Students learning medicine in general practice in Canada and Australia

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Background

Over the past 20 years, there has been increasing focus on general practice and the role of general practitioners (GPs) in undergraduate medical education.

Objectives

This article explores the experiences in Australia and Canada of students learning medicine in the general practice setting, drawing on general practice and medical education literature in both countries and beyond.

Discussion

In Canada and Australia, there is substantial and growing evidence that students learning medicine in general practice has positive value for all involved, including the students, patients, wider community, academic institutions and GPs. The space, time and financial aspects of GP-based medical education require further study. Nevertheless, there is considerable potential to develop and implement a national plan for GP-based medical education with targeted government investment and commitment from academic institutions.

Apart from the climate, there are many similarities between Canada and Australia. Both countries are geographically vast with relatively small populations. The majority of people live in cities, and the remainder are located in many small communities separated by large distances. General practitioners (GPs) are the predominant providers of primary care in both countries, supported by a universal health insurance known as 'Medicare'. Similarly, both countries have struggled to ensure the supply of suitably trained family doctors who provide care that is responsive to the needs of the communities they serve, particularly in remote and rural areas.

Following the Flexner report in 1910, medical education in the 20th century became university-based and teaching hospital-based. The explosion of medical specialties in teaching hospitals contributed to a reduction in the participation of general practice and GPs in medical education.[1] By early this century, the healthcare pendulum in both countries had swung back towards more care in community settings than in institutions. In addition, research evidence around the world confirmed that comprehensive primary healthcare is a central feature of the most efficient and effective health systems with the best health outcomes.[2]

In this context, there has been increasing focus on general practice and the role of GPs in undergraduate medical education.[1] This article explores experiences in Australia and Canada of students learning medicine in the general practice setting, drawing on the general practice and medical education literature in both countries and beyond. The literature was searched using the Ovid Medline database with an English language restriction and year of publication restriction of 1990 to current. The following Medical Subject Headings (MeSH) were used to conduct the search: 'students', 'medical'; 'education', 'medical', 'undergraduate'; 'clinical clerkship'; 'preceptorship'; 'community

medicine/education'; 'general practice/education'; 'family practice/education'; and 'learning'. In addition, the MeSH terms, 'United States', 'Australia', 'Canada' and 'Great Britain' were used to further narrow search results by geography.

Findings

Most GPs in both countries are private practitioners who are paid via a fee-for-service model, complemented by other payment arrangements. Consequently, hosting and teaching medical students in general practice presents considerable challenges.[3–7] GPs have raised questions about the physical space and time for teaching students, concerns that patients may be upset by the presence of students, and potential financial disadvantages to the practice. In addition, GPs often question whether they have the requisite knowledge and skills for teaching medical students.

Questions have also been raised by academic institutions, health service agencies and policymakers about the suitability of placing medical students in general practice and other community settings, and the likely educational outcomes.[8–11] In addition, questions have been asked about:

- whether general practice placements should occur early or later in the curriculum, or both[12]
- the specific value of rural practice placements[11]
- whether learning objectives should just be about general practice/family medicine, or the broader spectrum of clinical medicine[13–16]
- the most suitable length of placements, which may range from two weeks to the entire academic year.[13–14]

All of these questions (and others) have been addressed in research published over the past 20 years. In general, patients are very receptive to medical students being present during consultations, with the occasional exception of sensitive personal situations.[3,4] Some patients would rather have a student than not, as a colleague reported to the author. One day, his patient questioned the lack of a student with the follow-up comment, 'you're a better doctor when you have a student'. The patient went on to explain that this GP involved her in the teaching of students so that the patient learned more about her health problems as well.

Despite the space, time and cost constraints, studies have found that GPs generally find teaching medical students to be satisfying and rewarding.[4–6] They are motivated by the desire to keep their clinical knowledge up to date, as well as by a sense of responsibility to the profession and community. GP clinical teachers have commented on the sense of personal fulfilment and enjoyment of teaching, including passing on their general practice knowledge and skills, and promoting general practice as a career.[6] Over the years, the author has heard from many doctors, both in Canada and Australia, about how their involvement in teaching has added to their professional satisfaction and longevity in practice. This satisfaction is enhanced by professional support and teacher training/faculty development provided by the medical school.[7]

Exam results show that students who undertook prolonged general practice placements were not disadvantaged educationally.[8] In addition, students reported predominantly positive experiences of general practice placements, including in situations that included learners at various stages of training.[9] In Australia, this 'vertical integration' involving medical students, junior hospital doctors and general practice registrars in the same clinical setting is organisationally more complex, compared with Canada.[10] Medical schools in Canada are responsible for all levels of training, and there is no internship separate from postgraduate medical education, which begins immediately after graduation. Vertical integration is also consistent with the training pathway approach, which is seen as particularly important for recruitment into rural practice.[11]

Prolonged general practice placements

General practice placements early in the curriculum enhance students' motivation and confidence, as well as raising students' interest in a career in general practice.[12] Later in the curriculum, prolonged general practice placements are seen increasingly as very suitable for students to learn their core clinical medicine across the specialty disciplines.[13] This approach was developed in the urban setting at Cambridge University in England,[14] and as part of 'rural tracks' established by a number of US medical schools.[15]

In Australia, Flinders University established the Parallel Rural Community Curriculum (PRCC) in the mid-1990s, whereby students in their third year of a four-year medical education program live in one rural community for the entire year, where they are based in a general practice.[16] The learning objectives for the PRCC are the same as those for students undertaking their third year at the Flinders Medical Centre (FMC) in Adelaide. The PRCC has been shown to provide learning experiences and outcomes that are equivalent to, if not better than, those at FMC. For example, PRCC students consistently outperform their teaching hospital–based colleagues in end-of-year examinations,[8] and are also five times more likely than their peers to choose careers in rural practice (both in primary care and hospital-based specialties).[17]

The PRCC approach is known internationally as Longitudinal Integrated Clerkships (LIC),[18] whereby medical students:

- participate in the comprehensive care of patients over time
- participate in continuing learning relationships with these patients' clinicians
- meet the majority of the core clinical competencies, across multiple disciplines.[13]

Northern Ontario School of Medicine (NOSM) in Canada opened in 2005 and became the first medical school in the world where all their students undertake an LIC, known as the Comprehensive Community Clerkship (CCC). Based in general practice, the CCC occurs in the third year of the NOSM's four-year Doctor of

Medicine (MD) program. Rather than a series of block rotations, students meet patients in the practice setting such that 'the curriculum walks through the door'. Students follow these patients and their families, including when they are cared for by other specialists, so as to participate in the patient's continuity of care. During the year, students achieve learning objectives that cover the same six core clinical disciplines as in the traditional block rotations (known as clerkships). Students live in one of the 15 large rural or small urban communities in Northern Ontario, excluding the cities of Sudbury and Thunder Bay. Essentially, NOSM students learn their core clinical medicine from the general practice, community perspective.[19]

Northern Ontario is geographically vast, and has a chronic shortage of doctors, culturally diverse populations and worse health status than Ontario as a whole.[20] NOSM has a social accountability mandate to contribute to improving the health of the people and communities of Northern Ontario, and developed Distributed Community Engaged Learning (DCEL) as its distinctive model of medical education and health research. Prior to the final year, the large majority of clinical teachers and role models are GPs. Ninety-two per cent of all medical students come from Northern Ontario, and the remaining 8% from remote–rural parts of the rest of Canada. Sixty-two per cent of NOSM graduates chose general practice (predominantly rural) training, and almost all of the others (33%) chose training in other general specialties. NOSM offers vocational training in general practice/family medicine and in eight other major general specialties. Ninety-four per cent of the doctors who completed undergraduate and postgraduate education with NOSM are practising in Northern Ontario.[20]

Over the past decade, various forms of LICs based in general practice have been introduced by most medical schools in Canada and Australia.[13] The University of Wollongong became the second medical school worldwide where all students undertake an LIC.[21] A rapidly growing number of research publications show many positive aspects of LICs for students, communities and GP clinical teachers.[13] Benefits for students include:

- achieving higher level clinical knowledge and skills, and confidence and competence[8,13]
- experiencing authentic assessment and feedback[22]
- progressive responsibility for patient care and health team participation[13]
- developing professional identity and interest in a general practice career[23]
- appreciating community support and relationships.[13]

Communities gain in the short term through active participation in medical education and subsequently through recruitment of LIC graduates to provide local healthcare.[13,17]

For GPs, the benefits of LICs include:[13,21]

- personal and professional growth and development
- recognition and kudos
- succession planning/future recruitment.

The space, time and financial aspects of general practice–based LICs require further study. There is research showing that with sufficient space for parallel consulting, GPs see the same number of patients in the same time with or without students, although their use of the time is different.[24] Financially, students may become a net asset to the practice after two to three months.[25]

Conclusion

In Canada and Australia, there is substantial and growing evidence that students learning medicine in general practice, both urban and rural, has positive value for all involved, including the students, patients, wider community, academic institutions and GPs, and increases students' interest in general practice as a career.

Thistlethwaite, Kidd and Hudson set out requirements for a national plan in Australia for general practice–based medical education.[1] Recent research[17,20] has added support for this proposal, which involves targeted government investment and commitment from academic institutions.

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