

How were medical students from Christchurch, New Zealand, involved in their COVID-19 response?

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ABSTRACT

Medical students from the University of Otago, Christchurch Department of Medicine were involved in their local COVID-19 response. A group of ten students helped with the assessment of individuals at community-based assessment centres or mobile testing units. They primarily helped assess and test individuals alongside experienced healthcare workers. The students gained valuable clinical and public health experience. Key learning points were the risks of pandemic involvement, identifying local barriers to healthcare and developing an appreciation for an evolving health response. Overall, students felt that preparation for future involvement could benefit further pandemic responses.

Early in the academic year of 2020, our cohort of medical students at the University of Otago in Christchurch received a lecture on the developing COVID-19 pandemic. While many felt concerned by the situation unfolding overseas, we found it difficult to conceptualise this virus in New Zealand. This changed when international classmates were prevented from returning from overseas and we soon had our first case in late February. Without a clear protocol for medical students, we were left wondering: what would our role be in this incoming pandemic?

Turning to news and social media we became aware that some overseas medical students had been part of their country's response. In Italy, early graduation for around 10,000 final-year students helped supplement their overburdened workforce.¹ The United Kingdom also prioritised qualification for final-year students to help the National Health Service.² We experienced an early country-wide lockdown and, together with clear daily communication, avoided a large-scale outbreak. During lockdown only final-year medical students could remain in clinical settings, a decision that resulted in the cancellation of hundreds of hours of

placements for remaining students.³ This left us with an unusual amount of free time yet a strong desire to be part of our own country's response.

How were students involved?

Across the country many medical students volunteered their time and skills in a variety of ways. During the pandemic students helped with contact tracing, looking after children of healthcare workers and at the national health call-line.^{4,5} In Christchurch, a medical-student initiative formed a 'volunteer army' for those who wanted to help. This was utilised when a group of ten in our fifth year of medicine were asked to assist at an initial 'pop-up' surveillance testing location.⁶ There we initially worked to transcribe and document details alongside healthcare workers. As our involvement progressed, we were trained to perform nasopharyngeal swabs and use primary protective equipment (PPE). This gave us the ability to work on the frontline and help assess symptomatic individuals at established locations known as community-based assessment centres (CBACs). It also gave us insight to share when new protocols

were being developed for the first time. We soon recognised that many members of the public were unable to commute to get tested. Mobile testing units were established and became one of our main roles. We worked out of vehicles alongside local general practitioners to help assess and test in the community. We found ourselves helping design new protocols for the transportation of swabs and use of PPE. Some of us were also involved in testing high-risk individuals, such as staff from the New Zealand Police, Fire and Emergency New Zealand and local rest homes. We found that, regardless of our involvement, we developed a variety of skills that built on our previous medical training (Table 1).

Key learning points

Risks of involvement

As medical students, we often find ourselves in the unique situation of observing clinical situations with reduced risk. Usually there are protocols that protect us from the risk of harm to ourselves or others. In this pandemic, many of us felt able to assist despite the unknown risk with a new virus. Our overseeing medical deans agreed that ‘immersive and experiential learning’ was crucial for student education, but only ‘in the right roles, and with appropriate supervision and support’.³ Initially it was hard for us to conceive what this would entail and whether the risks really were known. Overseas we saw that healthcare

workers were over-represented in COVID-19 cases and deaths. Knowing that our assistance might increase the chance of exposure to us and others in our living situations, we were at first apprehensive. Thankfully the more controlled situation in New Zealand made our assistance less daunting over time. We found our involvement rewarding, whether it was on the frontline or not, and the level of risk balanced well with learning opportunities. If student roles are to be explored in future responses, we suggest a range of options that can be adjusted to the level of risk.

Barriers to testing

Mobile testing was a novel idea and quickly became one of our key roles as students. This took us into the homes of those unable to commute to COVID-19 testing sites. We visited a wide range of locations, including quarantine facilities, support housing residencies, juvenile detention centres and even rural locations outside of Christchurch. We regularly visited individuals who lacked transport, were of an older age or had disabilities. As taught at medical school, a key social determinant of health is access to healthcare.⁷ On many occasions our visit was the first contact with healthcare services for an issue that had not been previously addressed. Sometimes it became the role of the more senior health professional to provide other cares for the patient in addition to COVID-19 testing. Many houses were damp and cold. In some

Table 1: Summary of medical student involvement in the COVID 19 response in Christchurch, New Zealand.

Student role	Skills developed
History taking and documenting	<ul style="list-style-type: none"> Acquiring patient details and establishing a symptom history Screening for symptoms associated with COVID-19 and for those in high-risk populations Communication with a range of healthcare workers
COVID-19 testing	<ul style="list-style-type: none"> Explaining and performing a nasopharyngeal swab Application of PPE and understanding of the aseptic technique
Clinical assessment	<ul style="list-style-type: none"> Recording and interpretation of vitals including temperature, oxygen saturations, respiratory rate, heart rate and blood pressure.
Pandemic planning	<ul style="list-style-type: none"> Helping set up and design clinical protocols Providing feedback on the current response

houses there were children with respiratory symptoms likely exacerbated by their environment. These visits let us view living situations from the centre of a patient's home. This left a lasting impact on many of us and cemented a strong reminder of how risk factors and living conditions can impact upon health.

Planning an evolving response

We observed how rapidly a public health response needed to change during a new pandemic. As the number of confirmed cases increased, the protocols for community testing had to adjust from day to day. We helped set up pop-up surveillance sites, which allowed us to think through the finer details, like ensuring the layout was efficient yet safe. One important lesson was the importance of ongoing communication. Every morning each CBAC had a briefing session about any recent changes to the criteria for testing, self-isolation advice or protocols. This reflected the evolving nature of the pandemic and response to the latest guidelines, which accounted for local area challenges. We were impressed that whenever the Ministry of Health requested the need for surveillance testing the relevant primary health organisation set up an assessment centre within 24 hours.

We quickly appreciated that working in this type of environment required communication and flexibility, skills much needed as future doctors.

Future directions

In light of our contribution, we suggest that preparing medical students for future disaster or pandemic situations may be beneficial. So far the impact of COVID-19 within New Zealand has been manageable at the hospital level. We make note that further events may occur where the health response might not match the health demand. Our involvement built on previously taught medical knowledge and, along with ad hoc training and support, we felt confident in the roles we were given. However, there was much initial uncertainty about our role, and only a small group of us were involved. Some medical schools provide a curriculum for pandemic or disaster situations to allow faster and more effective student involvement.⁸ We propose that disaster and pandemic training tailored to medical student experience would be beneficial. Furthermore, establishing local pathways for student involvement could help ease an overburden health system if, or inevitably when, future events occur.

Competing interests:

Nil.

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