The Waikato Medical School proposal

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INTRODUCTION

The University of Waikato, in partnership with the Waikato District Health Board, has submitted a proposal to the Government to set up a community engaged medical program that will help address a number of critical medical workforce issues. In particular, the proposal is aimed at addressing the shortages of general practitioners and specialists in other disciplines with general scope, particularly in locations outside of the main cities in New Zealand. The programme proposed is a four-year, graduate entry program that will purposefully select students who are committed to providing primary care in communities outside the main centres. Based on the evidence provided by similarly-structured graduate entry programmes in other countries the Waikato Medical School will bring much needed diversity in student selection processes, training, and health workforce outcomes.[1]

HEALTH WORKFORCE ISSUES

The primary drivers for a third medical school are our failure to train enough doctors and our failure to train the types of doctors that are required to serve the needs of our population. This failure is reflected in a shortage of doctors that is most acute in particular specialties and regions as indicated by both vacancies and our reliance on international medical graduates (IMGs). To address these shortages New Zealand needs to recruit a different sort of student, and train a different sort of doctor from those associated with the two existing medical schools at the University of Otago and the University of Auckland.

In 2014, 43.4% of New Zealand's medical workforce was trained overseas. This makes New Zealand the OECD country whose health workforce is most heavily dependent on international medical graduates. The New Zealand health system imports twice as many IMGs each year than it trains locally. For example, from 2009 to 2013 we registered 1806 NZ graduates and 5945 IMGs.[2] At present New Zealand imports 1,100 doctors trained in other countries to meet our health workforce needs. Most of these doctors stay for a short time, and only 25% are still here three years after their arrival.

The problems associated with New Zealand's health workforce are not unique, but where New Zealand is unique is in its failure to follow other OECD countries in creating additional medical education programmes designed to specifically address these challenges. With one medical school for every 2.35 million people, New Zealand has among the lowest ratios of medical schools to population in the OECD. The relevant ratios are 1:1.7 million in the UK, 1:1.6 million in the US and Canada, and 1:1.2 million in Australia. Based on any of these comparators New Zealand should be well advanced in developing a third medical school, and against Australian standards we would already have a third medical school and be considering a fourth. New Zealand's need for a third medical school is increased by the similarity in the medical education provided by the two existing New Zealand medical schools compared to the diversity of approach in medical training available internationally. The key lesson learned from Australia, North America and the UK is that the provision of additional medical schools needs to be about increasing both capacity and diversity in medical education and training models.

Diversity in medical education models is required because New Zealand suffers from a shortage of both New Zealand-trained doctors and doctors who elect to practice in particular specialities and geographic locations. Psychiatry, geriatrics, rehabilitation medicine, palliative care and obstetrics and gynaecology all have more than 50% IMGs as registered practitioners.[3] In addition, the proportion of the graduates from Auckland and Otago medical schools vocationally registered as General Practitioners (GPs) has trended down for the last thirty years. Current efforts to increase elections for this specialty are not likely to be adequate given that 60% of GPs outside the main metropolitan areas are IMGs, the vacancy rate in rural general practice is 20-25% and 40% of our current GPs plan to retire by 2025.[3]

New Zealand has wide disparities in health, especially in our rural and Māori communities. This is evidenced by the high amenable mortality rates in the more rural District Health Boards such as Northland, Tairawhiti, Lakes, Whanganui, and Hawkes Bay. Regional variations in the distribution of doctors per 100,000 of population are markedly skewed against provincial and rural locations. The shortage of primary care doctors and specialists in provincial and rural centres and hospitals results in large increases in costs for the health system as a whole (because patients do not seek treatment early, have more advanced conditions requiring more medical intervention and use the hospital emergency department as a general practice).[4] These disparities have been present for decades and, despite increased funding to the existing two medical schools (such as extra rural origin places in 2002) the disparities have continued.

THE WAIKATO MEDICAL SCHOOL PROPOSAL

New Zealand's two existing medical schools have attempted to introduce some diversity in their programmes but have done so within the constraints of their existing undergraduate entry model and their requirement for students to study health sciences at Auckland or Otago as a prerequisite for entry. The proposed Waikato Medical School is designed to provide a much greater level of diversity by complementing the work of the two existing medical schools in New Zealand. It will follow international best practice to provide the diversity in medical education and workforce outcomes that is necessary to meet New Zealand's challenges with the geographical location and specialist choices of its health care workforce.

The Waikato Medical School will be based in Hamilton and at regional clinical education sites in 12-15 locations throughout the central North

Island (depending on the community partnerships that are built). It will offer a medical degree programme which is unique in New Zealand, but widely adopted and regarded as international best practice. The programme will be graduate entry only, requiring an undergraduate degree from any university (compared to the current requirement to take health sciences at Auckland or Otago Universities to have the option to enter medicine). The Waikato programme will be four years in length rather than the five years currently required at Auckland and Otago Universities.

A critical feature of the Waikato Medical School is that it will be "community engaged", involving communities outside the main metropolitan areas in the design of the programme, selection of students, and training of students. Community engaged medical schools are part of the transformation of medical education from a two part pre-clinical (science-based) curriculum plus a clinical curriculum to an integrated, systems based approach.[5] This approach has been facilitated where Universities have engaged with their communities to ensure that their education and research are aligned with the health system's needs. Community engaged medical programs are formed through a partnership between the educational providers and the communities they serve, improving medical education while at the same time meeting community needs and advancing health equity agendas.[8]

The key elements of the proposed Waikato medical education model benchmarked against best practice internationally are reflected in its student selection processes, the clinical learning experience, the ethos of the programme, and the workforce outcomes.

STUDENT SELECTION

The very substantial excess demand for places in medical training programs in New Zealand and the high academic standing of those applying for entry to medical training, as well as the substantial number of New Zealand students being accepted to Australian graduate entry medical programmes each year, creates an opportunity to focus the selection of students on the characteristics that are most likely to lead to desired health workforce outcomes. While there is some evidence that graduate entry programs per se may change the nature of the students, the diversity is related more to selection policies than the nature of the program. The proposed University of Waikato Medical School will select students who have demonstrated high levels of academic achievement in an undergraduate degree and are predominantly from the communities in which medical practitioners are required. But the student selection and admissions process will also give a high weighting to evidence of engagement with and commitment to communities including a commitment to providing care in the communities from which the students are drawn.

CLINICAL EXPERIENCE

Community-engaged medical training focuses on students learning about medicine through supervised interaction with patients in a community setting. Under the University of Waikato proposal, each student will spend at least a year of the four years in community placements. There will be a high level of community engagement with their education and community support for the students on clinical placements. To facilitate this approach to training the University of Waikato proposal involves a commitment to invest in the physical infrastructure and the supervisory capability in 15 community education centres in the Midland Region. This will require additional investment, but has been shown in the Australian and Canadian settings to provide excellent educational experiences for students.[7,8]

ETHOS

The Waikato Medical School will be seeking students who demonstrate a strong commitment to the ethos of a community-engaged medical school, to public and community service and to reducing health inequities. This will include seeking Māori students who can demonstrate engagement with their community, especially rural communities. This ethos of the School will be reflected in its level of engagement with communities outside the main centres and the constant reinforcement throughout the curriculum of the World Health Organisation's definition of social accountability: "the obligation to orient education, research and service activities towards priority health concerns of the local communities, the region and/or the nation one has a mandate to serve".[9]

WORKFORCE OUTCOMES

Based on evidence from community-engaged graduate entry programmes in other countries, the Waikato Medical School would aim to produce graduates who are different in kind but not in quality to those produced by the two existing medical schools. The difference would be reflected in a high proportion of graduates who choose a specialty most relevant for health care outside the main centres. Following the workforce outcomes achieved by our exemplar programmes internationally, the Waikato programme will aim to have 50-60% of graduates electing general practice as a specialty and committing to practise outside the main centres, and a high proportion of the remaining 40% choosing a specialty and sub-specialty relevant to provincial and rural workforce needs. In community-engaged medical schools in other countries these workforce outcomes are achieved through the combination of selection of graduate entry students who can demonstrate a credible commitment to clinical care in a community setting, medical school staff who are committed to the ethos of community engagement, and a high proportion of the programme involving clinical experience in a community setting. It is not proposed to introduce formal bonding mechanisms, although some of these may be associated with scholarships provided by community groups that we expect to support students entering the programme. The workforce outputs of the programme would no doubt be closely monitored to ensure they achieved of the Waikato Medical School's stated goals.

CHALLENGES AND CONCERNS

A number of concerns about the Waikato Medical School proposal, and the idea of a third medical school in general, have been raised. In this section I briefly address those concerns.

QUALITY OF THE PROGRAMME

There is substantial international evidence that the doctors produced from four-year community-engaged graduate entry medical programmes are equivalent in quality to those from traditional programmes. Because the Waikato Medical School would need to be accredited by the Australian Medical Council, the quality of its proposed programme would be assessed against best practice in Australia from the outset.

SHORTAGE OF CLINICAL PLACES

The Waikato Medical School will need to take a different approach to clinical placements than that adopted by the two existing medical schools in New Zealand. The Waikato programme envisages all students spending substantial amounts of time in community clinical settings, including 30 weeks in the third year. The Waikato business case therefore incorporates the cost of investment in the creation of new clinical placements and does not rely on competition for those that currently exist.

PGY1 PLACES

The number of funded places available for PGY1 house officers would need to increase to accommodate the graduates of the Waikato Medical School, but the number of house officer positions needs to increase in any event given our unsustainable level of reliance on IMGs and the much higher level of places at PGY2. The current number of PGY1 places reflects the training needs of the past, and not current workforce needs. The government will have until at least 2024 to address this issue with respect to Waikato graduates.

THE NEED FOR MORE DOCTORS

The data presented above make it clear that New Zealand needs to train a lot more doctors, and that it is untenable to continue educating

so few New Zealand doctors through only one type of medical school. Apart from the bottleneck at PGY1 level, all of the indicators suggest that the two existing medical schools do not have the capacity to train the number of new doctors needed by New Zealand in the next 25 years. Moreover, the suggestion that the problem will be solved by New Zealand citizens trained at the Australian medical schools lacks credibility: over the last few years New Zealand has been through an immigration boom driven in significant part by New Zealanders returning from, and fewer New Zealanders leaving for, Australia. Too few of the returners have been doctors to have any impact on our workforce shortages, and as the Australian economy strengthens in the next few years the outflow of New Zealanders to Australia is likely to resume. Rather than thinking about New Zealand doctors returning, it would be better to ask whether the many able New Zealand students being accepted into graduate entry programmes in Australia should have that option at a programme in New Zealand.

The data presented above also indicate that New Zealand's health workforce problems are distributional as well as being related to absolute numbers. The latest survey of the intentions of students in the two existing medical schools shows that only 1.5% of students would want to live in a community of less than 10,000[10] even though 20% of new Zealanders live in these smaller communities. Clearly the student selection and training models of the two existing schools cannot solve our shortage of doctors in provincial and rural areas.

THE COST OF A NEW MEDICAL SCHOOL

Because the Waikato Medical School proposal has been developed jointly by the University and the Waikato District Health Board, the set-up costs for the new medical school are not large, and the scale of the existing investment in the Otago and Auckland medical schools is not a relevant comparator. Many of the facilities and teaching staff required for New Zealand's third medical school already exist in Hamilton. The proposal is also cost effective because it would draw students from the existing pool of university graduates (in any discipline) in New Zealand without imposing the costs of a requirement for students to undertake a specialist entry programme at the University of Waikato. In the US, where graduate entry to medical school is always required, empirical evidence shows that no single undergraduate degree best prepares students for success. In fact, for 20 years, New York's Mount Sinai Medical School has tracked the performance of graduate medical students who enter with humanities degrees. Compared to their counterparts with a strong undergraduate science background, these humanities majors excelled in clinical placements, "where textbooks and Petri dishes give way to real patients and clinical problem solving".[11]

CONCLUSION

It has been almost 50 years since New Zealand last established a medical school. When the University of Auckland medical school was established in 1968, the population of New Zealand was 2.7 million. By the time that the first graduates could emerge from the proposed Waikato Medical School (2024) the population of New Zealand will have doubled, and the aging of the population together with changes in technology will have increased demand for health services to an even greater extent. This makes New Zealand distinctive in the OECD, but for the wrong reasons: Over the same period, other developed countries have established new schools of medicine and introduced new models of medical education to meet their changing health workforce and population health needs.

Discussion of the need for a graduate entry medical programme in New Zealand has a long history, but it has become particularly intense in recent years as the majority of medical schools in Australia have moved to graduate entry only programmes, and as the benefits of the diversity that is provided by community-engaged graduate entry programmes has become apparent. New Zealand can no longer afford to ignore the evidence on the benefits that alternative models of medical education to that offered by Auckland and Otago can provide. Moreover, ignoring the fact that the majority of the primary care in our (often high needs) provincial and rural communities is provided by doctors who did not grow up or train in New Zealand, and thus have little knowledge of the social and cultural context within which they are practicing, is as politically untenable as it is inappropriate as a model for providing health care in those communities. In other words, there is now overwhelming evidence that it is untenable to continue to do what we have done in the past and hope that it will produce different and more appropriate outcomes. New Zealand can no longer afford to have only one model of medical education offered by just two of its universities.

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