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Abstract

Undergraduate medical education has expanded substantially in recent years, through both establishing new programs and increasing student numbers in existing programs. This expansion has placed pressure on the capacity for training students in clinical placements, raising concerns about the risk of dilution of experience and reducing work readiness. The concerns have been greatest in more traditional environments, where clinical placements in large academic medical centres are often the 'gold standard'. However, there are ways of exposing medical students to patient interactions and clinical supervisors in many other contexts. In this paper, we share our experiences and observations of expanding clinical placements for both existing and new medical programs in several international locations. While this is not necessarily an easy task, a wide range of opportunities can be accessed by asking the right questions of the right people, often with only relatively modest changes in resource allocation.

Background

The capacity of the health care system to accommodate supervision of increasing numbers of medical students has been a major challenge during the recent expansion of medical programs (Snadden et al, 2011). While the impact has been noticeable for both established and new medical programs in many nations, it has been greatest for new programs located in smaller or more dispersed communities (Snadden and Bates, 2005). Established medical schools generally rely on larger, academic hospitals as their main bases for medical education. This is where students may be immersed in a research-led culture supporting high quality clinical practice, with larger clinical teams guided by senior, highly qualified and experienced clinicians. Budgets for these hospitals often reflect long-term support for teaching and research.

Other sites also offer rich learning opportunities. Primary care/general practice offers exposure to a broader clinical case-mix, more complete patient care pathways, chronic disease management and the community components of specialties such as mental health, child health and women's health (Pearson and McKinley, 2010; Jepson and Hays, 2009). Many smaller community hospitals serve outer suburban, regional and rural communities. These communities often have a relative shortage of medical practitioners in both hospitals and primary care practices, all struggling to serve less healthy, under-served populations. Some of the expansion of medical education into under-served communities aims to address workforce needs. Positive clinical placement experiences have been shown to increase graduates' interest in careers in under-served communities, particularly for rural practice (Woolley et al, 2014). A wide range of other health and social care services can offer learning opportunities relevant to medical programs, particularly those with a more socially accountable approach (Woollard, 2006). It will be necessary to allocate some funding to support this broader engagement, particularly into non-acute health facilities, where medical program funding traditionally has been directed. However, funding agreements may be re-negotiated and mission alignment and student contribution to service delivery may reduce resource barriers.

This paper describes briefly the approaches taken at medical schools that have undergone substantial expansion of undergraduate medical education, including Australia, the United Kingdom, North America, Europe and South-East Asia. The challenges were similar: to provide the expanded

clinical placement capacity required to deliver medical curricula to increasing numbers of students. This description may be helpful for other medical schools, both established and new.

The twelve tips

1. Plan early for the expanded clinical supervision. Insufficient placement or educational capacity initially can seem to be an overwhelming barrier. Identify levers that support local clinical service and supervision expansion. These may be financial (e.g. additional funding for new service providers or service expansion), professional (e.g. altruism, ambition, perceptions of isolation or abandonment), and community (e.g. local groups, underserved populations or local media resources). These will vary across locations and may need to be engaged differently. Achieving the increased capacity may take 3-5 years of effort.
2. Develop partnerships with non-medical community health facilities. Authentic Early Learning (AEE) is an important part of medical programs, as they 'bring to life' the theory taught on the main campus (Yardley et al, 2013). Early learning objectives often include gaining a broad understanding of the health care system and the perspectives of patients and society on health and health care, in addition to practising communication skills. Achievement of these learning objectives is possible outside of mainstream medical facilities, where numerous organisations deliver services. Examples include charitable organisations caring for the people experiencing poverty, homelessness, domestic violence and mental health problems. These organisations often agree to host medical students for short periods linked to specific learning outcomes. Other opportunities can be created with a little imagination, such as visiting supermarkets with nutritionists to examine nutritional value of common foods, and funeral homes to understand the management of death and dying. A wide range of community-based health professional practices, such as pharmacies and optometrists, offer access to patient journeys and improve understanding of broader health seeking behaviours. Students need attend each category of placement only once, rather than all options, and then through de-briefing sessions share their experiences with their peers. Including other relevant health professional students can convert such activities into genuine interprofessional learning opportunities, where students 'learn with, from and about each other' (Hammick et al, 2007).
3. Engage with non-acute residential medical facilities. Retirement villages and nursing homes have substantial populations of older people with interesting stories, complex histories, long medication lists and stable chronic clinical signs. This allows students to practise communication and physical examination skills (ideal for more junior students) and learn about chronic disease management, ageing and nutrition (ideal for more senior students). The concept of 'Teaching Nursing Homes' is gaining popularity, potentially adding value to organisations managing the facilities (Mezey et al, 2008), and may reduce the burden on the acute sector for a substantial proportion of intended learning outcomes.
4. Reach out to rural health facilities. Many rural communities have small hospitals, with inpatients with a more general clinical case mix that includes some more acute presentations requiring management prior to transfer to larger centres. Attaching senior students to rural hospitals, ideally in pairs for 'buddy system' support, offers clinical experience prior to graduation, at a time when they may play useful roles (Sen Gupta et al, 2009). Students regularly rate such placements as the most valuable part of their program (Sen Gupta et al, 2014). Planning should be based around the 'three-legged stool' of rural placements: people (staff, clinical preceptors); places (teaching and placement sites and infrastructure to support teaching, travel costs and accommodation); and patients (sufficient

breadth and depth of clinical activity to support the planned cohort). Preparation of all three is essential: should any be deficient, the placement may fail (Sen Gupta, 2014).

5. Develop partnerships with the private sector. Private hospitals may not suit well the requirements of core clinical placements, where there is reliance on junior hospital staff, training registrars and full-time consultants to deliver medical education across the usual '24-7' culture of larger, acute hospitals. However, even smaller private hospitals offer many opportunities for students in components such as: clinical and communication skills practice with same-day service patients with a rich mix of common conditions; exposure to narrower specialist opportunities (ideal for 'selective' and 'elective' placements), and access to birthing suites (often a genuine pressure point). Private facilities differ widely amongst communities and each one needs careful consideration and negotiation to optimise engagement and learning outcomes.
6. Focus on generalist medical care. Larger academic centres often focus student experiences in narrower, sub-specialty practice, with fascinating and unusual conditions as exemplars. However, many patients are either too ill or otherwise engaged, and so unavailable for student learning (Colquhoun et al, 2009). Some specialities are now very active outside of acute hospitals: paediatrics, mental health, aged care, rehabilitation medicine, and some women's health services may have community facilities and teams that provide services that could accommodate students. Clinical services with a more general clinical focus should be embraced and promoted as better learning contexts. Further, the narrower the experiences at different sites, the more likely students may be to suffer FOMO (fear of missing out), because they hear of the different, more exotic experiences of peers in other placements with the same learning objectives (Bartlett et al, 2017).
7. Utilise ambulatory clinics in hospitals. Focusing student learning on inpatients increasingly omits many interesting and accessible components of patient pathways. There may be substantial numbers of patient presentations in ambulatory clinics for initial consultations, pre-admission assessments, and post-discharge follow-up. All offer valuable learning opportunities that, with relatively modest investment (staff for coordination and supervision and 'extra' clinic rooms) can provide substantial capacity.
8. Implement strategies that increase supervision capacity without reducing clinical service delivery. The balance and interactions between local and central faculty may evolve. Key academic and administrative appointments locally are essential to achieving community buy-in and ownership, but in the early phases, local clinical staff may be too busy with clinical service to do more than 'supervision on the run'. Visiting teachers from central teaching faculty can contribute by leading case presentations, clinical tutorials and case-based learning sessions, and conducting assessments like mini-CEx, case-based discussions and observation of procedures, as well as training local faculty for teaching roles. Two workforce enhancement strategies are worth consideration in under-served communities. The first is to employ additional local clinicians in joint academic and clinical roles, through blending funding arrangements to establish academic registrar positions – 50% education and 50% clinical service – to provide teaching and assessment of students. These positions need training and may be more attractive if combined with credit towards a certificate, diploma or masters level qualification in medical education. The second model is to fund hospitals and practices to replace or increase clinical staff establishments to release some for teaching (Wallace et al, 2001). Over time, local supervisory capacity will increase, allowing increased local responsibility.
9. Consider longer, more immersive placements where a student becomes part of a practice for up to a whole academic year, as in the Longitudinal Integrated Clerkship (LIC) model

(Hudson et al, 2017). During longer placements, students become less of a drain on resources after a few weeks, and then even 'useful' in the practice team (Walters et al, 2012). Students are exposed to continuing, comprehensive care and can see a wide range of patients relevant to all specialties. There are now several published evaluations supporting this model in both primary care and smaller general hospitals (Norris et al, 2009). A further advantage of longer placements is that travel and short-term accommodation costs are recuced.

10. Utilise non-medical staff, patients and students as teachers and assessors. Supervision and assessment can be performed well by faculty who are not medical practitioners. Much depends on the specific tasks being taught and assessed, but related health professionals with education skills can perform well, as can patients trained to teach and assess communication and some clinical skills (McLaughlin et al, 2001).
11. Develop students as educators and implement a cascading model of supervision and service learning that supports senior students to supervise junior students. Many students are interested in formal education training, particularly if it can contribute to additional qualifications or publications, and will see this role as advantageous, rather than burdensome. This approach can transform workforce and teaching culture as students become team members and inspire their mentors (Sen Gupta et al, 2009).
12. Utilise growth in service delivery. It is a safe assumption that clinical placement capacity will expand as the population increases, ages and increases in clinical complexity, resulting in an expansion of services. This requires more health professionals to be recruited, a process that may be enhanced by the acquisition of academic status by the healthcare facilities (e.g. recognition as a teaching facility) and by individual clinicians (e.g. academic appointments).

Summary

Constraints on clinical placement capacity are often not as difficult to overcome as they seem initially. The strategies presented here have been effective in both established and new medical programs in several nations, and may well be relevant more widely with some adaptation to local contexts. The importance of understanding the local territory cannot be overstated, because of international variations in health care systems, professional roles and relationships, geography, and community needs. Every learning opportunity needs to be identified, every relationship nurtured and every opportunity seized to promote the school's mission and develop teaching and research partnerships. This should facilitate the efficient use of available resources, and assist schools to be fully engaged with the communities they serve. While some current practitioners may resist new programs, based on lack of familiarity and connectivity with the medical school, the students and graduates of new programs will become very willing mentors, supervisors and teachers with the connections and familiarity with the curriculum. This allows for student numbers to grow over time, assisting new programs in under-served communities that start with a smaller cohort and scale up, and yet maintain the quality of the placement experience. While resources are needed to fund the costs of teachers, teaching facilities and travel and accommodation for students and staff, additional student places should bring the additional income.

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