

Changes in medical education to help physicians meet future health care needs

Generalist training may be a solution for responding to future population health needs

Health care needs are changing due to the rapidly ageing population and the increasing number of patients with long term conditions and comorbidities.¹ This has occurred at a time of continuing maldistribution of the medical workforce in Australia and increased specialisation and subspecialisation within the medical profession and the medical education system. As the next generation of doctors will need to serve an older population and those with more than one condition, a more useful focus would be “much less on narrow disease silos and ... more on the breadth of possible permutations of co-morbidity”.¹ Long periods of training and increasing subspecialism may also lead to difficulty in changing the scope of practice in times of surplus or reluctance to move to geographic areas with medical workforce shortages.² For example, despite increasing numbers of medical graduates in Australia, there are existing shortages in generalist specialties, such as general practice, general medicine and psychiatry, and many rural communities still have reduced access to medical care compared with urban populations.² Do current models and degree of specialisation encountered in medical training optimally prepare physicians to serve the needs of all patients?

Generalism, and the role of the generalist, has been proposed as one solution to reforming the nature and education of the health workforce. Generalism has been defined as “a philosophy of care that is distinguished by a commitment to the breadth of practice within each discipline and collaboration with the larger health care team in order to respond to patient and community needs,” and generalists have been defined as “a specific set of physicians and surgeons with core abilities characterized by a broad-based practice. Generalists diagnose and manage clinical problems that are diverse, undifferentiated, and often complex. Generalists also have an essential role in coordinating patient care and advocating for patients”.³

According to Reeves and colleagues,⁴ generalism includes continuity of care, principles of person-centred decision making, practice of interpretative medicine, and first contact care for a wide range of problems, such as undifferentiated and complex presentations. While specialists, who mostly provide condition-focused care, may use some features of generalist care, it is the whole-person focus that defines generalist expertise.⁴ In the Australian health care system, general practitioners and other generalist specialists provide continuity of care in community and hospital settings; they coordinate whole-person care and manage complex and chronic conditions. With the growing burden of multimorbidity,



such generalists are likely to be of great value in urban and rural health care settings.

Generalism has been considered the opposite of fragmentation.⁵ In most medical education settings, the persistence of an organ- or disease-centred approach and clinical rotation structure encourages fragmentation, which tends to foster concepts and skills for continued subspecialisation and hinders the development of generalism in practice. Moreover, it may not equip graduates with the diversity of skills and experiences they will need to tackle multimorbidity or serve in locations and settings of most need.² The Australian society contributes to the funding of medical education and there is an expectation that doctors will practice medicine and provide services that meet the needs of patients. A subspecialist may be efficient in managing a single clinical problem in a major urban area, but this may not be viable or cost-effective in regional and outer metropolitan settings.⁶

It is clear that generalists, specialists and subspecialists are needed in the medical system; however, if we aspire to develop more generalist physicians, learners must be exposed to role models who themselves are generalists.⁷ Albritton and colleagues⁷ offer several strategies to achieve this: reward and include generalist role models and mentors in all levels of medical education; incorporate generalists into patient care teams in tertiary care teaching settings; implement collaborative teaching programs involving generalists; ensure that accreditation requirements exist for generalist learning environments, with generalism as a fundamental requirement in all specialist training; and provide a thriving academic base for generalists within the academic environment of health education institutions.

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Distributing learning out of the tertiary care centre into the community — and valuing the expertise available from generalists based there — is exemplified by the model of medical education adopted by Graduate Medicine (GM) at the University of Wollongong.⁸ In 2007, the university launched a new graduate-entry school with a shift in emphasis from teaching and learning in specialism to generalism.⁹ The GM aspired to deal with the shortage of generalist physicians (general practice and other specialties) in regional and rural communities. In addition, the Northern Ontario School of Medicine (NOSM), aiming to meet rural workforce needs in northern Canada, has also foregrounded learning in generalism.¹⁰

Extended immersion in the real world environment of generalism is a distinctive feature of the GM and NOSM educational programs.^{8,10} All senior students in these 4-year graduate-entry medical courses complete a community-based longitudinal integrated clerkship (LIC) in rural or non-capital city urban settings. While other medical schools have implemented LICs for a portion of their students, the year-long generalist clinical experience for the entire student cohort is a unique element for the Australian medical education. The term primary care captures most of the generalist learning environments in the LIC experience, namely general practice (at least 2 days per week) and hospital emergency practice (one shift per week and after hours). This gives students access to undifferentiated patients and the opportunity to accrue a panel of patients who consult them throughout the year under preceptor supervision. Students also learn and contribute to patient care in hospital wards, outpatient clinics, surgical theatres and delivery suites, and in many instances, following patients they have previously encountered in local primary care. In the hospital, students are supervised by generalists or specialists.

Generalism is valued as the professional philosophy of practice for these long term placements. Students learn from generalist solutions to the complex problem of person-centred care for people presenting with multimorbidity. Longitudinal participation also enables involvement in continuity of patient care. One GM preceptor lamented the lost educational opportunity he experienced with his own short term placements, remarking that “you never saw anyone for more than [a] week ... and you never knew what happened to them”.⁸

The preceptor’s commitment to long term supervision and the patient’s engagement are fundamental for a quality student generalist experience; the preceptor legitimises student participation in the wider health care team, and patients trust the student as they trust their doctor.¹¹ The broad experience of learning from, and working with, a range of patients and public and private health professionals is the foundation from which students can differentiate in post-graduate training.

Expansion of primary care-based medical education doesn’t mean “[throwing] the baby out with the bathwater”.¹² Teaching hospitals remain a key learning environment for medical education. Primary Health Networks and Local Health Districts are focusing on smooth transitions for patients between the hospital and community. Longitudinal and integrated involvement

in patient care allows medical students to learn from all stages of the patient journey through care.

Learning and working with generalists is likely to be beneficial across the continuum of medical education. In rural settings, specialists tend to be generalists by necessity, but generalists may be incorporated into patient care teams in tertiary care teaching settings. Although the GM is still too young to have gathered significant long term data about graduates’ career outcomes, data collected at the graduation of four recent cohorts revealed a generalist specialist career preference by 36.8% of graduates (Federation of Rural Australian Medical Educators [unpublished survey data 2010–2013]). Moreover, GM graduates are choosing internships in rural settings (43%) or non-metropolitan areas (61%),¹³ contributing to the health care of populations there. Likewise, 61% of NOSM medical graduates have chosen family practice (predominantly rural) training.¹⁰ These are promising signs from curricula offering students greater opportunities for generalist training.

In Australia, the Commonwealth has invested considerable funds in rural undergraduate medical education to manage the maldistribution of the medical workforce, which is a major driver for more generalist training. The funding increase to the Practice Incentive Program Teaching Payment to further support medical students’ exposure to community generalist settings has been greatly welcomed. A recent review of intern training in Australia has recommended expanding intern training settings; moving to a longitudinal integrated, transition-to-practice model; and giving interns clinical experience in the full patient journey. New initiatives are needed to replace the discontinued Prevocational General Practice Placements Program and give pre-vocational students greater exposure to generalist learning environments. The Murray to the Mountains Intern Program, in Victoria, is one example of applying continuity and generalist supervision to pre-vocational training.¹⁴

In a similar manner, the Rural Generalist Medicine program is a post-graduate initiative focused on training generalists with special skills to meet the health needs of rural and remote communities (<http://acrrm.org.au/the-college-at-work/rural-generalist-medicine>).

Government funding will soon be available to build local resources to support regional- rather than urban-based specialist trainees. However, all post-graduate training programs need to examine whether they are building the skills and experience that future doctors will need to deal with the challenge of multimorbidity. Ahern and colleagues¹⁵ recently recommended a national integrated governance structure across all phases of medical training to support an integrated and consistent approach to medical training and workforce planning. This approach to accreditation will likely be influential in ensuring that all medical training programs foster sufficient flexibility and exposure to generalism to meet the health needs of all populations.

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