Chapter 2.2.1

RURAL AREAS: VALUABLE LEARNING CONTEXTS FOR MEDICAL STUDENTS

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Introduction

Rural practice is ideally suited to learning, as students are able to observe skilled clinicians model and encourage continuity of care as well as close doctor–patient relationships, while they are also effective resources to their community. Rural sites frame learning and are able to eloquently demonstrate the CanMEDS roles which describe an ideal physician – and these can, in turn, be adapted into rural learning objectives (1).

Rural sites are also ideal locations for students to confront the array of social and economic forces underlying ill health and to learn the broader determinants of health (2). In addition these settings naturally combine social and academic experiences, with different communities having different things to offer.

Research in Canada (3, 4), in Australia (5, 6) as well as a large review including American data (7), has confirmed that experiences and competency are higher for learners in rural settings than for their urban colleagues. Despite this, the orthodoxy of tertiary hospital education has only recently been challenged.

The traditional model for learning medicine is 'apprenticeship' – often taking the form of clerkships[1] and other non-lecture hands-on types of learning. Albert Einstein was reflecting on this model when he said that "I never teach my pupils. I only attempt to provide the conditions in which they learn". Traditionally rural sites have been ideal settings for this kind of experiential learning as medical learners can be mentored by master clinicians, often with a ratio of 1:1. The viability of this model of apprenticeship is being challenged, however, even in the rural setting, by increasing numbers of learners, combined with a static supply of teachers and

[1] A clerkship – or rotation or block – is a structured clinical learning opportunity which forms part of academic requirements that have to be met.

patients. To continue to provide a rich rural learning experience, we must address this challenge at the policy, organisational, student and teaching levels (8).

Preceptors, learners and the environment

Learning occurs within the context of a successful and close working relationship between preceptor[2] and learner. To integrate teaching into clinical rural practice there must be contracting, direct teaching/mentoring, monitoring, ongoing feedback and evaluation between the preceptor and learner.

Effective learning can depend on the quality of the case mix, the number/quality of the preceptor-learner interactions, the opportunity for hands-on clinical experiences, and the continuity with patients and preceptors (9). While adults tend to learn from problems that are important to them, rather than from teacher-defined problems (10), there must be enough flexibility to adapt to individual needs, however (11). The preceptor's task is to address not only the technical aspects of care, but the learner's affect, values, and reflections on what they encounter and experience. (9).

Rourke and Rourke (12) capture the concept of preceptor-learner interactions beautifully in stating that, by its very nature, rural family medicine teaching and learning tends to be direct, personal and meaningful to both learner and preceptor. As much as we accept that students learn from active participation with graded increases in clinical responsibility, preceptors are being closely observed by learners. Role modeling may be our most powerful teaching tool (11). Its value extends far beyond clinical medicine into professionalism and ethical behaviour. Clinical teachers must have skills to help learners develop an understanding and awareness of relationship and boundary issues for instance (13).
In rural settings, this close one-on-one relationship is both unique as well as important (14).

> *"Students are clearly watching their preceptors carefully, perhaps more so than the preceptors realize!"* (9)

[2] A preceptor - or clinical instructor/adjunct faculty – is a clinician (person with core clinical skills) who offers clinical teaching at a distant (rural) site.

Mutual value

A study by Couper et al (15) in Australia and Canada showed that rural longitudinal integrated clerkships (LICs) have positive impacts both on students and clinicians. The educational value has been in terms of continuity of care, longitudinal exposure, development of relationships, mentoring, team work and participatory learning.

Although a separate chapter in this guidebook is devoted to this important topic, the authors point out that it is in mentoring that the 'rurality' of the programmes probably have the greatest effect. This relationship is of mutual benefit as preceptors have described having their practices rejuvenated. A critical review by Barrett et al (7) sums it up nicely in their primary finding that rural placements are positive learning experiences that both students and preceptors value. Interviewed preceptors have reported learning from the students to be one of the greatest benefits of teaching (16).

Community stakeholders also benefit from students in rural LICs being positively influenced towards primary care and rural career choices (17). Certainly there is a special feeling that is evoked in a rural hospital when the enthusiasm of learners is in the air!

Learning opportunities

There is a range of contexts in which learning can happen in a rural site, in addition to which it offers numerous advantages - like more one-on-one supervision; less competition; more ownership of the patient; greater diversity of patient problems; greater diversity of encounters (clinic, ER[3], OR[4], house calls, remote satellite clinics, interdisciplinary contexts); more meaningful interactions with patients; more collegial interactions between family physicians, specialists, and other health professionals; and the ability to provide both longitudinal and horizontal training.

Immersion learning in particular helps students develop greater cultural competency, sensitivity and flexibility. In addition student research and clinical learning can successfully co-exist in the rural setting (18). While the setup of rural learning is nurturing, it nonetheless nudges learners outside their comfort zone thus increasing clinical competence (19).

[3] Emergency room
[4] Operating room

For those undergraduate learners who will go on to become specialists rather than family physicians, being trained in rural centres will have the same advantages. They will be more patient-centered, have a more generalist approach to problems, a greater appreciation for family physicians, and better working relationships with them. The rural setting provides exposure to an environment that is different from the tertiary care teaching hospital, and similar to the settings in which we ultimately require these physicians to practice (4).

Opportunities for self-directed learning are increased in rural areas and satisfaction with the educational experience is higher (20). By exposing medical students to the option of a career in rural medicine at an early stage in their education, they acquire the knowledge, skills and *desire* to practice in these more remote areas once they have graduated (21, 22). Curran & Rourke (22) outline how medical education can play an important role in supporting recruitment and retention efforts in rural areas.

An illustrative anecdote

The art of medicine is best learned using many canvases. Rural rotations offer the unique opportunity to have shared experiences with other disciplines which are frequently too complex, or too time consuming, to be orchestrated at an urban site. A real case of one student 'Amy' and one patient 'Kelly' illustrates the value of experiences with other disciplines - in the situation of diabetes management.

Amy is a third year clinical clerk on a family medicine rotation in a community of 5 000 people. The health centre serves 10 000 people from a larger geographic area. Amy has previously visited this same community for a two-week community medicine rotation in first year and two weeks of family medicine in second year. On all occasions she has been active in the local Curling Club. This social activity, along with the close working relationships with her local preceptors, draws her back to this remote community. She enjoys the wellness clinics in the community, especially those at the local arena where, along with volunteers from other health disciplines and other local participants, she checks blood pressures, glucometers and provides nutritional advice.

Amy met Kelly while attending a regular scheduled clinic with her preceptor. Kelly is a 44-year old type two diabetic who presents for a routine visit and medication refills. Kelly is unemployed, does not own a car and has little support. She presents with uncontrolled diabetes and a new skin ulcer.

Apart from nutritional counselling and medication adjustment in the clinic, other arrangements are made. Amy attends diabetes education with Kelly, her dietitian and her diabetic nurse. To minimise travel for the patient, Amy attends a satellite clinic with Kelly held in her own community of 1 000 people with the nurse practitioner. Amy has a clinical encounter with Kelly at the outpatient department where she, along with the family physician, addresses the skin ulcer. Amy attends to Kelly in clinic during a return visit, providing a full physical exam, more counselling and a referral to public health for wound care, and to ophthalmology for Kelly's retinopathy. Finally Amy does a home visit with the local public health nurse.

It is unlikely that this timely co-ordinated care would happen at the urban centre. Would all disciplines have been so accommodating? All professionals involved had known Kelly over many years. Did they feel a sense obligation to her? Did they feel a sense of responsibility to the family physician with whom they work closely and knew personally?

Amy will remember Kelly. She has not merely been the recipient of this experience, but an active and vital part of the health care team. She has a very good grasp on patient-centered diabetic care in the community. This is quite different to her lecture on micro-vascular and macro-vascular complications of diabetes. It is powerful – and it is meaningful. There has been an emotional connection between learner, preceptor and patient. Learning has been enhanced.

Practice pearls

What to do

- Use CanMEDS as the foundation for teaching (Roles: medical expert, communicator, collaborator, manager, health advocate, scholar and professional).
- Seize the unique setting to learn continuity of care within a specific context.
- Utilise all of the rural 'classrooms' – hospitals, clinics, a patient's home. This rich milieu aids in understanding the whole person from birth to death, when well, with chronic disease and when critically ill.
- Prepare for the learner's arrival.
- Showcase your community (use community champions/partnerships), your family and your personal life.

- Highlight how the physician is a resource to the community. The rural doctor can and does make a difference to patients, families and to the community as a whole. “Leadership and learning are indispensable to each other” (John F. Kennedy).
- Be familiar with the learning objectives and expectations of the programme, as well as the process for evaluation and where to turn for programme support.
- Always contract – personal objectives, learning style, anticipated leave, expectations of work hours and on call.
- Direct and frame learning: assign specific tasks around common diseases with planned follow up.
- Provide ongoing feedback. Mid-term evaluation is essential. Formative and summative assessments require specific time to be set aside. Be mindful of unique challenges in evaluation at the rural setting.
- Have learners self-evaluate.
- Seize every teachable moment, especially regarding site specific issues.
- Utilise the resource in your colleagues – different local preceptors have diverse skills and competencies (not necessarily medical practitioners).
- Be respectful (of students, other professionals, other specialties, and above all our patients).
- Facilitate learning how healthcare teams work and provide opportunities for team building.
- Advocate for good accommodation for learners, making the experience more attractive/rewarding.
- Provide interdisciplinary learning experiences, especially as they relate to patients with whom the learner is familiar.
- Include direct observation. It must occur at all stages of learning.
- Encourage learners to return at different stages of learning (first year, clerkship and residency).
- Give learners graded responsibilities.
- Assist them to develop higher skill sets and clinical courage.
- Encourage development of trainees as teachers. Facilitate layering of teaching.
- Remember how much preceptors learn from students!
- Have fun!

What not to do

- Do not use the student as a sounding board for preceptor issues/preceptor personal problems.
- Do not use alternate preceptors you feel are not up to the challenge.
- Do not present high volumes of new and difficult materials without opportunities for reflection and application.
- Do not ask learners to guess "What am I thinking?" in ways that learners cannot follow.
- Do not protect them from the 'scrapes and bruises' as they work through medical and contextual issues. This journey helps them learn their own gaps in knowledge and process.
- Do not overburden the student academically such that the experience is negative, and allows no time to experience your community. Instead promote and allow time to experience local community activities (sports clubs, arts, cultural experiences).
- Do not neglect to teach learners how to care for marginalised members of the community.
- Do not assume performance issues are always knowledge or motivation based; learners also develop personal, relationship and health issues, including mental health issues.
- Do not forget the 'off label' = non-curricula opportunities:
  - Showcase the community's uniqueness and recognise that the 'non-clinical' agenda is paramount.
  - Promote learning *from* the community (elders, community leaders). This promotes cultural competence.
  - Demonstrate that personal/professional balance can be achieved. Learning about boundary-setting with friends, family and neighbours is not to be ignored.
  - Provide opportunities to learn how to be a good health care manager.
  - Demonstrate opportunities for participatory/community based research.
- Do not be scared to pose questions that you as preceptor do not know the answer to.
- Do not compromise on good ethical and moral principles (especially confidentiality).
- Do not be judgmental.

"Nobody cares how much you know
until they know how much you care."
(Theodore Roosevelt)

Broader applicability – and conclusion

When we think of rural medicine, we think of a specialty of its own. The idea of 'enhanced skills' is not new to global rural physicians. What is newer, and becoming more widely applicable, is 'enhanced learning'. Rural practice not only offers an ideal setting to learn continuity of care but it allows learners to develop clinical courage – to manage patients who are in urgent need of care when there are limited or no local expertise. Thinking through complex cases in these instances leads to innovation.

There is now no debating that rural learning is as effective as, or superior to, traditional urban medical education. Adults learn when there is an emotional connection to the subject matter or the experience. Adults need context. The doctor-patient relationship enhances the clinical encounter. Patients need trust. There is much written on both of these subjects. Although there is less written on the preceptor-learner relationship, this enhances the learning experience. A supportive interpersonal relationship with learners is paramount.

Although programmes may look different in various medical schools and on different continents, regardless of programme type at all levels we must work to achieve this necessary foundation. Rural communities are significant learner-centered environments.

References

1. Rourke J, Rourke LL. Chapter 16: Rural and remote locations. In: Dent J, Harden R, (eds.) *A practical guide for medical teachers*. 3rd ed. Edinburgh: Elsevier; 2009. p121-9.
2. Kaufman A. Rurally based education: Confronting social forces underlying ill health. *Academic Medicine* 1990; 65: S18–S21.
3. Goertzen J. Learning procedural skills in family medicine residency: Comparison of rural and urban programmes. *Canadian Family Physician* 2006 May; 52: 622-3.
4. Bianchi F, Stobbe, K, Eva K. Comparing academic performance of medical students in distributed learning sites: The McMaster experience. *Medical Teacher* 2008; 30: 67-71.

5. Waters B, Hughes J, Forbes K, Wilkinson D. Comparative academic performance of medical students in rural and urban clinical settings. *Medical Education* 2006; 40(2): 117-20.

6. Worley P, Esterman A, Prideaux D. Cohort study of examination performance of undergraduate medical students learning in community settings. *BMJ* 2004 Jan; 24 328(7433):207-9.

7. Barrett FA, Lipsky S, Lutfiyya MN. The impact of rural training experiences on medical students: A critical review. *Academic Medicine* 2011; 86: 259-63.

8. Eley DS, Young L, Wilkinson D, Chater AB, Baker PG. Coping with increasing numbers of medical students in rural clinical schools: Options and opportunities. *Medical Journal of Australia* 2008; 188: 669-71.

9. Epstein R, Cole D, Gawinski B, Piotrowski-Lee S, Ruddy N. How students learn from community-based preceptors. *Archives of Family Medicine* 1998; 7: 149-154.

10. Brookfield SD. *Becoming a critically reflective teacher*. San Francisco: Jossey-Bass Inc; 1995.

11. Kelly L. Integrating family medicine residents into a rural practice. *Canadian Family Physician* 1997 Feb; 43: 277-86.

12. Rourke J, Rourke LL. Practical tips for rural family physicians teaching residents. *Canadian Journal of Rural Medicine* 1996; 1(2):63-9.

13. Rourke L, Rourke J. Chapter 23: Relationships and boundaries. In Kelly L (ed.) *Community-based medical education – a teacher's handbook*. London: Radcliffe Publishing Ltd; 2012. p197-208.

14. Goertzen J, Stewart M, Weston, W. Effective teaching behaviours of rural family medicine preceptors. *Canadian Medical Association Journal* 1995; 153(2): 161-8.

15. Couper, I, Worley PS, Strasser R. Rural longitudinal integrated clerkships: Lessons from two programmes on different continents. *Rural and Remote Health* 2011; 11: 1-11.

16. Miflin B, Price D. Rural doctors are naturally effective teachers. *Australian Journal of Rural Health* 1993; 2: 21-8.

17. Walters L, Greenhill J, Richards J, Ward H, Campbell N, Ash J, Schuwirth LW. Outcomes of longitudinal integrated clinical placements for students, clinicians and society. *Medical Education* 2012; 46(11):1028-41.

18. Zorzi A, Rourke J, Kennard M, Peterson M, Miller K. **2005** Combined research and clinical learning make rural summer studentship programme a successful model. *Rural and Remote Health* 18 2005; 3:329-337. rrhdeakin.edu.au (accessed April 2011).

19. Zink T, Halaas GW, Finstad D, Brooks KD. The Rural Physician Associate Programme: The value of immersion learning for third-year medical students. *Journal of Rural Health* 2008; 24: 353-9.

20. Denz-Penhey H, Murdoch, JC. Is small beautiful? Student performance and perceptions of their experience at larger and smaller sites in rural and remote longitudinal integrated clerkships in the Rural Clinical School of Western Australia. *Rural and Remote Health* 2010; 10: 1-7.

21. Community Rural Elective Development Opportunities (CREDO). *A guide for establishing and maintaining rural medical electives*. Shawville: Society of Rural Physicians of Canada; 2001. www.srpc.ca/CREDO.html (accessed April 2011).

22. Curran V, Rourke J. 2004. The role of medical education in the recruitment and retention of rural physicians. *Medical Teacher* 2004; 26: 265-72.

Further readings

1. Baker PG, Dalton L, Walker J. Rural general practitioner preceptors – How can effective undergraduate teaching be supported or improved? *Rural Remote Health* 2003 Jan-Jun; 3(1):107.

2. Frank JR (ed). *The CanMEDS 2005 physician competency framework. Better standards. Better physicians. Better care.* Ottawa: The Royal College of Physicians and Surgeons of Canada; 2005.

3. Rourke, JT. Postgraduate training for rural family practice. Goals and opportunities. *Canadian Family Physician* 1996; 42:1133-1138.

This article is a chapter from the ***WONCA Rural Medical Education Guidebook***.
It is available from www.globalfamilydoctor.com.

Published by:
WONCA Working Party on Rural Practice
World Organization of Family Doctors (WONCA)
12A-05 Chartered Square Building
152 North Sathon Road
Silom, Bangrak
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Suggested citation: Graham W. Rural areas: Valuable learning contexts for medical students.In Chater AB, Rourke J, Couper ID, Strasser RP, Reid S (eds.) *WONCA Rural Medical Education Guidebook.* World Organization of Family Doctors (WONCA): WONCA Working Party on Rural Practice, 2014. www.globalfamilyldoctor.com (accessed [date]).