	Only postgraduate qualifications	0.93 (0.85, 1.02)	0.12	0.91 (0.83, 1.01)	0.074
		Post-Fellowship qualifications	1.02 (0.91, 1.14)	0.71	0.99 (0.87, 1.11)	0.82
Low SES practice location during training	Yes	Only postgraduate qualifications	1.91 (1.12, 3.25)	0.017	1.35 (1.02, 1.77)	0.033
		Post-Fellowship qualifications	1.66 (0.89, 3.11)	0.11	1.28 (0.92, 1.79)	0.14

Yes, class of response for dichotomous variables.

CI, confidence interval; OR, odds ratio; SES, socioeconomic status.

Reference for all comparisons is 'no postgraduate/post-Fellowship qualifications'.

## Authors

Ashley Blowes BND, Research Assistant, School of Medicine and Public Health, The University of Newcastle, Newcastle, NSW

Alison Fielding BND (Hons), PhD, Conjoint Lecturer, School of Medicine and Public Health, The University of Newcastle, Newcastle, NSW; Research Manager, GP Training Research, The Royal Australian College of General Practitioners, Newcastle, NSW

Andrew Davey MCLinEpid, FRACGP, Conjoint Lecturer, School of Medicine and Public Health, The University of Newcastle, Newcastle, NSW; Senior GP Researcher, GP Training Research, The Royal Australian College of General Practitioners, Newcastle, NSW

Dominica Moad BSW, MPH, Conjoint Associate Lecturer, School of Medicine and Public Health, The University of Newcastle, Newcastle, NSW; ReCEnT Project Lead, GP Training Research, The Royal Australian College of General Practitioners, Newcastle, NSW

Amanda Tapley BBiomedSci (Hons), MMedStat, Conjoint Fellow, School of Medicine and Public Health, The University of Newcastle, Newcastle, NSW; Senior Research Officer and Statistician, GP Training Research, The Royal Australian College of General Practitioners, Newcastle, NSW

Elizabeth G Holliday BSc (Hons), MSc, PhD, Professor of Biostatistics, School of Medicine and Public Health, The University of Newcastle, Newcastle, NSW

Jean Ball BMath, GradDipMedStats, Statistician, Hunter Medical Research Institute, Clinical Research Design and Statistical Support Unit (CReDITSS)/Data Sciences, Newcastle, NSW

Jason Dizon BMath/BCompSc, MMedStats, Statistician, Hunter Medical Research Institute, Clinical Research Design and Statistical Support Unit (CReDITSS)/Data Sciences, Newcastle, NSW

Michael Bentley BSc, MA, DrPH, Senior Research Assistant, GP Training Research, The Royal Australian College of General Practitioners, Hobart, Tas

Kristen FitzGerald BMedSci, MBBS (Hons), FRACGP, MPHMT, Senior Lecturer, Tasmanian School of Medicine, University of Tasmania, Hobart, Tas

Catherine Kirby PhD, BSocSc (Hons), Research, Evaluation and Policy Manager, Sexual Health Victoria, Melbourne, Vic; Research Manager,

Eastern Victoria General Practice Training (EVGPT), Melbourne, Vic

Allison Turnock BMedSci, MBBS, MPH/MHM, FRACGP, FRACMA, Adjunct Senior Lecturer, Tasmanian School of Medicine, University of Tasmania, Hobart, Tas; Medical Director – GP & Primary Care, Department of Health, Tasmanian Government, Hobart, Tas

Mieke van Driel MD, MSc, PhD, FRACGP, Emeritus Professor of General Practice, The University of Queensland, Faculty of Medicine, General Practice Clinical Unit, Brisbane, Qld

Parker Magin PhD, FRACGP, Conjoint Professor, School of Medicine and Public Health, The University of Newcastle, Newcastle, NSW; Senior Manager, GP Training Research, The Royal Australian College of General Practitioners, Newcastle, NSW

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## Correspondence to:

parker.magin@newcastle.edu.au

## References

- Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q* 2005;83(3):457–502. doi: 10.1111/j.1468-0009.2005.00409.x.
- Sethi A, Schofield S, Ajjawi R, McAleer S. How do postgraduate qualifications in medical education impact on health professionals? *Med Teach* 2016;38(2):162–67. doi: 10.3109/0142159X.2015.1009025.
- Yellamaty V, Ball L, Crossland L, Jackson C. General practitioners with special interests: An integrative review of their role, impact and potential for the future. *Aust J Gen Pract* 2019;48(9):639–43. doi: 10.31128/AJGP-02-19-4849.
- Rughani A, Riley B, Rendel S. The future of GP specialty training: Enhanced and extended. *Br J Gen Pract* 2012;62(599):288–89. doi: 10.3399/bjgp12X648972.
- de Bever S, Bont J, Scherpbier N. Strengthening general practice by extending specialty training? *Br J Gen Pract* 2019;69(682):222–23. doi: 10.3399/bjgp19X702305.
- Hays RB, Morgan S. Australian and overseas models of general practice training. *Med J Aust* 2011;194(11):S63–64. doi: 10.5694/j.1326-5377.2011.tb03130.x.
- Simon C, Everitt H, van Dorp F, Hussain N, Nash E, Peet D, editors. *What is general practice?* Oxford handbook of general practice. 5th edn. Oxford University Press, 2020; p. 1–28.
- Davies P, Moran L. The work of general practice. In: Davis P, Moran L, Roebuck A, editors. *The New GP's handbook*. 1st edn. CRC Press, 2021; p. 29–35.
- Cunningham WK, Dovey SM. Educating vocationally trained family physicians: A survey of graduates from a postgraduate medical education programme. *J Prim Health Care* 2016;8(2):115–21. doi: 10.1071/HC16016.
- Rosen R, Stevens R, Jones R. General practitioners with special clinical interests. *BMJ* 2003;327(7413):460–62. doi: 10.1136/bmj.327.7413.460.
- Salisbury C, Noble A, Horrocks S, et al. Evaluation of a general practitioner with special interest service for dermatology: Randomised controlled trial. *BMJ* 2005;331(7530):1441–46. doi: 10.1136/bmj.38670.494734.7C.
- Jones OT, Jurascheck LC, Utukuri M, Pannebakker MM, Emery J, Walter FM. Dermoscopy use in UK primary care: A survey of GPs with a special interest in dermatology. *J Eur Acad Dermatol Venereol* 2019;33(9):1706–12. doi: 10.1111/jdv.15614.
- Tsimtsiou Z, Sidhu K, Jones R. Why do general practitioners apply to do an MSc in primary healthcare? A retrospective study. *Educ Prim Care* 2010;21(2):105–10. doi: 10.1080/14739879.2010.11493889.
- Thompson D, Thompson C, Nassar N, Katelaris A. Additional qualifications of trainees in specialist training programs in Australia. *BMC Med Educ* 2019;19(1):247. doi: 10.1186/s12909-019-1686-8.

15. O'Sullivan B, McGrail M, Gurney T, Martin P. Barriers to getting into postgraduate specialty training for junior Australian doctors: An interview-based study. *PLoS One* 2021;16(10):e0258584. doi: 10.1371/journal.pone.0258584.
16. Sethi A, Schofield S, McAleer S, Ajjawi R. The influence of postgraduate qualifications on educational identity formation of healthcare professionals. *Adv Health Sci Educ Theory Pract* 2018;23(3):567-85. doi: 10.1007/s10459-018-9814-5.
17. Zarbailov N, Wilm S, Tandeter H, Carelli F, Brekke M. Strengthening general practice/family medicine in Europe-advice from professionals from 30 European countries. *BMC Fam Pract* 2017;18(1):80. doi: 10.1186/s12875-017-0653-x.
18. Magin P, Moad D, Tapley A, et al. New alumni EXperiences of Training and independent Unsupervised Practice (NEXT-UP): Protocol for a cross-sectional study of early career general practitioners. *BMJ Open* 2019;9(5):e029585. doi: 10.1136/bmjopen-2019-029585.
19. Pearce C, Liaw ST, Chondros P, Piggford L, McGrath B, Jones K. Australian doctors and their postgraduate qualifications. *Aust Fam Physician* 2003;32(1-2):92-94.
20. Bardoel EA, Russell G, Advocat J, Mayson S, Kay M. Turnover among Australian general practitioners: A longitudinal gender analysis. *Hum Resour Health* 2020;18(1):99. doi: 10.1186/s12960-020-00525-4.
21. Mayson S, Bardoel A. Sustaining a career in general practice: Embodied work, inequality regimes, and turnover intentions of women working in general practice. *Gend Work Organ* 2021;28(3):1133-51. doi: 10.1111/gwao.12659.
22. McGrail MR, Russell DJ, O'Sullivan BG. Family effects on the rurality of GP's work location: A longitudinal panel study. *Hum Resour Health* 2017;15(1):75. doi: 10.1186/s12960-017-0250-z.
23. O'Sullivan B, McGrail M, Gurney T, Martin P. A realist evaluation of theory about triggers for doctors choosing a generalist or specialist medical career. *Int J Environ Res Public Health* 2020;17(22):8566. doi: 10.3390/ijerph17228566.
24. McGrail MR, Chhabra J, Hays R. Evaluation of rural general practice experiences for pre-vocational medical graduates. *Rural Remote Health* 2023;23(1):7409. doi: 10.22605/RRH7409.
25. Harris MG, Gavel PH, Young JR. Factors influencing the choice of specialty of Australian medical graduates. *Med J Aust* 2005;183(6):295-300. doi: 10.5694/j.1326-5377.2005.tb07058.x.
26. Bilal B, Komal B, Ezeani E, Usman M, Kwabi F, Ye C. Do the educational profile, gender, and professional experience of audit committee financial experts improve financial reporting quality? *J Int Account Audit Tax* 2023;53:100580. doi: 10.1016/j.intaccaudtax.2023.100580.
27. Wakeling P, Laurison D. Are postgraduate qualifications the 'new frontier of social mobility'? *Br J Sociol* 2017;68(3):533-55. doi: 10.1111/1468-4446.12277.
28. Australian Bureau of Statistics (ABS). Education and Work, Australia: Data on engagement in work and/or study, current and recent study, qualifications, and transitions to work. ABS, 2024. Available at [www.abs.gov.au/statistics/people/education/education-and-work-australia/latest-release](http://www.abs.gov.au/statistics/people/education/education-and-work-australia/latest-release) [Accessed 29 March 2024].
29. Moad D, Tapley A, Fielding A, et al. Socioeconomic status of practice location and Australian GP registrars' training: A cross-sectional analysis. *BMC Med Educ* 2022;22(1):285. doi: 10.1186/s12909-022-03359-x.
30. Bonevski B, Magin P, Horton G, Foster M, Girgis A. Response rates in GP surveys - trialling two recruitment strategies. *Aust Fam Physician* 2011;40(6):427-30.

correspondence [ajgp@racgp.org.au](mailto:ajgp@racgp.org.au)