Coping with increasing numbers of medical students in rural clinical schools: options and opportunities

Diann S Eley, Louise Young, David Wilkinson, Alan B Chater and Peter G Baker

ABSTRACT

- The critical shortage of the rural medical workforce in Australia continues.
- There is pressure on medical schools to produce not only more doctors, but to supply them in geographical areas of need.
- The latest policy to tackle these problems will increase medical student numbers while the supply of clinical teachers and patients for teaching remains static.
- This challenges the traditional apprenticeship model for learning medicine.
- Coupled with this is the requirement of medical schools to provide compulsory rural clinical placements for all students.
- The success of rural clinical schools and University Departments of Rural Health (UDRH) is increasingly apparent, but they must find new strategies to maintain a quality clinical experience and exposure to rural lifestyle for all medical students.
- The dilemma is providing this quality rural experience to all medical students in the immediate future.
- We suggest approaches to meet this challenge at a policy, organisational, student and teaching level.

MJA 2008; 188: 669–671

Since 2000, the number of medical schools in Queensland has increased from one to four, and in Australia, from 11 to 19.[1,2] It is estimated that, in 2009, Queensland alone will require clinical placements for about 800 medical students. This is an increase of around 570 students compared with the number who graduated in 2004, and similar increases are occurring in other states. There is pressure on medical schools to produce not only more doctors, but to prepare them for work in a range of geographical areas of need.[3]

An increase in student numbers, while the supply of clinical teachers and patients for teaching remains static, challenges the traditional apprenticeship model for learning medicine. Coupled with this is the requirement of medical schools to provide compulsory rural clinical placements for all students under the Rural Undergraduate Support and Coordination (RUSC) program. The situation is further compounded by the proliferation of long-term rural, state and federal bonded scholarships, and the eventual increase in the number of postgraduate trainees.

The rural medical workforce remains in critical shortage

The rural health workforce in Australia is decreasing and remains in a state of overall shortage.[4,5] A continuation of national trends, such as a decline in the provision of generalist, procedural and small-town services, solo practices, and a reduction in the clinical hours worked per week, add to discouraging projections suggesting that, by 2012, the shortfall of doctors in rural and remote areas could reach 1182.[4]

The federal government has implemented several initiatives, with a greater rural focus at the medical school and university level.[6] These include two programs implemented in 1997 — the RUSC program whereby all students undertake 4–6 weeks' rural experience, and the University Departments of Rural Health (UDRH) program which provides opportunities to undertake clinical attachments and skills development in a rural environment, along with various scholarship programs encouraging rural experience or continuity of rural commitment.

Another Australian Government initiative, established in 2001 under the Rural Health Strategy, provides funding for a national network of 14 rural clinical schools to enable students to undertake medical training in rural environments. The rural clinical schools program stipulates the "25:50" rule whereby 25% of federally supported medical students undertake 50% (minimum 1 year) of their clinical training in rural areas.[6]

Success of recent initiatives

Evidence is mounting of the positive impact of UDRH and rural clinical schools on the health workforce. For example, academic performance among students studying in rural and urban settings is comparable,[7-9] and increased interest in rural health careers as a consequence of the rural clinical schools program[10] and UDRH rural health modules[11] are reported. Likewise, increasing numbers of graduates are choosing non-metropolitan teaching hospitals for their intern year.[10,12,13]

However, a continuing workforce shortage is predicted despite these initiatives and the early indications of their success. Projections based on the latest scheme show an increase in the number of medical student places over 7 years of 81%;[1,14] this scheme comes at a high logistical cost to rural clinical schools, whose core business is to produce more graduates who will take up careers in rural medicine. Overburdened rural doctors already work longer hours than their urban counterparts[15] and, in addition to teaching medical students, have responsibilities for supervising registrars and overseas-trained doctors who also compete for their time. Furthermore, many potential sites lack appropriate student accommodation and infrastructure to undertake teaching. This is illustrated by supply and demand estimates indicating that, while a wide range of rural community sites (eg, clinics, general practitioners' surgeries) were potentially available for medical student placements, doctors at only 27% of these sites undertook teaching in south and central Queensland in the financial year 2006–07.[16]

The need to provide good rural medicine experience

Current understanding is that the best predictors of doctors taking up a rural career are rural origin plus early and repeated exposure to rural medicine.[17,18] Studies indicate that a quality rural clinical experience and exposure to rural lifestyle is

conducive to increased interest in pursuing a rural career.[12,19] Furthermore, the importance of non-clinical aspects of rural practice (ie, rural community, culture and lifestyle) are also vital in preparing students for their role in rural medicine.[11] The looming "crisis" of more students who are already in the system, and are heading towards clinical training poses a critical question: "How do we respond to their rural clinical learning needs and experiences in the context of static numbers of clinical teachers and placement sites?"

Exposure to rural clinical experience and lifestyle is only as powerful an attraction to a rural career as the quality of that experience. If this quality is under threat, the result may discourage rather than encourage students' rural intentions. The strain on rural clinical schools to provide quality learning experiences with ever-increasing student, intern and registrar numbers, but no reciprocal increase in preceptors and teaching sites, will soon be problematic.

Perhaps it is time to consider other ways of offering rural clinical experiences to all medical students in a way that won't compete with a real-life immersion experience for students clearly intent on a rural career. However, this may risk excluding an increasing percentage of students (particularly urban students) who begin their required placement with no experience or interest in rural medicine, but finish with positive feelings of challenge, interest and enjoyment.[20] These are the students we should not lose, as they are our future doctors and consultants who may consider a locum or longer term career in a rural or remote location. The reality is that students who are intent on a rural career from an early stage are still a minority, and will never fill all available vacancies. Therefore, we need to continue to "open the eyes" of *all* our students to a rural medicine career. It remains a primary goal of rural clinical schools to provide the most appropriate and practical rural clinical experience so that all students are able to make an informed decision about rural medicine.

Approaches to providing good rural clinical experience

At the policy level

- Increase investment in infrastructure support for creating community teaching environments made up of rural teaching practices and hospitals with resources to train and support clinical teachers and clinicians to become teachers.
- Provide more and better accommodation in rural and regional hospitals for undergraduate and postgraduate students and registrars to make their experience more attractive and rewarding.
- Place greater emphasis on supporting comprehensive health services that can teach comprehensive generalist care.
- Provide teaching incentives for clinicians and visiting specialists willing to come to rural clinical school sites to teach for short periods within each rotation or year.

At the organisational level

- Have universities and medical schools work together to coordinate and, where possible, share placement sites, teaching sessions, resources and accommodation for students.
- Encourage interprofessional collaboration across all rural health professions for teaching and clinical experiences.
- Make greater use of teachers with appropriate knowledge in specific areas of rural health who are not necessarily medical practitioners (eg, allied health professionals, nurses, nurse practitioners, paramedics).
- Increase investment in support, incentives and rewards for doctors who become preceptors to provide both encouragement and professional development.
- Increase flexibility in the organisation of rural clinical training (rotations, modules) to accommodate both preceptor and student schedules (eg, avoid excessively busy periods).

At the student level

- Focus on Australian and bonded students in providing rural clinical school opportunities, with particular support for students with a genuine desire for rural medicine exposure and a rural career.
- Stream students intent on a rural career, and provide opportunities to spend 2 years training in a rural clinical school, and structured, accelerated pathways into accredited rural generalist programs after graduation.
- Offer variable levels of rural exposure so that students who are certain they have no interest in a rural career or lifestyle still gain an appreciation of rural medicine through online teaching or short-term placements while not straining rural mentors with students who do not want to be there.

At the teaching level

- Persist in recruiting more teachers, including those in the private sector.
- Enlist and train postgraduate students and junior doctors in regional teaching hospitals as mentors and teachers.
- Increase remuneration for rural preceptors.
- Commit to providing and increasing the use of web seminars, streaming and video-teaching, thus better utilising the time of preceptors in rural hospitals and practices.
- Upgrade facilities for practices and rural hospitals to better accommodate the teaching of a larger number of students and registrars.
- Provide more short-term rural electives, outings and skills training in the preclinical years.
- Promote logistical and educational collaboration between health professionals, universities and training consortiums to integrate clinical experiences and teaching commitments (eg, coordinated timetables to alleviate the load on overstretched staff and resources).

We have suggested approaches to maintaining the provision of quality rural clinical education. In the long term, the challenge is great and costly, but must be faced to ensure adequate health care for rural Australia.

Competing interests

None identified.

Author details

Diann S Eley, MSc, PhD, Senior Research Fellow, Rural Clinical School[1]
Louise Young, MPsychEd, PhD, Senior Lecturer[2]
David Wilkinson, MD, FRACGP, FACRRM, Head and Professor of Primary Care[2]
Alan B Chater, MB BS, FACRRM, FRACGP, Head, Rural and Remote Medicine[1]
Peter G Baker, ChB, MD, FRACGP, Head, Rural Clinical School[1]

1 School of Medicine, University of Queensland, Toowoomba, QLD.
2 School of Medicine, University of Queensland, Brisbane, QLD.
Correspondence: d.eley@uq.edu.au

References

1 Joyce CM, Stoelwinder JU, McNeil JJ, Piterman L. Riding the wave: current and emerging trends in graduates from Australian university medical schools. *Med J Aust* 2007; 186: 309-312.
2 Van Der Weyden M. From the Editor's Desk: Americanisation of our medical schools. *Med J Aust* 2006; 185: 473.
3 Prideaux D. Workforce: the new core curriculum for medical schools. *Med Educ* 2006; 40: 286-287.
4 Health Workforce Queensland and New South Wales Rural Doctors Network. Medical practice in rural and remote Australia: combined Rural Workforce Agencies national minimum data set report as at 30th November 2005. Brisbane: HWQ, 2006. http://www.healthworkforce.com.au/downloads/Publications/1698_MDS%20Report%202005_final_nocov.pdf (accessed Apr 2008).
5 Wilkinson D. Inequitable distribution of general practitioners in Australia: analysis by state and territory using census data. *Aust J Rural Health* 2000; 8: 87-93.
6 Australian Government Department of Health and Ageing. Workforce education and training — Rural Clinical Schools [website]. http://www.health.gov.au/clinicalschools (accessed Jan 2008).
7 Waters B, Hughes J, Forbes K, Wilkinson D. Comparative academic performance of medical students and urban clinical settings. *Med Educ* 2006; 40: 117-120.
8 Worley P, Strasser R, Prideaux D. Can medical students learn specialist disciplines based in rural practice: lessons from students' self reported experience and competence. *Rural Remote Health* [Internet] 2004; 4: 338. Epub 2004 Nov 23.
9 Young L, Rego P, Peterson R. Clinical location and student learning: outcomes from the LCAP program in Queensland, Australia. *Teaching and Learning in Medicine* 2008. In press.
10 Eley DS, Baker PG. Will the Australian rural clinical schools be an effective workforce strategy? Early indications of their positive impact on intern choice and rural career interest. *Med J Aust* 2007; 187: 166-167.
11 Critchley J, DeWitt DE, Khan MA, Liaw S. A required rural health module increases students' interest in rural health careers. *Rural Remote Health* [Internet] 2007; 7: 688. Epub 2007 Jun 1.
12 Eley D, Baker P. Does recruitment lead to retention? — Rural Clinical School training experiences and subsequent intern choices. *Rural Remote Health* [Internet] 2006; 6: 511. http://www.rrh.org.au/publishedarticles/article_print_511.pdf (accessed Jan 2008).
13 Wilkinson D, Birks J, Davies L, et al. Preliminary evidence from Queensland that rural clinical schools have a positive impact on rural intern choices. *Rural Remote Health* [Internet] 2004; 4: 340. Epub 2004 Dec 6.
14 Van Der Weyden M. From the Editor's Desk: Increased medical school places: a crisis in the making? *Med J Aust* 2006; 185: 129.
15 Australian Institute of Health and Welfare. Medical labour force 2004. National health labour force series no. 38. Canberra: AIHW, 2006. (AIHW Cat. No. HWL 39.)
16 Health Workforce Queensland. University of Queensland RUSC programme and rural medical rotation investigation final report. Brisbane: Health Workforce Queensland, 2008.
17 Dunbabin J, Levitt L. Rural origin and rural medical exposure: their impact on the rural and remote medical workforce in Australia. *Rural Remote Health* [Internet] 2003; 3: 212. Epub 2003 Jun 25.
18 Laven G, Wilkinson D. Rural doctors and rural backgrounds: how strong is the evidence? A systematic review. *Aust J Rural Health* 2003; 11: 277-284.
19 Williamson M, Gormley A, Bills J, Farry P. The new rural health curriculum at Dunedin School of Medicine: how has it influenced the attitudes of medical students to a career in rural general practice? *N Z Med J* 2003; 116: U537.
20 Tolhurst HM, Adams J, Stewart SM. An exploration of when urban background medical students become interested in rural practice. *Rural Remote Health* [Internet] 2006; 6: 452. Epub 2006 Mar 8.

(Received 24 Jan 2008, accepted 6 Mar 2008) ❑