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Responding to COVID-19: What we learned in 2020

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Abstract

Introduction: This article summarises a report published in July 2021 by Medical Deans Australia and New Zealand (Medical Deans), the peak body representing the 23 medical programs in Australia and New Zealand. It explores how medical schools responded to the early impacts of COVID-19 in 2020, and how they might build on some of the changes to achieve fundamental improvements in medical education in Australia and New Zealand.

Methods: The Medical Deans report was based on: Responses to a survey midway through 2020 of its member schools about their experiences during the initial lockdowns; the contributions of presenters at the Medical Deans 2020 Annual Conference; subsequent discussions among communities of practice.

Results: Innovations introduced in response to the pandemic, included greater equity of learning opportunities across geographical locations; health services taking more responsibility for clinical placements; greater emphasis on competencies and less on clinical rotations in specific disciplines; strong collaboration between medical schools, and with providers in the medical training and research pipeline. Challenges include balancing the benefits of online learning with the need for human connection and a chronic lack of clinical training opportunities in community-based care.

Conclusion: While the impact of the pandemic on medical education and training was costly for all involved – both financially and personally – the scale of disruption provided a unique opportunity for step change. To fully realise this potential moving forward, medical schools will need to work in partnership with all those involved: students, health services, prevocational training, specialist colleges, regulators and governments.

Practice Highlights

- Equity of learning opportunities across rural, regional and urban locations using digital technology.
- Enhanced learning outcomes through a blend of remote and face-to-face teaching and assessment.
- Shared responsibility for medical students' clinical placements as an essential part of the health system.
- More emphasis on student competencies and less on clinical rotations in specific disciplines.
- Strong collaboration between medical schools and across the training pipeline.

I. INTRODUCTION

Medical schools in Australia and New Zealand graduated close to the anticipated number of new doctors (3,800) at the end of 2020 – a significant feat given the size and number of shockwaves sent through the sector by the pandemic. Despite the immense stress COVID-19 placed on the sector, it was also the catalyst for significant innovation.

This article summarises the findings of a report published in July 2021 by the peak body representing the 23 medical schools in the two countries, Medical Deans Australia and New Zealand (Medical Deans). The report, *Changing for good: What we learned in 2020* (Medical Deans Australia and New Zealand, 2021a), explored those innovations which occurred during the pandemic that medical schools want to retain and build on in the future. It also identified some critical gaps and problems highlighted by the pandemic that must be addressed moving forward.

II. METHODS

The report was authored on the basis of: responses to a survey run by Medical Deans Australia and New Zealand (MDANZ) midway through 2020; the contributions of presenters at the Medical Deans' 2020 Annual Conference; subsequent discussions among Medical Deans' communities of practice.

Where quotes are attributed to a particular person, they are drawn largely from the Annual Conference. Where quotes are attributed to a medical school rather than a person, they are drawn from the Medical Deans survey.

III. RESULTS

A. Innovation through Online Learning

As campuses closed early in 2020, schools employed a combination of pre-recorded sessions and interactive online lessons to deliver much of the non-clinical, and a small part of the clinical, medical curriculum to students. This created a sense of unity amongst students in different geographical locations as they all accessed the same lessons online – reducing disparities sometimes faced by those in regional and rural areas.

- ***University of Auckland*****:** *We have done much more synchronous learning across sites – we have eight sites in each clinical year across the north island - and we're going to keep that.*
- ***University of Newcastle***: *We've found that the expert facilitating a learning session can now be based anywhere and it works well.*
- ***University of New South Wales***: *We have students at five metro hospitals and at least five rural ones, plus those in GP placements, who can now join each other in learning activities online. Prior to this, the rural students often felt left out of tutorials and activities that the metro students could get to.*

The move out of the lecture theatre also allowed more flexibility for students in accessing lessons and interactivity, through online chat functions, and encouraged the use of advanced digital learning platforms. Small group tutorials used online tools to imitate some aspects of face-to-face clinical teaching and assessment, for example, Zoom rooms for interactions with actors or Objective Structured Clinical Examinations (OSCES).

- ***Sydney****: The live Zoom component of the flipped classroom, with two experts (one monitoring chat), has proven very interactive and popular compared to a large lecture theatre. It also allows for more polling, which the students enjoy. With a cohort of 270, we saw increases from an average of 60-80 participants [25%] in lecture theatre mode to up to 210 participants on Zoom [75%].*

However, there were also significant problems associated with delivering so much of the curriculum remotely. Online fatigue and the loss by students of a human connection with their peers and teachers was extremely stressful for many, particularly for international students, some of whom were far away from home for the first time. Another cohort at a particular disadvantage were the first-year students who did not get the chance to attend their university campus or make friends in this new phase of their life before the COVID lockdown.

Another issue for students was that access to adequate technology and learning space offsite was not always adequate, despite schools' best efforts.

"The presumption in delivering medical training online is that all students have equal access to the technology, and that presumption is not correct," said Professor John Fraser, University of Auckland's Executive Dean of Medicine and Health Sciences. "Technology comes at a cost and not all students have enough resources to meet their technological needs. Also, the idea that each student has a space of their own to do their online learning is not always the case."

Finally, medicine uses a very hands-on, apprentice-based educational approach, and there was only so much that could be done remotely.

Professor Fraser "There is so much subtlety in the way you learn in a clinical environment that it cannot be properly replicated online."

The future of medical education lies in developing and refining the optimal blend of face-to-face and remote learning and assessment. Getting the balance right will be an ongoing priority for medical schools. By comparing approaches, medical schools have the best chance to determine the optimum mix of remote learning for their individual medical programs. This will be a continuing focus for medical schools, through the Medical Deans' Medical Education Collaborative Committee (MECC). The University of Notre Dame Australia's Dean of Medicine, Gervase Chaney, told the 2020 MDANZ Annual Conference that there was an opportunity to implement long-lasting change: "I think we've learned that if we are going to get value, we're not going to be bringing our students on to campus four or five days every week. We'll be looking at a more flexible learning approach and they can still be doing some clinical skills training – like the history-taking over Zoom or other online platforms. It's a case of how we

normalise this so that when students step into the clinical space, it's a natural step for them."

B. New Approaches to Clinical Learning

After an initial halt during the onset of the pandemic, clinical placements for later-year medical students were largely re-instated in 2020.

In Australia, one of the defining features of these new-style placements was the emphasis on shared responsibility between medical schools and health services. Medical schools collaborated as never before with each other and with health services on a range of clinical placement models and paid positions for medical students as part of the surge workforce. While remunerated roles already existed for final year students and pre-interns in other countries, including New Zealand, they were a first for Australia.

These new approaches to clinical placements and paid positions had the following features in common:

- the learning needs of the student were explicit and central
- the role of the student, and their scope of practice within the healthcare team, was more clearly defined and articulated
- medical schools and health services shared core responsibilities for students and the success of their placements.

There was strong and widespread support from Australian medical schools for the benefits brought by this shared responsibility for medical students on placement or working within healthcare environments.

Another key shift in clinical training came about due to the need to minimise patient exposure to multiple healthcare workers: in many cases, students were placed for longer periods of time in general wards caring for patients with a range of medical conditions, and their rotations in some medical specialties were cancelled (e.g. obstetrics and gynaecology, intensive care). Students reported feeling more connected to the other health professionals they worked alongside during these longer placements and more able to make a valuable work contribution to patient care.

The Deputy Vice Chancellor, Tropical Health and Medicine at James Cook University, Richard Murray, believes this provided greater exposure for students to whole-of-patient care: "The clinical phase of medical education has traditionally been carved into different rotational experiences across medical disciplines and cemented in place through departments, budgets and staffing. COVID-19 has driven more learning around the integrated experience of patients. Rather than curriculum by a set of rotations, you have curriculum according to people of all ages and with all sorts of problems, which are often complex and interrelated. Learning is more integrated now."

This discussion is furthered in the Medical Deans advocacy document *Training tomorrow's doctors – All pulling in the right direction* (Medical Deans Australia and New Zealand, 2021b), with a number of recommendations for change. One of these is for regulators, medical schools and jurisdictional health service providers to build on the insights from the evaluation of the Assistants in Medicine role piloted in response to the pandemic in NSW in 2020 (New South Wales Health, 2021) and the New Zealand Trainee Intern model, to develop a shared and explicit understanding of what is needed to be prepared for practice; and to strengthen arrangements for students' transition from medical school to employment.

C. Collaboration on Core Competencies

Also supporting this more generalist approach was the co-development by schools of an agreed set of core competencies needed for final-year medical students to progress to graduation.

This unprecedented collaboration between universities saw medical schools co-develop the common core competencies needed to graduate as a means of quality assuring the rapid and extensive changes made to their programs and placements due to the pandemic. Developed through the Medical Deans' MECC, these core competencies were based on the schools' own course outcomes and aligned with those required by the Australian Medical Council.

- ***Deakin University****: We now have clear competencies mapped for internship - extended to the penultimate year. It is now less about the rotation and more about the competencies.*
- ***University of Auckland****: Based on our local graduate learning outcomes, we are emphasising core competencies over disciplinary learning outcomes. We are emphasising generic skills and capabilities.*

The collaboration between medical schools during 2020 – culminating in the collaboration on core competencies – was amongst the most ranked highly ranked innovations of period which resulted in the *Guidance statement: Clinical practice core competencies for*

graduating medical students (Medical Deans of Australia and New Zealand, 2020).

"The challenges of COVID made us create these dynamic and interactive education teams consisting of students, academics, professional support, design and IT staff all working together on re-developing format, content and assessments," said University of NSW's Associate Professor Torda. "At university level we did this across faculties; nationally, we worked more closely together, through Medical Deans in particular, to share and solve problems." (Medical Deans Australia and New Zealand, 2021a)

D. Lack of Opportunities in Community-Based Care

A pre-existing lack of clinical training opportunities for medical students in community settings – in aged care in particular and, in some places, in general practice – only worsened during the COVID-19 pandemic.

National and international studies show that health systems which provide strong primary care are more cost-effective and associated with a more equitable distribution of healthcare across the population (Australian Department of Health, 2019). Yet GPs are not resourced in the same way as hospitals to provide clinical training for medical students, which fuels an over-emphasis on clinical training in hospitals. COVID-19 highlighted this problem, with GP placements becoming variable in 2020, as practices scrambled to secure the Personal Protective Equipment needed to provide patient services and tended to view medical students as an additional burden rather than as part of the health workforce response.

In the case of aged care, the limited training opportunities for clinical training that existed prior to the pandemic were lost completely in 2020, as facilities moved to shield their vulnerable elderly residents from COVID-19.

We know that the aging populations of Australia and New Zealand will increasingly require non-hospital-based care to manage the chronic and comorbidity conditions that typically occur in older populations (Australian Department of Health, 2019). Medical schools and health services must work together and with governments to ensure that more quality clinical training opportunities are available for students in both community-based aged care and general practice. In addition, to develop and implement solutions effectively there has to be continued and stronger collaboration right along the medical training and research pipeline, from medical schools to specialist training.

No single strategy will address this problem; it will require a coordinated effort. Medical Deans is advocating for Australian and New Zealand governments to establish a taskforce comprising the key stakeholders responsible for designing and delivering medical education and training across all stages of the continuum to:

- co-develop future training models that target the priority areas of workforce need; and
- explore the possibility of a "flipped" model for community-based PGY1 and PGY2 doctors where the majority of their experience occurs in a community-based setting, rotating into hospitals for training as required.

IV CONCLUSION

While the impact of the pandemic on medical education and training in 2020 was costly – both financially and personally – the scale of disruption provided a unique opportunity for step change. In many cases, the sudden and massive changes created strong potential for lasting improvement. In other areas, the pandemic highlighted cracks that already existed within the health sector (e.g. lack of clinical placements in community healthcare settings), which will require coordinated effort beyond the medical education sector to fix.

Medical Deans has incorporated and built on these key learnings with the development of a number of advocacy positions and documents. In addition to those reports already mentioned, the learning has informed the student support document *Creating a culture of support - For medical students transitioning to practice* (Medical Deans Australia and New Zealand, 2021c), as well as the Medical Deans' submission to the consultation for the Australian Medical Council's Review of the Accreditation Standards for Primary Medical Programs.

Medical schools are looking to capitalise on the resourcefulness and innovation of 2020 in all the ways highlighted in this article and the full report by Medical Deans. To fully realise this potential, they will need to work in partnership with all those involved: students, health services, prevocational training, specialist colleges, regulators, and governments.

Notes on Contributors

Mary Anne Reid developed the Medical Deans survey of members schools and collated its findings. She integrated these with elements of the presentations made at the 2020 Annual Conference, and other member discussions, to develop the structure and write the text.

Kirsty Forrest provided key editorial and supervisory input as the member of the Medical Deans Executive supporting the report.

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Declaration of Interest

The authors declare that there is no conflict of interest related to this manuscript.

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