

# Learning to care, caring to learn: the evolving nature of medical education

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## ABSTRACT

As Otago Medical School marks its 150th anniversary, this paper reflects on what it means to train doctors for both today and the decades ahead. It traces the school's evolution from its nineteenth-century foundations through key innovations in curriculum, clinical training and rural health, highlighting the ongoing balance between tradition and change. While early efforts mirrored global trends, Otago has grown into a leader in areas such as assessment, interprofessional education and Indigenous health. This paper explores future challenges including competency-based education, personalised learning and the integration of artificial intelligence, arguing that these developments must be grounded in enduring values: professionalism, teamwork and community engagement. The central task remains unchanged: to train doctors who are not only knowledgeable and skilled, but also compassionate and committed to those they serve.

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**W**hat does it mean to train a doctor—not just for today, but for the decades ahead? Medical education has always been a balancing act: between art and science, theory and practice, tradition and innovation.

This question takes on particular significance as Otago Medical School marks its 150th anniversary. We are invited not only to celebrate a proud legacy, but to reflect on how that legacy equips us to meet the needs of tomorrow. To do so, we must look in both directions: back, to the traditions that have shaped generations of Otago-trained doctors; and forward, to the innovations that will shape how future graduates serve their communities.

When Otago Medical School was founded in 1875, it stepped into a centuries-long tradition of learning, mentorship and evolving ideas about what makes a good doctor. Early pioneers like James Macandrew, Millen Coughtrey and John Scott helped lay the foundations for a distinctly New Zealand approach to medical education. Their stories and the medical school's history, told in greater depth elsewhere in this issue,<sup>1</sup> remind us that Otago's legacy is not just one of longevity, but also of adaptation, leadership and a deep commitment to community.

## A legacy rooted in global traditions

The heart of medical education has always centred on the expert-apprentice relationship. This tradition stretches back to Charaka in 500 BC India, Bian Que in 400 BC China and Hippocrates in 300 BC Greece.<sup>2</sup> Over time, this model evolved:

the United Kingdom (UK), in 1421, became one of the first countries to require university approval for a medical qualification;<sup>3</sup> the nineteenth century brought a shift toward hospital-based teaching<sup>3</sup> and the emergence of formal clerkships and residencies, pioneered by William Osler.<sup>4</sup>

Dorothy Page defined a medical school by “*teachers, buildings and a special relationship with a hospital.*”<sup>5</sup> Today, we still value expert faculty—but they teach in small-group tutorials and clinical rotations. Our “buildings” include community clinics as well as simulation centres, and our relationships extend to iwi, primary care sites and rural practices as much as to tertiary hospitals. This networked approach—faculty, peers and community practitioners working together—reflects where we have got to.

Otago Medical School was founded during a time of global change in medical education, when clinical immersion was beginning to balance with university-based learning, and medical schools were expanding in the UK.

Initially, Otago offered a 2-year curriculum, with students completing their studies overseas, usually in Edinburgh. A full 4-year curriculum was introduced in 1885, and by 1923 a 6-year course included allowing students to complete their final year in Dunedin, Christchurch, Wellington or Auckland.<sup>6</sup> One of Otago's earliest and most successful innovations was the establishment of the trainee intern year in 1974.<sup>7</sup> Around that same period, clinical experiences expanded into community and general practice settings—a shift that recognised the importance of medicine beyond hospital walls.

## Between tradition and innovation

In its early decades, Otago was largely a follower of international trends—understandably so. But as confidence grew, so too did the school's appetite for innovation. This tension between honouring tradition and embracing change has remained.

Two notable exemplars illustrate this:

The first relates to problem-based learning (PBL). Originating at McMaster University in the 1960s and first adopted in Australia by Newcastle Medical School in 1978,<sup>8</sup> PBL offered a more student-centred approach.<sup>4</sup> In 1986, Otago began developing its own PBL curriculum, starting with paper-based cases. There were also proposals for earlier clinical contact.<sup>6</sup> By 1988, however, the full PBL model was abandoned—a disappointment at the time, but a catalyst for future improvements. The process stimulated curricular refinement: Christchurch shifted its clinical sciences course of lectures each afternoon to a single afternoon focussed on underpinning sciences and pathology; Wellington began trialling PBL in Years 4–5.<sup>6</sup> By 1997, Otago introduced an integrated case-based curriculum in Years 2 and 3, refined further in 2008. While a pure PBL model never took hold, the ripple effects of that effort helped shape today's more integrated, system-based and clinically focussed curriculum. This curriculum is now very similar to those offered in many other medical schools.

The second case started in the late 1990s when Australia was setting up graduate-entry programmes. In 2001, planning began at Otago for a dedicated graduate-entry stream so that graduates could do a 4-year course rather than the 5-year offering. A hybrid undergraduate/graduate programme was developed, but in 2004, just before an accreditation visit and amid financial concerns, the university halted the initiative. Some staff left to help establish graduate-entry programmes elsewhere, and elements of Otago's planning would later influence the programme at Wollongong Medical School. Again, while the plan wasn't realised at Otago, it seeded thinking and talent that shaped medical education more broadly.

## Innovation fully realised

Not all innovation at Otago came with such hiccups. The school has a proud record in several areas, perhaps most visibly in rural medical

training. In 2000, James Cook University was the first in Australia to focus on rural training,<sup>8</sup> and by 2007, Otago had launched its Rural Medical Immersion Programme. This highly successful 5th Year placement immerses students in rural settings using a longitudinal integrated clerkship model—such immersion increases the odds of pursuing rural medicine more than sixfold.<sup>9</sup> All students benefit from some rural exposure—even if they never practice in those settings—because understanding the needs of rural colleagues is essential to team-based care. This led to the philosophy of “a lot for a few, and some for everyone”, which means that today, Otago medical students are placed in 57 towns and localities across New Zealand, 48 of them rural or regional, working with 135 medical practices.

Otago has also achieved global recognition in other areas. It was the fifth medical school worldwide to receive the ASPIRE Award for excellence in medical education assessment—particularly in assessment of professionalism.<sup>10,11</sup> Its work in interprofessional education<sup>12</sup> has been commended by the Australian Medical Council. Its efforts in Hauora Māori and Indigenous curriculum development have earned international attention,<sup>13</sup> and its admissions policies have contributed to a student body more reflective of New Zealand society.<sup>14</sup>

Otago is now recognised as a leader in rural health, assessment, interprofessional learning and Indigenous health—not simply catching up, but helping set the pace.

## Looking to the future

If past trends are any guide, future innovations in medical education will require not just vision, but agility. One emerging movement is competency-based medical education, which shifts the focus from time spent to outcomes achieved. Ideally, students would graduate once they meet rigorous standards—not just after 6 years—allowing greater flexibility in pacing.

Flexibility may also come through place. Some Australian programmes now offer their entire 4-year graduate-entry courses in rural locations. These models are still being evaluated, but they point to a future where training is increasingly tailored—in both time and setting—to better align with healthcare needs.

Simulation, too, offers new flexibility, allowing students to practise essential skills in a controlled environment, and helping to ensure all learners

meet competence standards, regardless of the variability in clinical placements. It complements, rather than replaces, the serendipitous and unpredictable encounters of real patient care.<sup>4</sup>

Of course, individualising training brings challenges, especially with large cohorts of students, financial constraints and current methods of funding university degrees. But it also aligns with broader technological opportunities. No discussion of the future is complete without mentioning artificial intelligence (AI). While AI raises questions about how medicine is practiced and students are assessed, it may also help us personalise education by adapting content, pace and delivery to the learner.

Still, not everything will—or should—change.

Throughout centuries of medical education, certain qualities have endured: professionalism, communication, problem solving and the ability to help patients improve, or at least make sense of, their health. The doctor's role as an expert has evolved into a role within teams. Likewise, teachers have moved from being knowledge holders to learning facilitators. Medical schools no longer own learning resources exclusively; instead, students and staff evaluate and co-curate such materials from many sources.

Amid these advances, a new future tension is emerging: how far training should be personalised when healthcare is rarely practiced alone. We assess students as individuals, but the work is always in teams. Learning may be increasingly

individualised, but care must always be collective.

## **The challenge and the commitment**

As we look ahead, the real challenge is to personalise learning without losing the power of collective practice. Medical training can and should reflect individual trajectories, but medicine itself remains a team sport.

The future of medical education lies in blending innovation with enduring values: shaping doctors who are not only clinically skilled, but committed to ongoing improvement, their patients and their communities. Technologies will evolve. Tools will change. But our commitment to professionalism, collaboration and patient-centred care must remain unshakeable.<sup>15</sup>

Training tomorrow's doctors means holding paradoxes in tension: learning that is personal, but never solitary; practice that is founded on scientific knowledge but always adaptable to individual patients; innovation that enhances, but never eclipses, the human aspect of medicine. Technology will keep changing how we teach, but it must never change why we teach. Our task is to shape doctors who are not only skilled and adaptable, but deeply connected to the people and communities they serve. That commitment—to care, to professionalism, to collective purpose—is what must endure, even as we continue to balance past wisdom with future innovation.

**COMPETING INTERESTS**

TJW was the Otago MBChB programme director 2013–2021 and acting Dean of Otago Medical School 2022–2025.

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