Integrated general practitioner training pathways: Components, barriers and enablers

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Background and objective
General practitioners (GPs) need postgraduate training pathways specific to their needs and integrated into local health environments. This scoping review investigates components of integrated GP training pathways including the barriers and enablers of effective pathways for GP recruitment and retention.

Methods
This review was guided by methodological framework of Arksey and O'Malley and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Extension for Scoping Reviews Checklist. MEDLINE, EMBASE, CINAHL and Scopus databases were searched for articles published between 2013 and March 2024. Included articles were analysed and categorised by thematic analysis.

Results
Twenty-seven articles were included, resulting in six key themes: (1) place-based training; (2) trainee background and connections; (3) support structures; (4) professional identity; (5) trainee demographics; and (6) family factors.

Discussion
The components, barriers and enablers of GP training pathways identified will guide development and evaluation of improved integrated training pathway options for GP trainees in Australia.

GLOBALLY, COMMUNITIES ARE CHALLENGED with a significant undersupply of general practitioners (GPs), leading to reduced access to healthcare and poorer health outcomes.[1] Despite considerable investment by the Australian Government to strengthen the GP workforce locally, it is projected that by 2031–32, Australia will face a shortfall of 10,600 GPs.[2] Driving this shortfall is a greater demand for GP services due to an ageing population and increasing rates of chronic and complex health conditions,[3] vacancies within GP training places, attrition from the profession and increasing rates of retirement.[1,2]

Integrated training, a program that incorporates a range of educational activities into one program, is traditionally used to enhance the uptake of professional training to aid recruitment and retention in specific areas. The first integrated training pathway for GPs and rural generalists (RG) was developed in Queensland in 2007.[4] The integration of GP/RG pathways as place-based and profession-led training focuses on producing medical graduates with fit-for-purpose clinical skills to meet the needs of the communities they serve.[3,5,6] As the development of integrated GP/RG training pathways are relatively recent, there is limited knowledge surrounding the components of these pathways and how they specifically support the recruitment and retention of GPs.

Barriers to recruiting and retaining GPs across Australia have been identified in recent studies, including diminishing prestige,[2,7,8] heavy work loads, long working hours and on-call responsibilities, increasing risk of burnout, reduced wellbeing and diminished work–life balance.[9] General practice is increasingly perceived as offering fewer financial rewards, reduced job security[10] and limited opportunities for career advancement.[11] In rural and remote areas, GPs (or RGs) work longer hours than their urban counterparts,[12] often practice in professional isolation[13] and lack ongoing training opportunities, professional support and human and physical resources.[6] Consequently, rural practice is recognised as an area requiring specialised training.

This scoping review aims to explore and understand the components of integrated GP training pathways, and how these pathways enhance

GP recruitment and retention from the perspective of doctors who have experienced the full spectrum of the training pathway, such as GP training registrars and GPs.

Methods

The scoping review methodology was based on the six-stage framework of Arksey and O'Malley,[14] but omitted the optional sixth stage (consultation), and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Extension for Scoping Reviews Checklist.[15] The protocol was not registered.

Identifying the research question

The questions 'what are the components of an integrated GP training pathway' and 'what training barriers and enablers are associated with an effective pathway for GP recruitment and retention' guided the review.

Identifying relevant studies

Searches were conducted between January 2024 and March 2024 in the MEDLINE (Ovid), EMBASE, CINAHL (EBSCO) and Scopus databases, and supplemented by a bibliographic and Google Scholar search. Medical subject headings (MeSH) and Boolean operators were used to ensure relevant literature was identified (Appendix 1; available online only). Only papers published in English from 2013 onwards were included.

Study selection

Study selection was managed using Covidence software (www.covidence.org). Duplicate articles were automatically removed, and remaining articles were assessed against the inclusion criteria (Table 1) in a two-stage screening process. Title and abstract screening were completed by six members of the research team (JP, SS, SR, NJ, SC, SP) and full-text screening by four team members (JP, SS, NJ, SR).

Charting the data

Data were extracted via Covidence software and included the aim of the study, country, type of pathway discussed, study design and participants, key outcomes and findings (Appendix 2; available online only). Data extraction was completed by four team members (JP, SS, NJ, SR). Data were examined for completeness and accuracy, with any conflicts discussed and resolved by consensus.

Collating, summarising and reporting

Data were collated into an Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA) and synthesised using content analysis to categorise data according to themes identified using methodology developed by Braun and Clark.[16] Themes were established based on components of training pathways/pipelines for GPs and barriers and enablers for recruitment and retention. Emerging themes were then reviewed and refined by the team.

Results

Twenty-seven articles were included in this review (Figure 1).

Studies from Australia were over-represented (n=19), with almost half of these (n=9) from Queensland. There were three studies each from New Zealand and Canada, one from the United Kingdom and one being a cross-regional study from Australia and Canada. Over half the studies were quantitative (n=15), with most studies

Table 1. Inclusion and exclusion criteria applied to the screening of the papers for this review

Criterion	Inclusion	Exclusion
Time period	January 2013 to January 2024	Studies published prior to 2013
Language	English	Non-English language
Country of origin	Australia, New Zealand, Japan, United Kingdom, Canada, Europe	United States of America, Countries from Asia, South America and Africa
Type of article	• Peer-reviewed • Primary sources • Full-text available	• Conference abstract • Secondary sources
Population	• General practice/practitioner, family medicine training, generalist or generalism • Postgraduate, prevocational, intern, resident, fellowship, clerkship, cadetship or vocational populations	• Disciplines outside of general practice • Medical students
Intervention/context	• Training, integrated pathways, pipelines, programs or frameworks	• Disease-specific research • Articles with a focus only on a specific skill (eg obstetrics) unless it was examined in the context of rural generalist
Outcome	• Components of the pathway/training • Barriers and enablers to general practice/practitioner recruitment and retention	• Rural health, rural medicine and/or rural general practitioners but without reference to training pathways

(n=22) either cohort or cross-sectional. The majority of studies investigated the effect of rural and remote locations for training and trainee outcomes (ie returning to these settings to practice) (n=24). Almost half (n=13) focused on vocational training pathways for postgraduates, 11 investigated prevocational training pathways for undergraduates and interns, and three investigated components of prevocational and vocational pathways.

Six key themes emerged: (1) place-based training; (2) trainee background and connections; (3) support structures; (4) professional identity; (5) trainee demographics; and (6) family factors, which are discussed below.

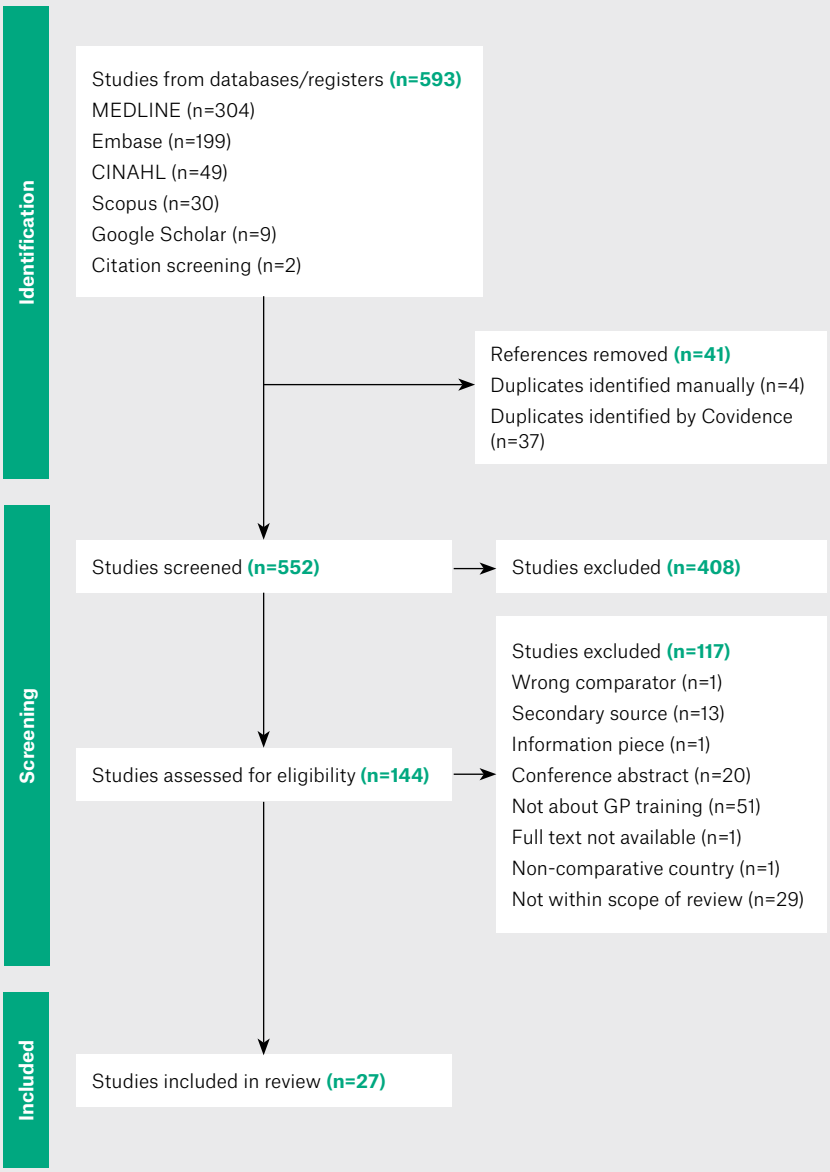

Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension (PRISMA) for Scoping Reviews (PRISMA ScR) flow diagram.

Reproduced from Rethlefsen ML, Page MJ. PRISMA 2020 and PRISMA-S: Common questions on tracking records and the flow diagram. J Med Libr Assoc 2022;110(2):253–7. Available at https://pubmed.ncbi.nlm.nih.gov/35440907 [Accessed 12 March 2024], with permission from covidence.

Theme 1: Place-based training

Place-based training appeared to be a key component of GP training pathways, with almost half of the review papers discussing its importance for recruitment purposes.[17–34] The primary objective of place-based training is to influence trainees' career choices towards regional/rural professional practice, ideally in the regions where training was undertaken.[17–34] One paper found that Rural Clinical School (RCS) graduates were more likely to stay in rural/regional areas if postgraduate training positions were available, with trainees who relocated to metropolitan locations for specialty training less likely to return to their undergraduate training region.[32] Multiple papers highlighted that training opportunities in rural settings helped bolster some trainees' career intentions,[18,31,35,36] while providing a variety of unique clinical experiences (ie exposure to public and Aboriginal and Torres Strait Islander health) often not available in metropolitan settings.[22] Place-based training providing advanced specialist training opportunities for GPs and RGs was considered an influential factor for some trainees' career choices and enables recruitment in regional areas.[24,31]

Place-based training was also a barrier to rural recruitment for some trainee cohorts. Rural GP/RG training was less influential for trainees from metropolitan or international backgrounds.[20] One paper indicated that international trainees often felt 'forced' to train in rural settings, discouraging them from rural careers.[31] Another study found relatively few metropolitan hometown graduates had ever practised in a remote/very remote location by postgraduate year (PGY) seven.[37] Rural/remote training was also often seen as costly for trainees, both financially and time spent commuting.[19] A lack of training positions available in regional/rural locations was another issue impacting rural recruitment,[31,36,38] with competition among

trainees for popular practice locations a common theme.[19,36,39] Fixed-term targeted place-based training programs were also problematic. Russell et al highlighted how the cessation of the Prevocational General Practice Placement Program (PGPPP) restricted the training locations available to trainees, which subsequently lead to a decline in uptake of GP training places nationally in the years that followed.[38] Overall, although place-based training was considered a significant influence on trainee career decisions and enabled recruitment to rural practice, for some trainee cohorts, it also generated barriers that discouraged or impeded those choices.

Theme 2: Trainee background and connections

Rural background combined with place-based training was identified as an influential factor for graduates choosing GP/RG training in two papers.[20,23] Furthermore, McGrail et al observed that 61–70% of GP graduates who had trained in their location of origin remained in that community five years post fellowship.[20] Trainees (and/or their partner) having established connections in rural communities was associated with choosing a rural practice location in both Canada and Australia.[24,29] Conversely, metropolitan background graduates are more inclined to choose metropolitan locations to both train and practice.[37]

Theme 3: Support structures

Two papers highlighted that GP training programs that allowed for a flexible course structure, flexible working hours and part-time training options that allowed favourable work–life balance were a drawcard for many trainees,[24,40] whereas another discussed the importance of support networks that encouraged, valued and supported GPs who desired to undertake further postgraduate qualifications.[40] Established GP and RG training pathways were generally viewed as well-developed, with structured pathways that provided trainees with the support required to train in rural areas.[24] However, trainees in rural settings emphasised they need to be involved in treating a high number of clinical cases to encourage ongoing rural practice,[35] with support around complex rural cases being important versus being 'thrown to the wolves'.[24]

Theme 4: Professional identity

Three papers emphasised that developing strong GP supervisor or mentor relationships were imperative for strengthening the professional identity of GP registrars,[19,31,36] with one paper stating that strong mentor/trainee relationships were as important as medical students, often influencing commitment to GP training pathways.[31] However, the cessation of the PGPPP was linked to reduced exposure to general practice and GP registrar role models during postgraduate and hospital years.[38]

Some trainees highlighted positive clinical experiences in GP settings during undergraduate and early postgraduate training (including RCS and PGPPP) as instrumental in developing their interest or strengthening their commitment to a career in general practice.[18,31,36] Furthermore, training in rural settings was associated with greater autonomy in practice, more complex and diverse patient presentations and allowed for teamwork within the wider medical field and community,[19,24] with continuity of care acknowledged as an influencing factor in career choice for some junior doctors.[18]

One paper highlighted that exposure to negative stigma and perceptions about general practice in hospital environments can undermine decisions to enter the field,[38] whereas another emphasised that practice culture could either support or negatively impact the registrars' satisfaction with their training.[19] Two papers expressed that trainees perceive GPs as susceptible to burnout due to high workloads,[18,25] with heavy workloads and burnout being described as influential factors for some early career doctors in the United Kingdom delaying deciding on a specialty or taking time off from training.[41] Better remuneration and employment models for GPs were discussed in one paper, as a lack of benefits including long service leave and poor pay leads to registrars preferring other specialist positions.[38]

Theme 5: Trainee demographics

The demographics of trainees differ significantly between states in Australia, as shown in multiple papers. Three papers observed significantly more females (between 56% and 77%) in training pathways,[17,42,43] with one paper indicating males (58%) and older registrars (aged 42 years and older) more prevalent in The Australian College of Rural and Remote Medicine (ACCRM) independent pathway.[42] One paper indicated that females were more likely to have practised in a remote location between PGY 4 and PGY 10.[43] Females and older graduates who had trained in rural settings were more likely to return to these areas to practise,[29] with one study indicating older graduates preferred general practice due to its shorter training period.[38] However, gender was not shown to be an influential factor on practice location in one paper.[23] A more recent paper found that males were more likely to complete more than 40% of their prevocational training time in a rural area.[21]

Theme 6: Family factors

Arranging placements and training requirements around partners and families was seen as a barrier for some trainees, especially for females in one study,[39] whereas another study found that early career GPs pursuing a rural medical role were seen to be influenced by the flexibility for partners finding suitable rural work, particularly for female-fellowed GPs.[24] In addition, another study indicated that graduates who were married/partnered and those with children generally choose a specialty with a shorter training period such as general practice.[38] However, one study found that having a spouse from a rural area did not influence practice location for graduates.[23]

Discussion

This scoping review demonstrates that integrated GP training pathways in Australia and internationally have similar components, and there are similar barriers and enablers for retention and recruitment of GPs/RGs. Our findings indicate that a significant focus of research is weighted towards the effects of rural GP/RG training pathways on recruitment and retention, with an end goal of sustained rural practice. This is likely due to many of these studies being linked to the outcomes from RCS on recruiting and retaining a non-metropolitan workforce. However, there is insufficient evidence surrounding the effect of metropolitan

and urban training locations on career outcomes, making it difficult to ascertain if these trainees experience similar barriers and enablers when pursuing a career in general practice, therefore, presenting a gap in the evidence. Additionally, as a significant proportion of included studies have focused on the RG pathway in Queensland, it is unclear if the barriers and enablers experienced by these graduates can be generalised to graduates from metropolitan-based settings or other Australian states/territories.

Collectively, the papers in this review identified a significant association between a GPs/RGs location of origin and their location of training with graduates subsequently returning to those locations to practise, which is consistent with findings from previous research.[6,44–46] However, the availability of training positions and competition for popular practice positions create barriers for some trainees in pursuing GP/RG careers, especially in rural and remote regions, as highlighted in previous research.[5,21] Additionally, the cessation of the PGPPP program has negatively impacted interest in general practice, as this was a pivotal time for providing exposure to general practice and promoting general practice as a career during junior doctors' hospital years.[38] This perspective on the value of general practice placement opportunities during junior doctors' hospital training is also acknowledged in the study by McGrail et al,[47] which investigated the perspectives of junior doctors who undertook rural general practice placements as part of the Rural Junior Doctor Training Innovation Fund (RJDTIF) program and had yet to commit to general practice training. The experience of rural general practice placements for medical students and junior doctors is pivotal for developing interest in general practice training and requires further review to understand key elements that influence selecting general practice as a career. Our findings are consistent with previous research that indicates the development of strong relationships with preceptors and mentors during all stages of the trainee experience as fundamental for creating and/or strengthening interest in general practice careers.[5,6,45,48] Additionally, our review supports previous research that demonstrates exposure to positive clinical experiences and positive perception of general practice increases the desirability of trainees pursuing this career option.[5,6,45,48] Offering RCS and junior doctor general practice placement opportunities, such as those previously offered by the PGPPP and currently the John Flynn Prevocational Doctor Program (JFPDP), has been demonstrated to increase opportunities for developing relationships with preceptors and positive clinical experiences prior to entering a GP training pathway.[47]

Our results align with other studies that acknowledged a career in general practice is frequently preferred by women, older trainees and those with families due to its flexibility surrounding part-time working hours and shorter training period.[45,49–51] Additionally, our findings support previous research that indicates trainees favour training pathways that allow for flexibility in course structure and offer multiple avenues for advanced specialist training.[3,45,49,52]

Limitations

There were limitations to our scoping review. The decision was made to exclude medical students and junior doctors and focus on those that had direct experience of the GP training pathway, which might have resulted in missing important information surrounding the barriers and enablers associated with early career decisions. In particular, this might have limited the perspective of junior doctors who experienced early elements of the training pathway such as RCS placements or the JFPDP and who choose not to continue onto the GP training pathway or had not yet begun GP registrar training. Additionally, we excluded grey literature and limited the search to articles published within the last decade. As there are constant changes in the GP training pathway landscape, it was decided by the team to capture the most up-to-date perspectives on the training pathway. We acknowledge that limiting our search to this time frame might have not captured the breadth of landscape changes in GP training.

A quality assessment of the included studies was not performed, as this is not a requirement of scoping reviews, which might result in some studies of poor quality being included in this review.

Conclusion

This scoping review highlights the many strengths associated with the GP training pathway in Australia. Providing opportunities for GP/RG trainees to train in rural and remote areas increases the possibility of early career doctors from these regions choosing general practice careers, while also increasing the likelihood of GP/RG registrars remaining in these underserved areas long term. GP training pathways that allow for flexibility in delivery and encourage trainees to develop relationships and connections are valuable components for increasing recruitment of GP trainees and retention of GPs. The findings from this scoping review have implications for the development and evaluation of current and future GP training pathways to ensure that enablers to GP training are strengthened and barriers are minimised.

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