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Burgis-Kasthala, Sarath; Bain-Donohue, Suzanne; Tailby, Ellen; Stonestreet, Kathryn; Moore, Malcolm

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How the training pathways and capacity of rural physicians inform their scope of practice: A qualitative study examining the experiences of Australian and international medical graduates in South-East New South Wales, Australia

Sarath Burgis-Kasthala PhD[1,2,3] | **Suzanne Bain-Donohue VCHAM**[1] | **Ellen Tailby MMedRadSc**[1] | **Kathryn Stonestreet MBA**[1] | **Malcolm Moore FRACGP**[1]

[1]Rural Clinical School, Australia National University, Canberra, Australian Capital Territory, Australia

[2]ScotGEM, University of St Andrews, North Haugh, St Andrews, UK

[3]ScotGEM, University of Dundee, Nethergate, Dundee, UK

Correspondence
Suzanne Bain-Donohue, School of Medicine and Psychology, ANU College of Health and Medicine, The Australian National University, Florey Building, 54 Mills Road, Canberra, ACT 2601, Australia.
Email: suzanne.bain-donohue@anu.edu.au

Abstract

Introduction: Current strategies to address shortages of rural doctors focus on developing a pipeline for rural generalist practice. Limited research has explored how doctors' professional journey engenders the skills required to practice rurally.

Objective: This paper analyses how rural general practitioners' clinical pathway informs their scope of practice and future retention.

Design: Qualitative thematic analysis using semi-structured telephone interviews. Twenty-one general practitioners appointed in their local health district of Murrumbidgee and Southern New South Wales, Australia, within the past 10 years. Participants comprised 10 Australian medical graduates (AMG) and 11 international medical graduates (IMG).

Findings: AMGs and IMGs contrasted how their pathway into rural practice, and capacity to work rurally, informed their scope of practice. Australian medical graduates' familiarity with rural areas was consolidated through congruous experiences, including at rural clinical schools. Paradoxically, the fluency of their training limited the amount of unsupervised experience and confidence AMGs gained. Together with a focus on work-life balance, this limited many to providing mainstream general practice, precluding extending their scope of practice. International medical graduates described disseminated experiences, often unsupervised in high-volume contexts. However, a lack of professional opportunities prevented them from extending their scope of practice.

Discussion: IMG and AMG motivation and pathway for working rurally differ. Respective cohorts have concerns regarding requisite skills and knowledge for rural practice, which incorporates opportunity and recognition. Entry points for

training should be variable to allow consideration of life stage, prior skill development and extension of scope of practice.

Conclusion: Doctors' scope of practice is informed by their pathways into rural practice. Australian medical graduates may not gain adequate competence during expedited training programs to confidently undertake extended clinical activities. International medical graduates, however lacked the opportunities and support, to utilise their expertise in rural practice. Complementarily utilising the expertise and commitment of both AMGs and IMGs may synergistically address workforce shortages.

KEYWORDS

capacity building, general practice, pathways, rural, workforce

1 | INTRODUCTION

Shortages of doctors in rural areas are compounded by a general preference of doctors to work in urban areas[1] and a relative shortage of general practitioners.[2,3] These interact as rural areas require comparatively more general practitioners.[4,5] Recent strategies to address this shortage include developing a cadre of doctors described as rural generalists,[6] who may combine their role as a general practitioner with additional speciality interests. For example, the Royal Australian College of General Practitioners is currently developing a rural generalist fellowship with its first intake due in 2022.[7] Limited research, however, has explored how the nature of such training facilitates doctors' professional development and engenders the skills required to practice rurally.

Individuals' experiences at undergraduate and postgraduate levels facilitate their appreciation, intent and level of recruitment into rural practice.[8–16] Additionally, the potential scope of practice, professional opportunities, work-life satisfaction and work-conditions further influence both recruitment and retention. A key narrative is that rural physicians are attracted to working in rural sites by the extended scope of practice it proffers, including greater clinical autonomy and continuity of care. These, however, may require rural physicians to develop distinct clinical skills. Consequently, a concern of many potential rural doctors is obtaining the requisite professional and educational opportunities.[17,18] If these are limited, some doctors may feel their career will stagnate.[19,20] Another concern of practicing rural physicians is how to manage the workload associated with such an extended scope of practice.[19]

Some research evaluates strategies designed to promote rural practice. These principally take three forms (Table 1) focussing on recruitment, with relatively little research examining retention.[14,30] Underpinning these strategies is the notion of the training pipeline. In Australia, this has

What this paper adds

- Australian medical graduates may initially lack the confidence and experience to provide an extended scope of practice; the training pipeline therefore should continue to offer opportunities for experienced rural practitioners to expand their clinical remit.
- International medical graduates (IMGs) often have significant secondary care experience and a commitment to expanding their scope of practice. Providing IMGs opportunities to work in secondary care whilst supporting the development of requisite skills in general practice may increase the likelihood of their retention.
- Ensuring both have supported and interacting entry points, including opportunities to obtain postgraduate qualifications, may provide synergies in facilitating mutual support and increasing retention.

What is already known on this subject

- There is a shortage of rural doctors both in Australia and internationally, with current strategies focussing on developing a pipeline for rural generalist practice.
- Rural practice proffers greater opportunities for extended scope of practice: This may attract some doctors but may equally discourage other doctors from rural work.
- International medical graduates provide a significant contribution to health workforces, especially in rural areas, in Australia and globally.

TABLE 1 Strategies for increasing recruitment of rural physicians.[3,4,8–12,14–17,21–29]

Strategy	Benefits	Critique
Admitting those with a rural background	Rural background increases the probability of future rural practice	Most rural practitioners do not have a rural background so may neglect significant pool of potential rural doctors
Rural undergraduate or postgraduate training	Facilitate development of rural-specific clinical skills Early exposure increases an intention to practice rurally Length of exposure associated with increased rural recruitment	Need to ensure that overarching curriculum empowers rural practice Limited evidence that recruitment leads to longer-term retention Compulsory placements may engender resentment inhibiting recruitment
Provision of incentives linked to working or studying rurally, including mandated practice	Increases exposure to rural practice Mitigates workforce shortages in rural areas	Mixed effectiveness Undergraduate bonding schemes have significant attrition Mandated doctors may have lower job satisfaction

led to the development of rural clinical schools, in which medical undergraduates undertake a significant period of their training in rural locations, and integrated rural training hubs, that provide postgraduate, clinical placements for rural-practice with the aim of facilitating a continuous pipeline leading to rurally embedded practice.[14,21,31,32] Despite this, international medical graduates (IMGs) significantly contribute to the health workforce in Australia and globally.[22,33] In Australia, most are mandated to work in underserved, often rural, areas for a fixed period of time before they can practice in more urban locations.[22,34] This paper draws on data from a study on rural recruitment and retention to examine how the pathways doctors take into rural work inform their scope of practice and future rural retention.

2 | METHODS

The study used qualitative thematic analysis[35] to explore the pathways to, and nature of, rural practice of 21 doctors recruited to a region of rural NSW, Australia between 2008 and 2018. The cohort comprised Australian medical graduates (AMGs) and IMGs and included doctors with different degrees of rural exposure or origin.

2.1 | Participants

The research team sent a letter, including a participant information sheet, to all practices within rural areas of South-East New South Wales ($n = 60$) inviting general practitioners who had worked in the region for less than 10 years. Practices were then contacted once by email and telephone to clarify they had received the letter and follow-up non-responders. All participants were general practitioners who had worked within the Murrumbidgee and Southern NSW Local Health Districts for less than 10 years (Table 2).

TABLE 2 Participant details.

Gender		
International medical graduates (IMGs)	Female	5
	Male	6
	Other	0
Australian medical graduates (AMGs)	Female	6
	Male	4
	Other	0
Bonding/work requirements		
IMG	Required to work in area of district workforce shortage	11
AMGs	Rurally bonded	4
Training location		
IMGs (country)	India	3
	Sri Lanka	2
	Pakistan	2
	Kenya	1
	Latvia	1
	United Kingdom	1
	USA	1
AMGs (medical school)	Australia National University	4
	University of Wollongong	3
	University of NSW	1
	University of Sydney	1
	University of Tasmania	1

2.2 | Research team

The research team was composed of the five authors who were all employed by the rural clinical school, at the Australian National University at the time of the research. Two authors were clinically qualified general practitioners and were international (UK) and AMG, respectively, whilst the other authors were non-medically qualified. The team has substantial experience conducting qualitative research, including using thematic analysis, and wished to understand

how best to increase the retention of doctors working in rural areas. This was articulated in the participant information sheets. None of the research team had a prior relationship with any of the participants.

2.3 | Data collection

SBK and MM (identifies as male), SBD, ET and KS (all identify as female) conducted semi-structured interviews in 2018 to explore the participants. Interviews were conducted by telephone, began by obtaining informed consent and ranged from 14 to 45 min in length. All interviews were recorded and subsequently transcribed by a third-party transcription service adhering to strict privacy protection requirements. A member of the research team checked the accuracy of each transcript. Identifying data, including participants' names, training and work locations, was removed to maximise participants' confidentiality.

2.4 | Analysis

As per our methodological approach,[35] a literature review was conducted and used to develop an initial framework. This encompassed broad themes previously identified in the recruitment and retention of rural practitioners and formed the basis of our interview guide (see Appendix 1). Reflexive thematic analysis was then utilised to enable a deeper examination of the latent factors involved at a personal and professional levels that influenced participants' decisions to work/ continue working rurally, and their scope of practice; as analysis proceeded, this highlighted their training pathways and capacity or expertise and enabled us to develop our conceptual framework. Two team members coded each interview initially by hand.

Second phase coding was aided by the use of NVivo 11. When differences in coding occurred, discussion between the two coders helped reframe themes and develop conceptual insights. Codes and themes were further refined through a series of team meetings, allowing us to develop a conceptual framework that encompassed both AMGs and IMGs. At the culmination of the data collection phase, the research team felt that subsequent interviews would provide little further conceptual depth suggesting relative data saturation.

2.5 | Ethics approval

The Australian National University Human Research Ethics Committee accorded ethics approval for this study. (Protocol 2018/017).

3 | RESULTS

Participant details are provided in Table 2. The 21 participants included similar numbers of female and male, IMGs and AMGs, from a variety of medical schools and countries of origin. Whilst four AMGs were bonded, and hence required to work in a rural location, all IMGs were mandated to work in an area of district workforce shortage, most commonly rural areas.

The findings discussed in this paper identify two principle themes informing rural doctors' scope of practice: their pathway into rural practice and their capacity to work rurally.

3.1 | Theme 1—Pathways

The first theme comprises the pathways of why and how participants embarked upon rural practice, AMGs and IMGs described contrasting narratives, which explained why and how they began rural practice in Australia. Australian medical graduates highlighted their rural background and experiences, both professional and personal, as well as the fast-tracked nature of their route to rural recruitment. In contrast, IMGs highlighted their international professional identity, and a broader global journey to rural practice that emphasised their broader spatial outlook.

3.1.1 | Australian medical graduates

Australian medical graduates emphasised a sense of rural-belonging, which was intrinsic to their identity. This contained a roadmap encompassing both personal and professional experiences during undergraduate and postgraduate training. For example, this participant highlights their rural origin and links this to the places they studied and trained subsequently.

> So I came from [RA3 / MM 5 coastal town], grew up in [RA3 / MM 5 coastal town], down here in the South Coast, and went to [RA1 / MM 1 university]. I spent about a year – during my training, did a year out in [RA 3 / MM 5 inland town], out west, and then came and did my internship at (RA1 / MM 1 university town], did three years at [RA1 / MM1 university town], and then I took a post in [different RA2 / MM 5 coastal town] to do the obstetric diploma to upskill in that area. And then [the plan] was to come for a year

> and then I ended up just staying and getting a job at [practice].
>
> (AMG03)

Another participant described how their prior experiences provided them with specific knowledge of what it was like to work rurally, which increased their familiarity with rural practice.

> I grew up in a really small town and my mum is a doctor and she's a rural GP who does obstetrics as well, and I had a fair bit to do with the practice there. I knew a lot of the other doctors and I spent a lot of time at the hospital. I often went on the rounds with mum and did baby checks on the weekend and different things just because she had to bring us along. So I got to know the nurses, and I used to hang out at the nurses station a lot. So I spent a lot of time around the hospital and in that system.
>
> (AMG06)

Significantly, AMGs described several rural experiences—personal and professional, formal and informal—across different time-periods. These helped embed a rural sensibility so that even if they strayed, they could always return to a rural pathway. This cascade of experiences is described in the following quote.

> Alright, so I'm currently PGY6 [postgraduate year 6] so I guess my path to here was I grew up on the south coast of New South Wales on a 25 acre block in a place called [location] and I did a Bachelor of Medical Science degree at (RA1 / MM1university], thinking that I probably was interested in doing medicine. I got involved in University Rural Health Club at [same university]and also got involved with the National Rural Health Students Network during my undergraduate degree, and through that went to a number of conferences and rural-themed activities which I feel gave me a purpose to go forward with medicine and use it rurally to try and contribute to what I felt was an exciting career.
>
> (AMG10)

Interestingly, despite such a variety of rural experiences, some doctors described how the pathway itself was relatively short. Whilst this facilitated their recruitment into rural practice, it limited the level of capacity of those doctors as they transitioned to working autonomously (discussed in capacity). This doctor alludes to this in a discussion of their practice.

> Yeah, so a GP is the shortest pathway as well. There was a lot of things to think about. The short pathway is useful as well because here I am almost at the end of it, all of a sudden. I still feel like I'm a second-year medical student and I've got medical students sit here with me all the time.
>
> (AMG08)

Australian medical graduates narratives encompassed their motivations of working rurally, including maintaining a balance between work and their personal lives. This incorporated a need of being accepted by their communities. This sense was burgeoned, as in the following case, by their experiences as students or in postgraduate placements as well as the shared narratives of their mentors.

> The community kind of coming together and showing us around and being so grateful to us for being there and wanting us to be around, even as students. That was really what attracted me, the sense of community.
>
> (AMG02)

> And Dr [name] grew up in [rural town] and went away and then came back. And just yeah kind of seeing the, this is a, this is the kind of place where people, if they're from here they always come back. And if they're not from here they do decide to stay... And if you just look at who's happy, you know these people are happy here and a lot of the doctors who work here are happy whereas you know some other doctors in some other fields and especially in big cities are not necessarily happy.
>
> (AMG02)

Finally, some AMGs specifically chose a rural pathway that provided them with opportunities to expand their scope of practice, with the aim of combining mainstream general practice with additional, often hospital-based, work as a rural generalist. Thus, rural generalism offered a unique pull, by allowing doctors to combine general practice with further in-depth specialist practice.

> I got onto the GP training programme to start in my PGY2 [postgraduate year 2] year and

> decided during my PGY2 year that I enjoyed obstetrics and wanted to do some GP obstetrics, so in my PGY3 year I got a place in the New South Wales Rural [Generalist] Training Programme and I took up a rural generalist training post in obstetric.
>
> (AMG10)

3.2 | International medical graduates

Conversely, IMGs described an international pathway. Paralleling their Australian-trained colleagues, their narratives were enshrined with their professional identity, but that of being an international doctor. Many pathways thus included periods of work both in their home country, and one or more further countries, before arriving in Australia. This participant discusses their intention of working internationally from the outset of medical school.

> I always knew when I joined the medical institution that I was going to, I wasn't going to stay back home. The institution I studied is the top institution in Pakistan. You've got to really study hard to get into it. All the graduates I think I can pinpoint the couple that stay back home. The whole batch moves out. They go to the United States, or England, or Australia. These are the three major countries that we normally move to.
>
> (IMG12)

In contrast to AMGs who described choosing to work rurally, most IMGs described regulatory processes, which bound them to rural practice. Their discourse, rather than suggest an autonomous empowered choice to work rurally, carried a sense of resentment and inequity as in this following quote.

> Now as you know, an Indian overseas doctor, the government doesn't want us to work in the major cities, it's a bit of discrimination, so I had no choice but to move rural.
>
> (IMG12)

Their choice of where specifically to work was, however, also interrelated to the shared narratives of their peers, who often comprised other IMGs. Their relationships with colleagues were often instrumental in how they entered, and where they began, rural practice.

> I visited [Ra3 / MM 5 location] last year, before I started I visited it about three to four months when [colleague] started. He just asked me to come for a visit, and I did come and visit, and I was like, okay, quite small but I think it would be nice.
>
> (IMG20)

Several IMGs described a lack of formal professional opportunities or training to allow them to gain the further qualifications they required to move into autonomous urban practice. Consequently, especially with the rise in online educational activities, several IMGs discussed how they had informally organised self-directed further training. Reflecting their broader spatial orientation, this could be online with colleagues across Australia. This participant describes how they tried to support other recently recruited doctors.

> I've been helping lots of people to come here and I've been providing all the resources that I can provide. I also used to do training online and I made a group called [group name] and I made different formats for how to, what are the common mistakes that the overseas trained doctors do. So, I've been trying my bit whatever I can do.
>
> [IMG21]

3.3 | Theme 2—capacity

The second theme was human capacity and growth and describes how participants' capacity, and scope for further practice, not only informed their choice to practice rurally, but how their experiences enabled or undermined their potential development. Several mentioned their work or opportunities to work as visiting medical officers (VMOs); this term describes GPs who also provide medical services in a public hospital or health-service.[36]

3.4 | Australian medical graduates

Australian medical graduates described multiple opportunities to develop a range of skills which could increase their scope of practice, potentially increasing their professional fulfilment.

> I feel like there's a huge range of doctors here that give you lots of different skills and everyone is pretty happy for you to call them if you need to. So there's the doctors who do the obstetrics, bit of anaesthetics, hospital work, opioid treatment stuff, there's lots of different

> experience here which I really like. So that's good.
>
> (AMG06)

Not all rural locations were described as equal, with some participants noting how different areas provided different opportunities, often based on their size or number of doctors working within an area. For example, this AMG described how their work in a larger rural town provided more opportunities to develop a special interest.

> But it's a bit, I guess it's probably a town of this size and a hospital of this size they're more inclined to get visiting locums rather than GP VMOs. Whereas towns of a smaller size, like [location] are very happy with GP VMOs. A lot of my work is fairly procedural. I do a lot of skin excisions and things like that. And there's the ability for me to kind of to pursue an interest, any interest. Like for example mental health or COPD or geriatrics. There's definitely a role and a way for me to increase, pursue my interests in various fields of general practice.
>
> (AMG02)

Interestingly, however, some doctors described being underprepared in extending their scope of practice, which could discourage some doctors from working rurally. This was described clearly by this participant.

> being a resident or registrar to suddenly being a VMO, especially in those rural situations where you might be the only one there and you've got to deal with everything. I think more people would do it if there was a more structured or graduated entry into that role.
>
> (AMG04)

This was partly due to the transition to working as an autonomous general practitioner providing sufficient challenge, particularly for newly trained GPs. This was also appreciated by some IMGs who noted the lack of capacity and confidence in early-career AMGs. Particularly in a rural setting, where there may be smaller volume of cases in which to develop expertise, extending trainees' skills may require more intimate supervision to allow them to maximise the education value of each patient encounter. In the following quote an IMG, with prior experience working in Canada, contrasts different supervisory approaches and how these relate to how trainees can develop the requisite skills for autonomous practice.

> I have worked in Canada and the hospital where I worked there were lots of residents. There is usually one on one training between resident and their preceptors. In Australia it's different. Okay? The model is most doctors are not well-trained in, even after their initial two three years of training...If there is, there are more preceptors, more trainers you know who can spend more time with patients, sorry with junior doctors, that would improve their... This is the only reason I'm saying that first couple of years it is difficult for junior doctors to manage complex patients.
>
> (IMG19)

Finally, some AMGs noted the contrast between their experiences as trainees and as independent general practitioners. As trainees, they often worked in supported environments and had limited opportunities to take responsibility of patients in a relatively autonomous setting. Transitioning to autonomous practice added to their work pressure, thus the added responsibility of VMO work could further compromise their work-life balance. This is described in the following quote by an AMG who whilst working as a VMO themself noted that other colleagues had departed due to this obligation.

> I have had other registrar colleagues come to [town] and they would probably stay in [town] longer than 12 months if they didn't have to do the VMO work, particularly ones that have families and where they ... yeah, they just find it harder to maintain a work/life balance because of the hours and just getting a bit fatigued from work and it is a big jump going from being in a tertiary hospital emergency department where there's lots of other emergency doctors around compared to running an emergency department in a small town where you're the main doctor
>
> (AMG10)

3.5 | International medical graduates

International medical graduates almost ubiquitously described expertise cultivated through prior multi-national experiences, in which they often had to work autonomously in under-resourced settings. For the majority these were from low- and middle-income countries, but several described working in other rural contexts in higher income countries, such as Canada. In contrast to

their Australian-trained colleagues, IMGs described finding the caseload within rural practice relatively manageable compared to their past experiences.

> I had to see about 50 or 60 patients in the outdoors which is not how it should be. But because we're not funded the government is not doing what it should. Yes, I thought I would get nowhere really. That's when we decided to move [to Australia].
>
> (IMG12)

However, this experience was often in settings with less well-regulated, consistent quality assurance processes. Moreover, the diversity of IMGs' prior experiences and expertise meant that, as a group, their capacity was especially heterogeneous. This point was noted by this AMG who described mixed experiences working with IMGs, both as a peer and as a supervisor.

> Some of them [IMGs] are terrific doctors, but not all, and sometimes they get landed in the middle of nowhere with not much support, and it's pretty difficult for them.
>
> (AMG05)

In contrast to AMGs, IMGs lamented the lack of VMO opportunities and wished more of these. They were prevented from doing so by processes out of their control which they had expected to be relatively straightforward.

> So I just dream to be a GP and wanting to work independently, you know. Because we are not getting chance to get into the hospitals and all that stuff. I don't know the reason because we are not meeting the criteria and I don't have the registration
>
> (IMG21)

Whilst such opportunities were limited, they were balanced by their experiences within mainstream general practice. This provided job satisfaction and an opportunity to build a financially sustainable practice. This is described in the following quote.

> The [RA2/MM 4 inland town] town, when I started my practice here, if I tell you truth, I was surprised. There was some elements, some people they were not getting any kind of care. People with ischemic heart disease not on aspirin. They don't know why they have no investigations and oh you cannot believe. Like I diagnosed, when I moved here, cancers, new ischemic heart disease, giant-cell arthritis
>
> (IMG19)

4 | DISCUSSION

In our study, AMGs and IMGs had contrasting motivations and priorities in describing their pathways for recruitment into rural practice, how this influenced their capacity and professional growth, and thus informed their scope of practice (Figure 1). Australian medical graduate motivations were intrinsically personal. They cited their familiarity with rural areas, often consolidated through multiple congruous experiences. The experiences occurred prior to starting medical school, whilst in their Rural Clinical School, or as a junior doctor. Rural training was thus perceived as helping students and junior doctors gain a broader range of clinical skills in a supported environment. However, paradoxically, the fluent nature of the integrated rural training pipeline limited the amount of autonomous experience AMGs gained prior to working as a rural general practitioner. Some, supporting other research, thus described a lack of confidence managing more acute and complex cases autonomously.[37,38] Together with a focus on work-life balance, this limited many to providing mainstream general practice, precluding extending their scope of practice.

International medical graduates' motivations for working rurally were largely to gain professional

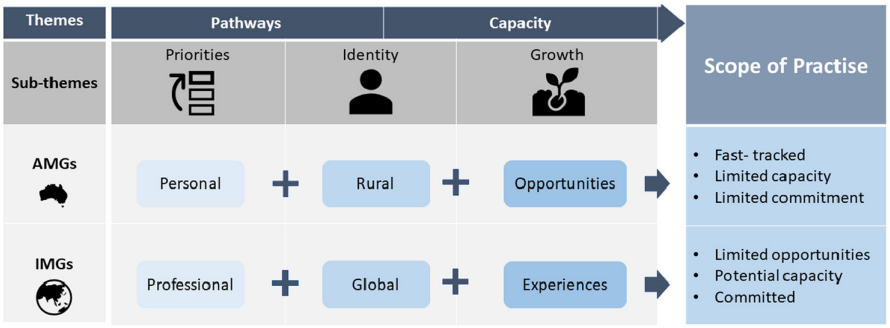

FIGURE 1 How pathways and capacity of rural doctors influence their scope of practice.

qualifications. International medical graduates had expectedly diverse backgrounds and experiences. Reflecting this, there were concerns raised by both AMGs and IMGs about the heterogeneity of IMGs' medical education, and the processes of ensuring they had the requisite knowledge and skills. Paralleling this, the registration and accreditation process for IMGs was widely described as convoluted, overly complex and misinformed. Most had unsuccessfully sought fellowship training, which contributed to a sense of dissatisfaction, described in other research.[22] In contrast, an outlying study from the Hunter New England region of New South Wales, Australia describes high job satisfaction and support amongst IMGs who had largely gained accreditation and were permanent residents.[18]

Given the diversity of doctors migrating to Australia from overseas, a variation in quality is expected; however, most IMGs described extensive experiences in a variety of specialties, often at high volume in a rural (or similar) setting. Interestingly these experiences were often in secondary or tertiary care—thus, it was perhaps the primary care, and especially non-technical, aspects of rural practice that were most difficult; they thus felt especially marginalised by limited opportunities to work as VMOs in secondary-care where they felt they had an advantage.

This balance between the context—including the level of supervision and location(s) of prior experiences, clinical confidence and capacity—is described in other analyses and is critical in considering policies that address rural workforce shortages.[37–39] Given most early career Australian-trained doctors, even those attending rural clinical schools, are likely to have studied and practiced in (often appropriately) relatively protected training environments, it is natural that some may lack the confidence to begin both independent general practice and VMO work simultaneously.

This critique is not a criticism of rural generalist training especially as the majority of patient needs fall under mainstream general practice which the training pathways still promote; rather, we suggest that rural generalist training should (continue to) include different entry points in which practitioners can extend or revise their scope of clinical practice. For some, this may be during their postgraduate general practice training as some will wish to initiate autonomous practice combining mainstream general practice with extended practice as a visiting medical officer. In this respect, an analysis of IMGs in North Queensland, which notes how the life-stage of the clinician alters how they balance work, family and lifestyle priorities, resonates amongst both AMGs and IMGs.[33] Whilst, as in North Queensland, IMGs within our study described prioritising their mandated work obligations and were thus acutely aware of the skills they could not use in being denied VMO opportunities, early career AMGs conversely prioritised issues of lifestyle and family. This importance of life-stage may also explain the findings of a previous study, which demonstrated a lag period between graduates of a rural clinical school later choosing to work in rural practice.[31]

For such early-career doctors, sub-specialty fellowships, with support in a protected environment, following the commencement of independent general practice, or when, for example, their children are older and they have greater time to devote to extending their clinical practice, may allow them a chance to settle into professional practice whilst secondarily providing them with an environment to develop a range of professional colleagues and friendships which may promote retention. Further research also suggests that familiarity with the local context and such support may facilitate doctors in positively extending their scope of practice.[40]

Such pluralised pathways will necessarily interact with the rurality of training locations with some remote areas unlikely to be able to provide the volume of experiences required for extending their clinical skills. It, however, may be possible in larger rural centres, where the majority of needs are likely to be. Such regional centres may thus act as transition points where the majority of patients reside, and the majority of doctors may choose to work, but where a significant number develop the expertise and sensibility to work in more remote areas.

In managing such complex workforce and population needs, there may be a synergy between the needs of IMGs and utilising their technical capacity. Whilst IMGs comprise a heterogenous cadre of the workforce, many have developed expertise, especially in secondary-care. The question lies in how to integrate IMGs and AMGs into a cohesive health system whilst assuring the quality of health services. A significant observation by all of the authors was that many interviews were conducted in areas in which practices either tended to employ AMGs or IMGs, with a significant disconnect between both types of practice. A potential solution may be to provide such IMGs with a period of supported training in larger rural centres in which they could undertake a mixture of mainstream general practice and secondary-care sub-specialty practice relevant to rural generalism. This would facilitate quality assurance, allow IMGs an equitable opportunity to undertake postgraduate examinations, develop relationships between AMGs and IMGs, and mitigate broader reservations about the role of IMGs. They could then be eligible, with potential incentives,[27] to work autonomously in remote areas with an extended scope of practice.

This study has several limitations. It was conducted within a single region, which constituted the footprint of

a single rural clinical school and integrated rural training hub. This region largely comprised RA2 locations, and thus did not include the perspectives of doctors working in more remote parts of Australia, though some highlighted their past experiences doing so. Whilst this limits the generalisability of our specific findings, we believe that the interaction between AMGs' and IMGs' pathways, their capacity, and how this informs their scope of practice is a consideration relevant to all rural doctors.

5 | CONCLUSION

In this study, we describe findings of a qualitative analysis of the perspectives of recently recruited rural general practitioners. They highlighted how their scope of practice was informed by their pathways into rural practice and by their capacity to undertake extended clinical activities. Principally, it contrasts the fluent training pathway of AMGs, which may not provide such doctors sufficient opportunities or time to gain adequate capacity, with the disseminated paths of IMGs, who whilst gaining a broad range of heterogenous experiences, lack the professional support and pathways to utilise this in their rural practice. These issues are most relevant in an Australian context, but also more broadly in other countries which either have a strategy of developing rural generalists and/or addressing rural workforce shortages by the use of IMGs.

AUTHOR CONTRIBUTIONS

Sarath Burgis-Kasthala: Conceptualization; formal analysis; investigation; methodology; writing – original draft; writing – review and editing. **Suzanne Bain-Donohue:** Formal analysis; investigation; methodology; project administration; writing – original draft; writing – review and editing. **Ellen Tailby:** Formal analysis; investigation; methodology; project administration; visualization; writing – review and editing. **Kathryn Stonestreet:** Investigation; methodology; project administration; writing – review and editing. **Malcolm Moore:** Conceptualization; methodology; supervision; writing – review and editing.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

ETHICS STATEMENT

The Australian National University Human Research Ethics Committee accorded ethics approval for this study (Protocol 2018/017).

ORCID

Sarath Burgis-Kasthala https://orcid.org/0000-0003-0684-5023
Suzanne Bain-Donohue https://orcid.org/0000-0002-6162-0479
Malcolm Moore https://orcid.org/0000-0002-1847-6571

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APPENDIX 1

Interview guide

1	Demographic details • Gender • Age • Current position and appointment date • Any bonding/workforce incentive • Rural background/origin
2	Tell me a little about how your journey in becoming a rural doctor? • Pathway—from high school to rural speciality training (if relevant) • Waypoints—specific points when participant reconsidered where they wished to practice
3	Who or what influenced your decision to work rurally at these points? • How?
4	How did your training influence your decision to work rurally? • Were there specific events/experiences which influenced the participant? • How could education/ training encourage more doctors to work rurally?
5	What brought you to work in your current practice?
6	How has the type of supervision you have had prepared you for rural practice?
7	What aspects of your workplaces have you found positive or negative? • What aspects of the practice influenced participants' intention to continue working rurally
8	Where do you see your career heading? • Why? • What could improve participants' satisfaction in their current job?