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Information for release

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Treasury Report: Waikato Medical School: Update

Date:	1 June 2017	Report No:	T2017/1387
		File Number:	SH-4-6-0

Action Sought

	Action Sought	Deadline
Minister of Finance (Hon Steven Joyce)	Read this report in conjunction with the resubmitted Business Case.	None

Contact for Telephone Discussion (if required)

Name	Position	Telephone	1st Contact
Abbas Nazari	Graduate Analyst, Labour Market and Skills	s9(2)(k) (wk)	N/A
Diana Cook	Team Leader, Labour Market and Skills	s9(2)(k) (wk)	N/A

Actions for the Minister's Office Staff (if required)

Return the signed report to Treasury.

Note any feedback on the quality of the report

Enclosure: No

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Treasury Report: Waikato Medical School: Update

Executive Summary

In late 2016, University of Waikato and Waikato District Health Board (“Waikato”) submitted a joint concept proposal for New Zealand’s third medical school, located in Hamilton.

Waikato have estimated their proposal to cost a total of \$320m over 10 years. These numbers are preliminary but a large portion of the project’s capital and operating cost is being sought from the Crown.

The Treasury and other relevant agencies (the Tertiary Education Commission, the Ministry of Health, Health Workforce New Zealand and the Ministry of Education) have met with Waikato to discuss their proposal. We have provided feedback to Waikato that further work is needed to develop the problem definition. There are questions as to the extent of the identified issues around the sustainability of New Zealand’s health workforce and the health needs of rural communities; as well as the extent to which a third medical school will address them.

Waikato’s proposal has drawn strong opposition from the Auckland and Otago medical schools, who have developed a counter-proposal School of Rural Health. Agencies will meet with Auckland and Otago in late June to discuss their proposal.

Waikato has submitted a more developed Business Case on 31 May. Treasury will work with the other relevant agencies to develop advice for Ministers. We will report back on this and the Auckland/Otago counter-proposal as soon as practical.

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Recommended Action

We recommend that you

1. **note** that the University of Waikato and Waikato District Health Board has submitted a formal Business Case on 31 May for a proposed Waikato Medical School, and
2. **note** that agencies will review the revised Business Case received on 31 May, and we will work with agencies to provide advice on this in conjunction with advice on the School of Rural Health proposal when that proposal is submitted.

Diana Cook
Team Leader, Labour Market and Skills

Steven Joyce
Minister of Finance

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Treasury Report: Waikato Medical School: Update

Purpose of Report

1. This report provides you with information updating you on the University of Waikato and Waikato District Health Board's ("Waikato") proposal for a community engaged graduate entry medical (CEGEM) school, to support the re-submission of their revised Business Case on 31 May.
2. This briefing provides context for the revised Business Case. We have not yet seen the new Business Case; a detailed briefing will be provided by the end of June.

The Waikato proposal seeks to build New Zealand's third medical school

3. In October 2016, the University of Waikato and Waikato District Health Board (DHB) proactively developed and submitted a concept proposal for a CEGEM school to the Tertiary Education Commission (TEC). In your capacity as the Minister for Tertiary Education, Skills and Employment, you considered the proposal and advised that it required greater development in a number of areas.
4. Relevant agencies, including the Tertiary Education Commission, Ministry of Health, Ministry of Education, Health Workforce New Zealand, and Treasury have met with Waikato on a number of occasions to discuss the proposal.
5. The Waikato bid advocates a community-focused approach to health, taking students with an undergraduate degree and providing them with four years of practical, intensive medical education in Hamilton and surrounding communities. A focus will be on selecting students who are willing to serve high-needs, rural and provincial communities, as well as a greater proportion of Maori students. The focus of the programme as a whole will be on general practice, although students will be able to progress to other specialisations if desired. The first intake is scheduled for academic year 2021, with the first cohort due to start their placements in 2025 and the first GPs starting to practice around 2030 following completion of vocational training.
6. The new school would be based in Hamilton, with clinical education and up to fifteen learning and training centres located throughout the Midlands region. This will enable students to undertake a high proportion of clinical placements in community settings outside the main centres.

Much of the funding is being sought from the Crown

7. Waikato have estimated their proposal to cost a total of \$320m over 10 years. This includes:
 - \$110m in capital for facilities,
 - \$16m for programme establishment (capital and operating), and
 - \$194m in ongoing operating costs.

Note these numbers are preliminary and subject to change in the upcoming Business Case. If agreed, this would represent a significant financial contribution by the Crown.

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The costings will be reviewed by agencies once the final Business Case is received and we will provide you with further advice.

8. Waikato University does not own the land it is located on, and pays rent to Waikato Tainui. This puts it at a financial disadvantage compared to other Universities, which generally own their land. With a limited balance sheet and few assets, Waikato are limited in their ability to leverage their balance sheet to support borrowing. As such, a large portion of the project's capital and operating cost is being sought from the Crown. Student funding would come from the Tertiary Education's Student Achievement Component (SAC) Level 3 + funding and the Performance Based Research Fund (PBRF).
9. Waikato have indicated that they can secure at least \$20m in private backing, to offset the cost of facilities. Waikato will continue to explore further private financial contributions if the proposal goes ahead. The facilities will be managed under a joint ownership model between Waikato University and Waikato DHB. Some of the existing facilities, which would be converted into regional learning and training centres, are owned by Waikato DHB and there will be a sharing arrangement between the DHB and the University.

The Waikato proposal would increase the options for medical education

10. Both Auckland and Otago offer six-year medical programmes primarily focussed on enrolling school-leavers. The first-year acts as a 'weeding-out' process to ensure students progressing to the medical programme are academically equipped. Following this, successful students continue for a further five years to complete their medical qualification, which includes several clinical placements.
11. There is a graduate entry pathway at both universities where those who already have an undergraduate degree start at the second year. About 30% of students commencing the second year of the current medical training programmes enter as graduates from another degree programme.
12. The current graduate pathways require an undergraduate degree. At a minimum, this is a three year undergraduate degree, followed by five years at Otago and Auckland, with an annual cost of approximately \$14,600 to the student and \$43,800 to Government (per EFTS) per annum. The proposed medical school would alter this pathway, with an undergraduate degree followed by four years at Waikato, a year less than current settings.
13. A third medical school could encourage greater competition and diversity in medical education in New Zealand. Otago and Auckland have long been the only providers of medical education in New Zealand, despite previous attempts to establish a medical school at the University of Canterbury and Victoria University of Wellington.
14. The Waikato proposal also offers a new model of medical education for New Zealand, geared specifically for high needs and rural areas. The model focuses on general practice specialisation, recruiting students who are from rural areas or express a strong interest in working in rural areas, and combines this with significant placements in rural areas throughout the training. This is different to the current model at Auckland and Otago, which caters mainly to traditional medical education and focuses more on specialities other than general practice, and places the majority of students in urban areas.

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There is strong opposition and a “counter-proposal” from Otago and Auckland

15. Following the publicity around Waikato’s proposal, Auckland and Otago have both opposed the proposal and have written letters to yourself and Ministers Coleman and Goldsmith. Their letters highlight the following points:
- A third medical school would place increased pressure on the number of clinical training placements available to students. Waikato DHB has already informed the Auckland Medical School that if the Waikato proposal is successful, it will look to reduce the number of Auckland students undertaking clinical placements in its hospitals.
 - There is already a postgraduate entry pathway at both universities.
 - They both administer a rural and regional admissions scheme, with 50% of these students returning to rural areas (although no information was provided on how long they stay).
 - There is preferential entry for Maori and Pasifika students at both medical schools, with high completion rates.
16. These arguments have some validity and serve to negate some of the key points in the Waikato proposal. However, we expect at least some of them to be addressed in the new version of the Business Case being submitted by Waikato. The issue of placements is particularly contentious, as there is already a shortage of placements for graduate doctors and placements are a costly part of medical education. Graduates currently face shortages for placements nationwide, and this would be exacerbated further with the creation of a third medical school.
17. Auckland and Otago are also currently developing a concept for a national School of Rural Health (SRH) as a counter-proposal to the Waikato Medical School. This would be a joint effort between both medical schools to dedicate resources specifically towards New Zealand’s rural health needs. Otago and Auckland presented a concept document to agencies in March 2017. Ministers Coleman and Goldsmith have written a letter similar to their response to Waikato University requesting they develop their case further.
18. The details of the SRH proposal remain largely undeveloped, but they will be presenting their concept to relevant agencies on 30 June. The SRH proposal will likely highlight the existing strengths of the current medical schools in the health sector, works already underway in the area of rural health and emphasise a significantly lower cost as compared to establishing a new medical school. We will advise you of the developments in this area once we have further information. As the SRH is a potential alternative to the Waikato proposal, we will provide future advice on the two proposals in conjunction.

The rationale for the Waikato Medical School is to address the shortage of rural GPs

19. The problem definition as put forward by Waikato is as follows:

New Zealand is currently training too few doctors, particularly in generalist practice and rural locations. There are concerns that the future health workforce will be stretched unless more doctors are trained. This could result in increasing disparities in health outcomes for New Zealanders.

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20. The Waikato proposal indicates that New Zealand imports around 1,100 doctors per year to meet its medical workforce needs. These doctors comprise around 60% of the psychiatry, palliative medicine, obstetrics, rehabilitation, and elderly care workforce.
21. The proposal also notes that only 15% of current medical school graduates elect to enter general practice with the result that around 60% of GPs outside metropolitan areas are either locums, or recruited from overseas. Despite this, around 25% of rural GP positions are unfilled. Furthermore, GP surveys suggest that around 40% of existing GPs are set to retire by 2025, increasing the likelihood of rural areas being further under-served.

Agencies have asked Waikato to strengthen the problem definition

22. There are two issues highlighted in the Waikato problem definition; the sustainability of New Zealand's health workforce, and the health needs of rural communities. Treasury's view is that the problem is more complex than merely a shortage of rural GPs.
23. We understand that there is a shortage of doctors in rural areas and this varies significantly across different regions in the degree of need and the type of care required. However, while a third medical school would increase the number of doctors trained in New Zealand, it is not clear that it would address the rural shortage.
24. Attracting and retaining doctors to rural areas is particularly hard. Rural areas do not have the social infrastructure to attract highly skilled people such as doctors. A shortage of amenities such as lack of good schools, job opportunities for their partners, and distance from major areas will detract doctors from moving there in the first place, or staying for long. We are not convinced that the Waikato proposal addresses this distribution and retention problem effectively.
25. As such, we think that the issues should be viewed in a wider, national context, rather than the narrower, localised scope of the Waikato proposal. Although the Waikato proposal is for a fully accredited national medical school, it would mainly serve the rural communities in the Midland region. If set up, it would also take until 2030 for the Waikato medical school to begin producing vocationally trained GPs.
26. We note that Health Workforce New Zealand (HWNZ) remains unconvinced by the need for a third medical school. It queries the need for more doctors to be trained in New Zealand, and the ability of this type of programme to address the difficulties in attracting and retaining rural GPs. Rather, HWNZ notes that the shortage of rural doctors is a problem of distribution, rather than total supply. We understand HWNZ and Waikato are in discussion to compare their respective data sets and this will be reflected in the revised Business Case.
27. If the objective is to address New Zealand's health needs, establishing a third medical school may not be the most logical or effective option. Training an extra 60 doctors a year with the hope that they will elect rural placement upon graduation and stay there over the long term does not seem the best way of addressing health issues in rural communities, particularly if the other identified elements of the problem are not addressed.
28. Furthermore, we also note that there is no sense of where this proposal fits with the priorities for both Vote Health and Vote Tertiary Education. Given the potential magnitude of this proposal, prior to asking Waikato to develop a formal Business Case, agencies should give proper consideration to where this fits across government objectives and sectoral priorities. Treasury will work with relevant agencies to provide advice after a review of the revised Business Case.

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29. Agencies raised these concerns with Waikato when we met with them on 8 May. It is likely that some of these concerns will be addressed in the upcoming Business Case.

Next Steps

30. We understand that Waikato are keen to get an early indication from Ministers as to whether the Waikato Medical School proposal has any traction.
31. Agencies have provided feedback to the University of Waikato and Waikato DHB, who re-submitted their Business Case to TEC on 31 May. This will be sent to Minister Goldsmith and we understand he will forward it on to you. To assist Ministers in making a decision, Treasury will work with agencies to review the revised proposal. We will provide further advice in the next few weeks as to whether the proposal should proceed any further and a proposed process for Ministerial decision-making.
32. The Auckland and Otago Medical Schools have been invited to present their concept for a School of Rural Health to agencies on 30 June. We will provide advice on this proposal in conjunction with the review of the Waikato Business Case.
33. As part of the response to Waikato University, departments may also consider being more proactive in defining the challenges facing the health sector. So far, the problem definition has been presented to Ministers by the proponents, rather than government leading the discussion on New Zealand's health workforce needs.
34. You may wish to meet with Ministers Coleman and Goldsmith to discuss the matter. You could seek to discuss the relative priority of these proposals and whether to proceed, as well as the process around responding to the proposals. Should you decide to meet, we can provide some talking points.

Tertiary Education
Commission
Te Amorangi Mātauranga Matua



Joint Tertiary Education, Health and Treasury Report:

The updated University of Waikato/Waikato DHB proposal to establish a third medical school in New Zealand

Date:	7 July 2017	TEC priority:	Medium
Security level:	In Confidence	Report no:	B/17/00540
		Minister's office No:	

ACTION SOUGHT		
	Action sought	Deadline
<p>Hon Paul Goldsmith Minister for Tertiary Education, Skills and Employment</p> <p>Hon Jonathan Coleman Minister of Health</p> <p>Hon Steven Joyce Minister of Finance</p>	<p>note the information contained in this briefing;</p> <p>forward this briefing and attached covering letter to the Prime Minister; and</p> <p>discuss options for progressing the consideration of this proposal and broader issues of rural health with your Ministerial colleagues.</p>	
Enclosure: Yes	Round Robin: No	

CONTACT FOR TELEPHONE DISCUSSION (IF REQUIRED)				
Agency	Name	Position	Telephone	1st contact
TEC	Tim Fowler	Chief Executive	s9(2)(k)	✓
Ministry of Health	Stephen Barclay	Chief of People and Transformation	s9(2)(g)(ii)	✓
Treasury	Andrew Rutledge	Team Leader Labour Markets and Tertiary	s9(2)(k)	✓

JOINT TERTIARY EDUCATION, HEALTH AND TREASURY REPORT: THE UPDATED UNIVERSITY OF WAIKATO/WAIKATO DHB PROPOSAL TO ESTABLISH A THIRD MEDICAL SCHOOL IN NEW ZEALAND

THE FOLLOWING DEPARTMENTS/AGENCIES HAVE SEEN THIS REPORT

- | | | | | | | |
|-------------------------------|--|-------------------------------|-------------------------------|--|---|--|
| <input type="checkbox"/> CERA | <input checked="" type="checkbox"/> DPMC | <input type="checkbox"/> ENZ | <input type="checkbox"/> ERO | <input checked="" type="checkbox"/> MBIE | <input checked="" type="checkbox"/> MoE | <input checked="" type="checkbox"/> MoH |
| <input type="checkbox"/> MPIA | <input type="checkbox"/> MSD | <input type="checkbox"/> NZQA | <input type="checkbox"/> NZTE | <input checked="" type="checkbox"/> TEC | <input type="checkbox"/> TPK | <input checked="" type="checkbox"/> Treasury |

Minister's Office to Complete:

<input type="checkbox"/> Approved	<input type="checkbox"/> Declined
<input type="checkbox"/> Noted	<input type="checkbox"/> Needs change
<input type="checkbox"/> Seen	<input type="checkbox"/> Overtaken by Events
<input type="checkbox"/> See Minister's Notes	<input type="checkbox"/> Withdrawn

Comments:

Recommendations

Hon Paul Goldsmith, Minister for Tertiary Education, Skills and Employment; **Hon Jonathan Coleman**, Minister of Health; and **Hon Steven Joyce**, Minister of Finance;

It is recommended that you:

1. **note** the information contained in this briefing;
2. **forward** this briefing and attached covering letter to the Prime Minister; and
3. **discuss** options for progressing the consideration of this proposal and broader issues of rural health with your Ministerial colleagues.



Tim Fowler

Chief Executive,
Tertiary Education Commission

06 / 07 / 17



Andrew Rutledge

Team Leader Labour Markets and Tertiary
Treasury

07 / 07 / 17

Stephen Barclay

Chief of People and Transformation,
Ministry of Health

___ / ___ / ___

Hon Paul Goldsmith

Minister for Tertiary Education,
Skills and Employment

___ / ___ / ___

Hon Jonathan Coleman

Minister of Health

___ / ___ / ___

Hon Steven Joyce

Minister of Finance

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Purpose

1. This briefing provides information on the University of Waikato and Waikato DHB joint proposal to establish a third medical school in New Zealand. The briefing sets out the problem that the proposal is trying to address, the potential solutions, the benefits and issues of the Waikato proposal, and options for your next steps.
2. A summary of the proposal is provided in Appendix 1. Key information about the University of Waikato is provided in Appendix 2.

Executive Summary

3. The University of Waikato and Waikato District Health Board (DHB) have jointly developed a proposal (the Waikato proposal) to establish a third medical school (the school) based in Hamilton, with enhanced rural clinical training.
4. The proposal seeks the following funding from the Crown:
 - Capital expenditure of \$111.7 million (\$131.7 million total minus \$20.0 million in private philanthropic capital);
 - Operational funding when fully operational (from 2032) of approximately \$75 million per year. This includes \$24 million Student Achievement Component (SAC) 3+ funding, \$9.5 million of research funding and funding of \$32 million from Health Workforce New Zealand (HWNZ) for post-graduate and vocational training; and
 - An operating subsidy while being established of \$102 million.
5. The total cost to the Crown over ten years (2017-2026) is estimated at \$313 million. The ongoing operating cost is the same per EFTS as for other medical schools. The majority of the 10 year funding is establishment costs.
6. The school would comprise a four-year graduate-entry medical programme for 60 students per annum from 2021. This is a model of training used commonly in other countries eg Australia. The University of Otago (Otago) and University of Auckland (Auckland) offer a full six-year undergraduate programme, and graduate entry with one year less - a five-year programme (30% of their medical graduates take this route). The first fully qualified Waikato doctors would complete their training in 2029.
7. The Waikato proposal seeks to address the lack of doctors in rural and provincial practice, General Practitioners (GPs) in particular, by delivering medical graduates that are marginally more likely to choose a rural career.
8. Officials agree there is a maldistribution issue within the medical workforce. HWNZ data indicates that New Zealand is training enough doctors at a national level. Alongside International Medical Graduates (IMGs) – together this ensures a sufficient GP workforce through to 2026 (the end of its forecast period).
9. New Zealand has a large proportion (43%) of IMGs in its workforce and although the Ministry of Health forecasting expects this to decline slightly, it remains high in comparison to other countries. The Waikato proposal cites this is a problem because there can be poorer health outcomes resulting from the high turnover of IMGs (most leave within three years) and their lack of cultural competency which is particularly important in some specialties. The IMG workforce brings some diversity to the workforce and reduces the overall cost of workforce supply (it is cheaper to import doctors than train New Zealanders). There is no threat to the supply of IMGs given oversupply of doctors in other countries.
10. The underlying reasons for the shortage of rural doctors are not solely supply issues, but rather relate to the general attractiveness of working (and locating family) in more remote locations, the working conditions, and perceptions that rural practice is lower paid and has a higher workload than other specialties. Ministry of Health analysis shows the addition of an

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extra 60 New Zealand trained doctors will only reduce the reliance on IMGs by a maximum of three percent, but nevertheless a new school will increase opportunities for New Zealanders to train as doctors.

11. There are a number of alternative policy options that government can consider to address rural access issues, such as, alternative models of primary care, greater use of nurse practitioners¹ and other health professionals, leveraging new/digital technologies to improve access, transport subsidies and changes to working conditions.
12. The Waikato proposal has several main benefits including:
 - it is likely to increase the number of new graduate doctors seeking rural employment in the Midland Region (the area covered by Waikato, Bay of Plenty, Lakes, Tairāwhiti and Taranaki DHBs), albeit marginally;
 - it lowers the costs of graduate-entry medical training as there is one less year than the current option;
 - it has and would put competitive pressure on the other Medical schools, which are re-invigorating their efforts to recruit and train people who have an interest in practicing in rural areas, and also encouraged them to consider redesigning their programmes.
13. But, the Waikato proposal is very costly.
14. In addition, it is not clear that this proposal represents the best use of funding. Other interventions might be more effective for improving rural health and access to health services in rural areas eg greater use of technology, revisions to existing initiatives such as the voluntary bonding scheme, and greater use of allied-health professions.
15. In addition, if there was to be an extension to the numbers of doctors trained, and a focus on rural training, there may be less costly ways of achieving this, such as doing this through other universities which can afford to contribute more of their own resources (particularly capital) to establishing a programme.

¹ Nurse Practitioners are registered nurses with a clinical masters degree whose role includes diagnosis and management of health consumers with common and complex health conditions. They provide a wide range of assessment and treatment interventions, ordering and interpreting diagnostic and laboratory tests, prescribing medicines within their area of competence and admitting and discharging from hospital and other healthcare services/settings.

The proposal is seeking to address problems with the rural medical workforce

There are fewer doctors in most rural areas

16. The University of Waikato and Waikato DHB contend that New Zealand faces a severe shortage of rural medical doctors. This is considered to be due to both the age profile of the current rural health workforce meaning a significant number of existing doctors will retire in the near future, and a lack of new medical graduates seeking employment in rural practice.
17. Nationally, urban areas on average have greater access to general doctors than rural areas. This is evidenced by the 2014 data summarised in the table below, which shows the general practitioner FTE per 100,000 population in the Midland Region DHBs noted in the Waikato proposal compared to DHBs outside the Waikato proposal, and urban areas such as Auckland and Wellington.

DHB	General Doctors per 100,000 population (FTE)
<i>All (New Zealand total)</i>	76.5
Lakes	82
Capital and Coast and Hutt Valley	80
Bay of Plenty	76
Auckland, Waitemata and Counties Manukau DHBs combined	70
Tarawhiti	70
Waikato	68
MidCentral	66
West Coast	61
Taranaki	60

There are enough doctors in New Zealand if international medical graduates (IMGs) are taken into account

18. Most OECD countries cap the number of medical students and nearly all have increased their cap since 2000. This has led to an oversupply of doctors in some countries eg Australia and Canada. New Zealand also caps medical students on the first-year equivalent full-time student (EFTS) intake.
19. In New Zealand, the cap has been raised several times in the last few years as part of a policy decision to increase the cap on medical students by 200 EFTS from 365 SAC 3+ funded first year EFTS in 2009 to 565 SAC 3+ funded first year EFTS. This has been implemented as part of the budget process, but in 2015, Auckland and Otago wrote to Ministers asking for a pause in the growth of the cap. The reasons given were capacity issues in providing clinical placements in the final year of study.
20. The medical EFTS cap currently sits at 539 SAC 3+ funded first year EFTS. Auckland and Otago host the two current medical schools and work together to agree the distribution of the cap, which is fully used given applications to study medicine far exceed the number of places.
21. The medical EFTS cap is set based on future forecast need by HWNZ as well as New Zealand's capacity to provide quality clinical training placements for each student undertaking medical study. HWNZ continues to monitor and plan for future health needs and considers

that the planned increase of a further 26 SAC 3+ funded first year EFTS from 539 to 565 will be sufficient to meet the need for new doctors to 2026, assuming continued reliance on a similar number of IMGs.

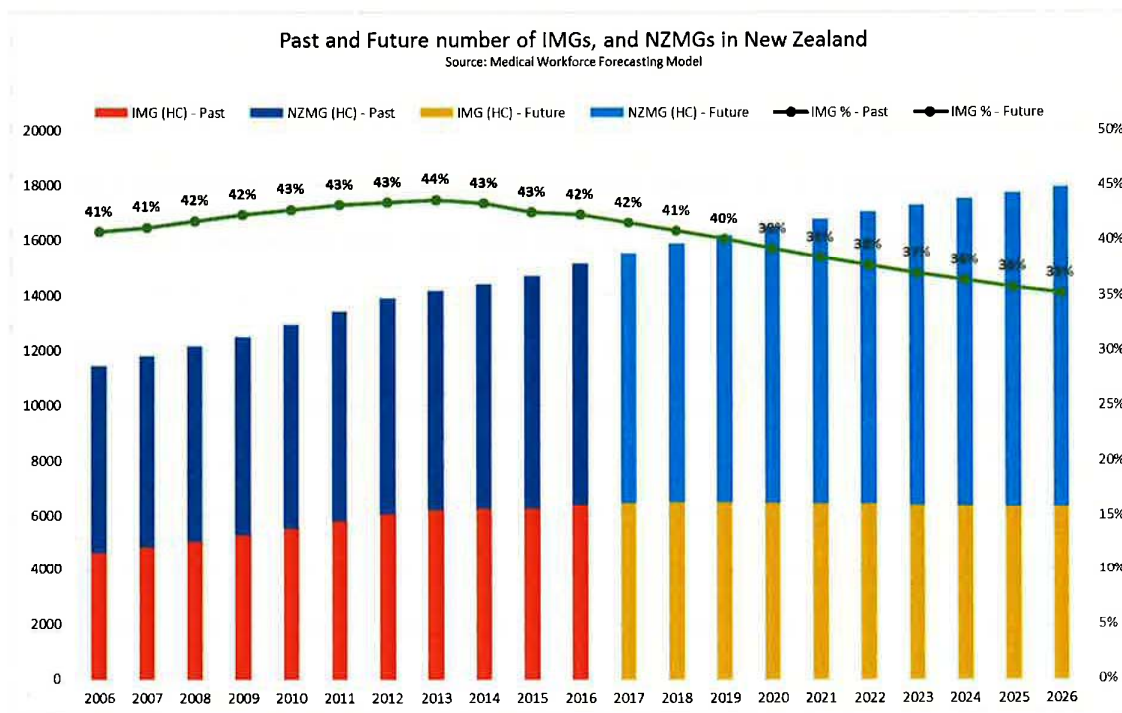
But reliance on IMGs may not be optimum

22. To mitigate the geographic and specialty maldistribution of the medical workforce, New Zealand imports approximately 1,100 IMGs per year². Most of these IMGs only remain in New Zealand for a short period of time and of each cohort, only around 30% are retained in the medium term.³ The historic net reliance on IMGs is 300-400 per annum. However, this reliance has declined somewhat recently due to fewer New Zealand medical graduates leaving New Zealand and more returning.
23. All OECD countries are reliant to some extent on IMGs although New Zealand's reliance (43% in 2014) is second-highest in the OECD behind Israel. The OECD average is 17% and Australia's reliance on IMGs is 30%. Care is needed when comparing the proportion of IMGs employed in other countries due to differences in definition. Also, New Zealand is a Member State of the World Health Organisation Voluntary Global Code of Practice on the International Recruitment of Health Personnel and is following best-practice according to these guidelines.
24. The low retention rate of IMGs is influenced by the number of young doctors (<30 years of age) with less than five years-experience who come to New Zealand from America, the United Kingdom and Oceania on short term contracts to meet service needs in hospitals and gain overseas experience.
25. The high turnover of IMGs, can affect the continuity of care, which is particularly important for psychiatry and general practice. In addition, these IMGs may have little understanding of the social and cultural context in which they practice, which can have significant impacts on some patients. Initiatives to support and retain existing IMGs have proven successful in Australia and are likely to be cheaper than further increasing the domestic supply.
26. Importing medical graduates reduces the number of medical students that need to be educated in New Zealand. This means there are fewer opportunities available to New Zealanders to study medicine at an undergraduate level in New Zealand. However, importing senior medical officers assists with the ability to provide high quality specialist training programmes.
27. Questions have been raised about what the appropriate level of reliance on IMGs should be. The Executive Chair of the HWNZ Board has suggested 15-20% might be an appropriate level.
28. The chart below shows the past, current and forecast future number of IMGs and New Zealand medical graduates (NZMG) in the health workforce. Between 2006 and 2013, the number of IMGs employed in New Zealand has risen, levelling off between 2014 and 2016. Reliance on IMGs from 2017 onwards is forecast to level off or slightly reduce with increased numbers of NZMGs meeting New Zealand health needs. This reliance on IMGs is reflected in the decline in the percentage of IMGs contributing to the health workforce since 2014, but will remain high compared with most other OECD countries.

² Three distinct groups of IMGs come to New Zealand. Firstly, junior doctors on short term (one to two years) contracts having a working overseas holiday, who help fill a short term service need. This level of service need is reducing with the rise in the number of domestic graduates. Secondly a group of IMGs come to obtain specialist training in New Zealand's high quality training programmes and many of these are retained in New Zealand when they obtain employment as a specialist. Thirdly there are IMGs who obtained their undergraduate and specialist training overseas, or are working in New Zealand as locum generalists.

³ Medical Council of New Zealand. (2016). *The New Zealand medical workforce in 2013 and 2014*.

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29. The Ministry of Health has forecast that the Waikato proposal will have a marginal impact (approximately 3% over ten years) on reducing New Zealand's reliance on IMGs.

Improved retention of doctors will reduce reliance on IMGs

- 30. The retention of New Zealand graduates is better than IMGs, but 30% are not practicing in New Zealand nine years after graduating and this increases to 40% after 14 years. Improving retention of New Zealand graduates in medical practice will reduce reliance on IMGs.
- 31. The retention of New Zealand medical graduates is influenced by a wide range of push and pull factors. Historically Australia has been the destination of choice for specialists who decide to leave New Zealand, although the current oversupply of doctors in Australia will reduce the opportunities there which will have flow-on effects on the retention of New Zealand graduates and specialists in New Zealand.
- 32. Improved terms and conditions as part of recent multi-employer contract agreements for resident and senior medical officers should also improve retention.

Multiple factors make rural careers less appealing to new medical graduates

- 33. There are a number of factors which contribute to overall low perceptions of a rural career. These include:
 - a general lack of support, including cover for training or holidays;
 - reduced down-time with doctors in rural practice spending more of their free time 'on call';
 - practices are located in remote areas with few facilities, few opportunities for partners and children, and a large amount of travel is required between practices;
 - there is anecdotal evidence that the high cost associated with buying into a rural practice is also off-putting, which is compounded in that a lack of interest in vacancies means that it is often hard to sell the practice later; and

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- lower intensity than urban practices, which leads to lower salaries for those remunerated on a per patient or per hour basis.
34. The National Health Committee looked at measures that could be introduced to mitigate some of these problems. They included recommendations around service delivery including the use of technology, different models of care including extending the scope of practice for paramedics and nurse-led clinics, establishing outreach clinics or integrated health centres, and provision of transport subsidies.
35. System performance improvements are also being implemented, which include alternative ownership models in primary care, integrating health and other social sector funding schemes, and funding the development of Māori health providers.

Changes in eligibility for funding at Australian universities could also affect the numbers of New Zealanders being able to train as doctors

36. In May 2017, the Australian Government announced its proposal to no longer subsidise fees for New Zealand students choosing to study at Australian universities. If approved, this law change will come into effect in January 2018.
37. These changes could mean that fewer New Zealanders will study medicine in Australia and subsequently return to New Zealand.

The Waikato proposal aims to bring more doctors into the rural health workforce

38. The Waikato proposal aims to encourage more medical graduates to enter rural general practice.
39. The proposal aims to achieve this by enrolling graduate students that are more likely to pursue a rural career and offering an enhanced rural training experience. This is different from the existing medical schools, in which 70% of students are school leavers and clinical placements are mostly based in larger hospitals.
40. In addition to promoting general practice, the Waikato proposal includes a focus on improving teaching of primary mental health care which is consistent with the Mental Health and Addiction Workforce Action Plan. We cannot be certain that this approach would encourage more New Zealanders to train as psychiatrists, although it should help.

There are other potential solutions to address the lack of rural doctors

41. There are other strategies which could address access to services in rural areas, and encourage GPs to enter and remain in rural practices. These are outlined below.

Training more doctors is not the only solution

42. It is important New Zealand does not over-invest in a workforce that may not be needed. Emerging technologies and up-skilling of other professions means that current models of care are likely to change.
43. The positive impact of recent regulatory and legislative changes such as designated prescribing for registered nurses, and the Health Practitioners (Replacement of Statutory References to Medical Practitioners) Bill will begin to improve access, particularly in rural areas in the next few years.

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44. Primary Health Care is increasingly delivered in multidisciplinary teams including registered nurses, nurse practitioners, pharmacists, physiotherapists, general practitioners and others. The West Coast DHB has developed a successful model of primary health care with a relatively low number of general doctors but the highest number of primary health care nurses per capita in the country.
45. There is international evidence that nurse practitioners provide an equivalent level and quality of care as general doctors^{4,5}. Registered nurses are more likely to live and work in rural areas than doctors and can be trained as nurse practitioners in a shorter time frame and at lower cost than training general doctors. It is noted that there were 77 new nurse practitioners in New Zealand in 2016/17.
46. Virtualisation has had significant impacts on workforces in other industries such as banking and is poised to have a significant effect on health workforces. The West Coast DHB makes good use of telephone and video conferencing technologies to virtually connect health professionals and patients. The Waikato DHB has developed the “SmartHealth” application to virtually connect health professionals and patients.
47. Artificial intelligence is in the early stages of development in medical practice but exponential development in this field holds considerable promise. It is widely believed that these benefits are likely to be realised well before the first Waikato graduates would be working as general practitioners.

It is likely that multiple initiatives are required to address the problem

48. In all OECD countries, the number of doctors per capita tends to be lower in rural areas compared with urban areas. Countries use a range of policies to achieve better geographic distribution of doctors and a mix of policies has been shown to be most effective. This includes targeted selection of medical students from rural areas (e.g. Otago Rural Origins Admissions Pathway), financial incentives (e.g. the Voluntary Bonding Scheme), regulations to restrict doctors from practising in adequately supplied areas, and financial incentives to set up practice in hard-to-staff areas.
49. There are 532 current medical students who come from the Midland region DHBs (Waikato, Bay of Plenty, Lakes, and Tairāwhiti). Of these, 350 are studying at the University of Auckland (Auckland) and 182 at the University of Otago (Otago). Potential future employers, and Auckland and Otago working together could do much more to help attract, recruit and retain newly qualified students to practice in these regions.
50. The World Health Organisation has identified a bundle of evidence based initiatives to help attract and retain people in hard-to-staff areas⁶. These initiatives include the targeted student recruitment and enhanced rural clinical training that are features of the Waikato proposal, as well as changes to regulations, financial incentives and initiatives around professional and personal support.

⁴ Horrocks, S., Anderson, E., & Salisbury, C. (2002) Systematic review of whether nurse doctors in primary care can provide equivalent care to doctors. *BMJ* 324, 819-823.

⁵ Kurtzman, E. T., & Barnow, B. S. (2017). A comparison of nurse doctors, physician assistant and primary care physician patterns of practice and quality of care in health centres. *Medical Care*, 55(6), 615-622.

⁶ World Health Organisation. (2010) *Increasing access to health workers in remote and rural areas through improved retention: Global policy recommendations*. World Health Organisation Geneva.

Changes to the voluntary bonding scheme are proposed

51. The Voluntary Bonding Scheme (VBS) is a financial incentive strategy targeting new or recent graduates to work in hard to staff areas. The financial incentive is paid in the form of student loan repayments – or paid direct to the person if they have no loan – provided the recipient stays in the hard-to-staff specialty or community for between three and five years. It applies in multiple disciplines including medicine, nurses, midwives, dentists and sonographers. All disciplines on the VBS except sonography have a focus on hard-to-staff rural communities.
52. The VBS was reviewed in 2017. As a result, it has been recommended that the VBS is aligned with a bundle of employer-led and education sector initiatives that provide professional and personal support to the rural health workforce.

The Universities of Auckland and Otago propose establishing a new national School of Rural Health

53. Earlier this year, Auckland and Otago submitted a joint concept document outlining their proposal to create a new national School of Rural Health (SRH). The concept expands on their existing medical school provision and preferential rural admission schemes to include up to 10 new clinician-led, rural delivery training sites that would be co-developed and co-governed by iwi and local communities. This proposal also aims to address student recruitment and improve clinical training experiences to address the maldistribution of qualified doctors, but with lower intensity than the Waikato proposal.
54. This proposal is still under development. Auckland and Otago presented to officials on 30 June 2017, and are now finalising the proposal to present to Ministers, possibly later in July.
55. At this stage, it appears that Otago and Auckland are not seeking capital funding to support their proposal. But they are seeking a SAC rate subsidy (approximately double the current SAC funding rate for medicine) for training in rural settings (whereas the Waikato proposal does not) and approximately \$20 million from HWNZ for vocational training in rural settings. While not finalised, this is a lower cost overall than the Waikato proposal in the short term as it does not require capital funding or an establishment subsidy from the Crown.

Benefits of the Waikato proposal

It is likely to encourage more medical graduates to seek a rural career

56. The Waikato proposal offers a new model of medical education for New Zealand, geared specifically for high needs and rural areas. The model focuses on general practice specialisation.
57. The proposed programme of study has already been tested internationally and shown to deliver a higher number of graduates seeking rural employment than other programmes. Flinders University in Australia reports 50-70% of students choosing rural careers after undertaking its graduate entry programmes compared to 18% undertaking its standard programmes.
58. The Waikato proposal aims to encourage up to 50% of medical graduates to enter general practice. Waikato aims to have around 11 of the 60 graduates (18%) working in rural general practice, with many other students pursuing specialties and sub-specialties in short supply,

with the first of these ready to practice in 2029. This is marginally higher than the rate (14%) achieved by Otago Medical School's rural origins and rural immersion programme⁷

The proposed graduate entry model is less expensive than existing graduate entry models

59. The four-year graduate programme is a lower cost option for both students and government compared to existing graduate entry pathways, which are five-year programmes. This means that medical training may become more accessible to a wider number of students. At 2017 funding rates, a four-year graduate programme of study will attract approximately \$170,000 in SAC 3+ funding. The five-year programmes offered at Auckland and Otago attract approximately \$213,000 in SAC 3+ funding.
60. The Waikato medical programme is expected to drive further demand for undergraduate health sciences provision and therefore the proposal includes a new Bachelor of Health Sciences qualification. It is likely that this could serve as a pipeline to the proposed medical school.
61. For students pursuing this pathway, the cost saving is marginal due to the combined costs of the four-year medical programme and at least a three-year Bachelor's programme.

The Waikato proposal also incorporates other health professions, supporting the development of new models of care

62. The Waikato proposal features the establishment of 12–15 regional clinical training centres, which will feature an inter-professional environment including places for nurses on primary care attachments, midwives, and social workers, as well as pharmacy, physiotherapy and occupational therapy students. However, there is no evidence any of these professions have committed to being involved.

Consideration of how current medical training can be improved has been stimulated

63. The Waikato proposal has put some competitive pressure on the other medical schools, which perhaps in response are re-invigorating their efforts to recruit and train people with an interest in practicing in rural areas. Auckland and Otago have collaborated on a proposal to establish a joint School of Rural Health (paragraphs 53-55) that also seeks to address issues with the rural health workforce.
64. A third medical school could encourage greater diversity in medical education in New Zealand by allowing different methods of medical training to be compared in tandem and provide greater student choice. Otago and Auckland have long been the only providers of medical education in New Zealand, despite previous proposals to establish a medical school at the University of Canterbury and at Victoria University of Wellington.

There is potential for the Waikato proposal to contribute to Government goals around regional and Māori development

65. The Government's Regional Growth Programme (RGP) is a key part of the Business Growth Agenda. The programme is designed to identify economic challenges and opportunities, and help increase jobs, income and investment for New Zealand in the regions.

⁷ Shelker, W., Zaharic, T., Sijnja, B., & Glue, P. (2014). Influence of rural background and rural medical training on postgraduate medical training and location in New Zealand. *NZ Medical Journal*, 127, 12-16

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66. In the Waikato region, the Government is supporting Waikato Means Business (WMB), the region's economic development strategy, as part of the Regional Growth Programme. The University of Waikato has actively involved the WMB steering group in its proposal development and the WMB steering group has publicly expressed its support for the proposal - noting that the medical school will contribute to the priorities of the Waikato strategy, which include maintaining and building the Waikato's location advantage, growing global industries, and building, attracting and retaining skills and talent.
67. If established, the medical school would contribute to the Government's RGP aims of increasing jobs, incomes and investment in the Waikato and other regions associated with the proposal. The Waikato proposal identifies the key economic benefits that the medical school would bring to the region, including increased GDP, increased direct and indirect employment, skills and training opportunities, and increased innovation. Increased employment and investment in the region would come not just directly from the medical school itself, but also from opportunities created by the medical school including research into health technologies, the aged care sector, and other development opportunities.
68. The proposal may also contribute to the He Kai Kei Aku Ringa (HKKAR) – Crown-Māori economic growth partnership goals of growing the future Māori workforce, and strengthening the transition from education to work for Māori.

Increased research capacity and delivery

69. Research undertaken at the new medical school has the potential to benefit the DHB, primary care providers, community groups and local iwi, as well as tertiary students. In addition, there is also significant opportunity for research at the new medical school to contribute to the wider aims of government, including the recently launched Health Research Strategy.
70. Additional research will make the University of Waikato more competitive with regard to attracting Performance-Based Research Funding (PBRF) and other government research funding. The University anticipates attracting around \$9.5 million in PBRF and other research grants once the new medical school is fully established
71. However, this increased research potential needs to be tempered by the recognition that the proposal explicitly excludes wet labs. Without these facilities the research potential at Waikato will be limited compared to other institutions. It is therefore likely that the University will seek to later expand the facilities to support even greater research capability, at greater cost.

Benefits to the University of Waikato

72. Increased capacity for research will help boost the reputation of the University of Waikato and improve its position in global rankings schemes. This will make the University a more attractive partner for international collaborators and thus further improve its research performance. This is likely to increase its ability to attract higher-profile academic staff, which will boost its attractiveness in the lucrative international student market.

Issues and Risks of the Waikato proposal

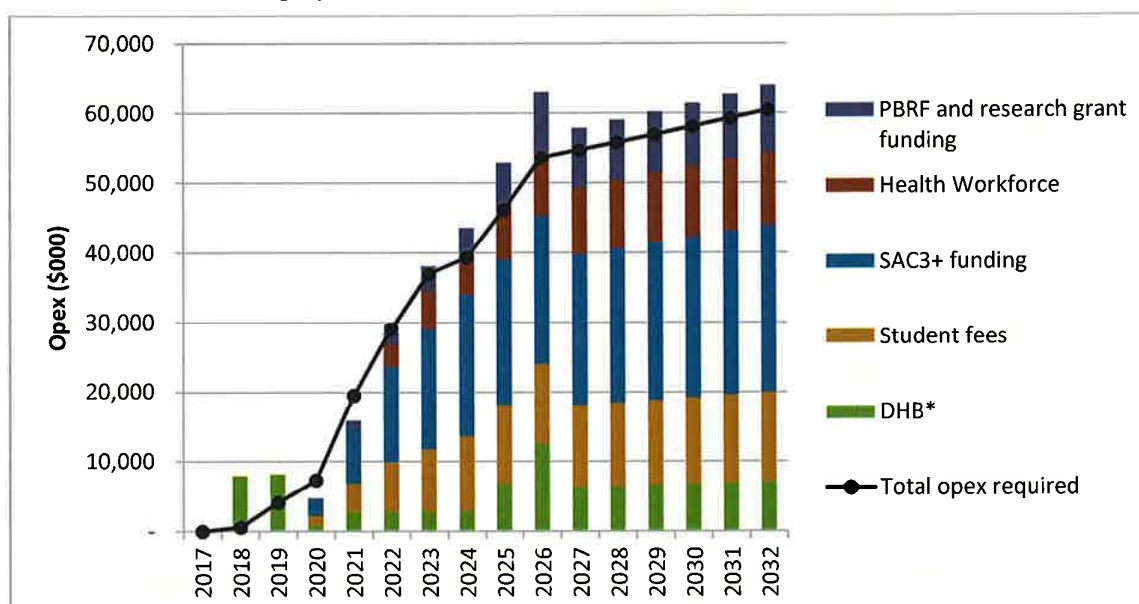
It is costly

73. This proposal estimates that government capital expenditure of \$111.7 million will be required for the establishment of the medical school. This includes new facilities based at Waikato Hospital in Hamilton, the set-up and furnishing of 12-15 regional clinical training centres, and costs associated with developing and implementing the curriculum. This initial capital expenditure is summarised in the table below.

Capex	Total 2017-2026 (\$ million)
Medical school facilities	\$70.0
Regional clinical training centres	\$40.0
Programme/curriculum development	\$21.7
Total capex sought from government*	\$111.7

*excludes \$20 million philanthropic private capital contribution

74. The medical school is expected to reach full capacity, including the delivery of additional vocational and specialist training by 2032. We have estimated the required operational expenditure per annum from government sources at this point is around \$75 million, including SAC-funding for students, HWNZ and DHB funding for postgraduate training, and research revenue. Additionally approximately \$13 million will be obtained through student fees. The operational costs will build up over time as the number of students in the pipeline increases, which is shown in the graph below.



*note extent of Waikato DHB funding past 2026 is unknown and so has not been included in estimated revenue stream

75. Only the SAC funding required may be affordable and this is dependent on non-university sectors continuing to decline resulting in unallocated SAC funding that can be re-distributed into medical EFTS.
76. HWNZ would also require additional funding not included in the business case for the vocational training of graduates. The total amount of HWNZ funding for vocational training years would depend on the graduate's choice of vocational training, but is likely to be around \$24 million per annum, bringing total HWNZ funding to around \$35 million per annum.

77. In addition, a subsidy would be required to enable staff to be employed and the programme of study made ready before the students enrol. The Waikato proposal estimates that establishment funding costs will be \$101.6 million to 2020, including \$4.1 million operating costs before the first student intake.

There is potential for costs to government to increase

78. If any of the funding sources are unable to deliver once establishment of the medical school is underway, or costs escalate, government may be asked to provide further funding. In addition there is significant potential for the scope of the project to 'creep' particularly in relation to facilities (e.g. the introduction of unplanned wet labs) or through expanding facilities to accommodate a greater number of students than initially envisaged.
79. The business case assumes Waikato DHB will contribute \$15 million in capital towards the medical school facilities. If this case progresses the DHB would need to seek separate approvals through Ministry of Health capital processes (eg Capital Investment Committee). Those processes would examine how the proposed investment in the medical school facility should be prioritised against projects such as the redevelopment of their mental health inpatient unit.
80. An important concern with the proposal is Waikato DHB's ability to focus on this work when it has a number of issues to deal with, including its financial performance, updating core IT systems, regional leadership, relationships with Midland Health Network and performance on the 'Shorter Stays in Emergency Department' Health Target.

Little detail is provided to illustrate how the school will better meet the needs of Māori

81. The business case presents an opportunity to build a new medical school in partnership with Māori. However, the nature of the partnership model is not clear from the proposal. If the Waikato proposal goes ahead, this area will require further development, including consultation with Te Ora (the Māori Medical Association).
82. In addition, little detail is provided of the steps that will be taken to ensure recruitment of Māori students and maintaining them in the programme. Costs of cultural support are not included in the budget and recruitment of Māori students is not identified in the risk or mitigations. This is important because the strongest evidence related to inequities in health outcomes between rural and urban populations is that rural Māori have slightly shorter life expectancy than urban Māori.
83. The Auckland and Otago medical schools have had considerable success in attracting Māori into medical school and have in recent years achieved equity in regards to the proportion of Māori medical students reflecting the proportion of Māori in the population.

It is not clear that the Waikato proposal will lead to significantly more medical graduates choosing rural practice

84. Although the Waikato proposal is based on strategies that have shown success overseas, it is not clear how many Waikato medical graduates would enter rural practice or, how long they would be retained in the rural health workforce.
85. The Waikato proposal's stated aim is that 50% of graduates from the new medical school will pursue general practice in areas outside of the main centres. However, in general discussion, it was noted that only around 18% (11 students) would be expected to pursue rural general practice.

The health benefits of increasing primary care physician supply may be overstated

86. The proposal cites evidence that rural areas of New Zealand, including those in the Waikato DHB region, have poorer health than urban areas.⁸ Whilst there are many socioeconomic factors that contribute to this, reduced access to medical care is a factor that needs to be taken into account in considering the poorer health outcomes of rural communities.
87. Studies from the USA indicate that primary care supply has been associated with improved health outcomes including for all-cause mortality, cancer, heart disease, stroke and infant mortality, low birth weight, life expectancy and that self-rated health is also improved. [Analysis of pooled studies indicated that the relationship held between 1980-1995⁹ regardless of the year, granularity of region (state, county, city etc)].
88. The studies analysed showed a slight decrease in magnitude of benefit as the supply of primary care physicians increased over the 1990s, indicating that there is no guarantee that the relationship between primary care physician supply and health is linear. However, it is noted that the peak primary care supply in this is similar to the current supply in the Midland Region DHBs.
89. It is also noted that the studies reviewed did not examine or control for the impact of other health professionals in primary practice, or other policy interventions. Therefore, simply increasing the number of new graduate doctors entering rural practice may not deliver the system benefits that are needed, especially if these graduates do not have the cultural and contextual competencies required by the communities that they serve.

A third medical school may impact on clinical placements for students at Auckland and Otago

90. Auckland and Otago have noted that the establishment of a third medical school will potentially reduce their ability to ensure that all students have access to clinical placements.
91. The Waikato proposal indicates that the establishment of regional clinical training centres will provide additional training placements for medical students. However, there are still likely to be some placements required (particularly at hospital level) which are currently used by the Auckland and Otago medical schools.
92. It is noted that Waikato DHB has already informed the Auckland medical school that if the Waikato proposal is successful, it will look to reduce the number of Auckland students undertaking clinical placements in its hospitals. However, it is possible that DHBs could work with the universities to create additional clinical places.

Medical training is more costly than employing IMGs

93. Although there is a significant cost associated with recruiting IMGs, it remains far less than the cost of training doctors. The proposal estimates costs of recruiting and relocating IMGs are approximately \$56,000 per person and that IMGs earn an average of \$20,000 more per annum than New Zealand medical graduates.
94. At current funding rates, the government pays approximately \$227,000 in SAC 3+ funding for medical undergraduates. This excludes costs associated with final intern year stipends and additional postgraduate and specialist training.
95. In addition, it is noted that the Waikato proposal for 60 students per year may be at the lower end of what is economically viable for a medical school. In Western Europe, the average

⁸ National Health Committee. (2010). *Rural health: Challenges of distance; opportunities for innovation*. Wellington: NHC

⁹ Macinko J, Starfield B, Shi L. Quantifying the health benefits of primary care physician supply in the United States. *International Journal of Health Services*. 2007;37(1):111-126.

intake of 282 medical schools is 150 students per year. In North America, the average intake of graduate entry medical school programmes is 110 students per year.

Options and next steps

We recommend discussing the proposal with your Ministerial colleagues

96. As well as the Waikato proposal initiatives to encourage more medical school graduates to seek a rural career, there are other initiatives and interventions which may impact on the rural health workforce.
97. These include improving the appeal of rural practice by improving working conditions and remuneration, reducing reliance on doctors through greater use of allied-health professions and technology, and making changes to existing initiatives such as the VBS. These initiatives undoubtedly warrant further investigation and consideration.
98. Although it is likely that the best solution will require a combination of initiatives, you need to discuss the Waikato proposal and determine what the next steps will be. Some initial options are presented below.

Option One: Support the proposal in principle, and set aside the funding

(This option is not supported by the Treasury or Ministry of Health).

99. If Ministers decide to fully support the Waikato proposal, the University of Waikato/Waikato DHB will need to provide a Detailed Business Case that meets the Treasury's Better Business Case guidelines. The TEC would work with other agencies to draft your request and review the updated business case once it is submitted. If this is your chosen course of action, we would also recommend that an Independent Quality Assurance (IQA) is procured by the University of Waikato/Waikato DHB.
100. However, there are disadvantages in selecting this option. Although Ministers still have the option not to proceed with the project at any of the later stage gates in the Better Business Case process, it would be hard to do this as the commitment would have been seen to be made. In addition both Waikato University and the DHB would incur additional costs throughout the Better Business Case process.
101. One of the advantages of the Waikato proposal is that it has stimulated discussion and review of existing medical training, which may lead to a better value proposition from the existing medical schools. Agreeing to fund the Waikato proposal at this stage would remove this competitive pressure.

Option Two: Support in principle

(This option is not supported by the Treasury or Ministry of Health).

102. Ministers could determine that although there is support for the proposal in principle, they still require additional information in order to determine whether it should receive government funding.
103. As with option one, the University of Waikato/Waikato DHB would need to provide a Detailed Business Case that meets the Treasury's guidelines. The TEC would work with other agencies to draft your request and review the updated business case once it is submitted. If this is your chosen course of action, we would again recommend that an IQA is procured by the University of Waikato/Waikato DHB.
104. Although you can decide not to proceed once you receive the Detailed Business Case, Waikato and the DHB would still have to continue to commit resources to the project, without any certainty.

105. However, it would keep the proposal “in the market” for longer and encourage further competitive innovation by the other players.

Option three: Defer a decision and use a contestable process to seek expressions of interest

106. If Ministers consider the proposal interesting, but are not prepared to fund it at this time, you could agree a timeline for revisiting the proposal. For example, you could agree to reconsider the proposal in two-years, once the effect of other initiatives already underway to address rural health issues can be reviewed by the Ministry of Health eg the voluntary bonding scheme, new technology, other support for rural practitioners.

107. It is recommended that any timeline for revisiting the proposal is kept relatively short so as to maintain competitive pressure and maintain stakeholder engagement.

108. Should Ministers want to establish a new medical school, this option would allow consideration of using a competitive tender process. This may result in a wider range of options and potentially less costly options being proposed. Also seeking solutions from a variety of organisations rather than a single institution would prompt better cooperation and allow a New Zealand-wide solution to be developed. This is a similar process to that recently used for the establishment of new Centres for Research Excellence (CoREs), and for the ICT Graduate Schools.

109. If this is the chosen course of action, the TEC will work with other agencies to draft a letter to notify the University Waikato, Waikato DHB, and other interested parties of your decision.

Option four: Decline to support the proposal

110. If Ministers are not prepared to support and fund the proposal, the TEC will work with your office and other agencies to inform the University Waikato and Waikato DHB.

111. This option has the advantage of saving costs, but would remove the competitive pressure from other providers and would not likely be well received by stakeholders.

Summary of option analysis

112. The risks and benefits of these options are summarised in the table below. Each option has been assessed against the cost to government, effectiveness in addressing the maldistribution of doctors, the advantages of competitive pressure on other medical schools, the ability to significantly improve rural health outcomes and the stakeholder reaction.

Option	Cost	Ability to address mal-distribution	Competitive pressure	Change in rural health outcomes	Stakeholder reaction		
					Waikato / DHB	Auckland and Otago	Other*
1	High	Possible	Medium	Low	Positive	Negative	Positive
2	Likely high	Possible	Medium	Low	Positive	Negative	Positive
3	Medium	Possible	High	Possible	Negative	Medium	Medium
4	Low	None	None	None	Negative	Positive	Negative

*existing health workforce, local development agencies etc

113. There may well be more effective, and lower cost options than this proposal for addressing rural health issues. Deferring a decision will also allow time for the effect of other initiatives and technologies to be evaluated.

Consultation

114. The Tertiary Education Commission, the Treasury, and the Ministry of Health have prepared this as a joint briefing paper. The Ministries of Education and Business, Innovation and Employment have been consulted and their comments incorporated. The Department of the Prime Minister and Cabinet, has been informed.

Treasury comment

115. The Treasury's view is that the Waikato proposal relies on a weak problem definition. There is insufficient evidence to conclude that New Zealand has a shortage of General Practitioners (GPs) but there are regional variations in GP distribution that may create higher barriers to access in some areas of the country including Waikato. However, the number of GPs is a simplistic measure and the focus should be on achieving broader health and social outcomes in the most cost effective manner.
116. For the size of the investment, the marginal change in the number of GPs taking up rural practice is unlikely to improve outcomes for high needs and vulnerable individuals and families/whānau. It is expensive and does not address retention issues. A new medical school was not highlighted as a priority in the New Zealand Health Strategy signed off last year following extensive consultation with the health sector.
117. We acknowledge that current providers do not compete, and we see their incentives as being to lengthen the term of training as much as possible (to maximise funding) and to keep the quality high (as this leads to research which bolsters their rankings). But it is not clear that the Waikato medical school proposal would introduce meaningful competition into medical training. Every medical school will have guaranteed EFTS and students, undermining contestability between them. To create competition, the government would need to be willing to move some EFTS between the providers and this could be done with either two or three providers.
118. Rather than competition itself we think broader health outcomes should be the metric of value by which we assess the desirability of changes to the institutional landscape. Ideally, we want medical training providers to respond to student demand and health workforce priorities. If there is a market failure in how medical training is meeting rural health workforce needs, then given current policy settings, government can signal where it wants changes through volume and price settings. In response, current providers will adapt their behaviour and others will seek to enter the market. The Auckland and Otago proposal arguably proves this point. Their proposal is premised on the notion that government will pay a premium for medical training that improves the rural health workforce.
119. Therefore we think the government should send a clear signal of the changes it is seeking, and rather than develop potential solutions in isolation, it should develop a national strategy for the future health workforce. This would analyse all the alternatives including the Waikato proposal, strengthening existing arrangements, new models of care and potential roles for other health professionals, use of technology, the Auckland/Otago proposal as well as others that might come from the market.
120. We recommend the decision be deferred (option 3), and that officials be directed to undertake this wider strategic work in the first instance.

Ministry of Health comment

121. There is insufficient evidence to conclude that New Zealand needs to train an additional 60 doctors per annum in the medium term or that there is a shortage of general practitioners. There are variations in the distribution of general practitioners and other health workers that may be creating barriers to access in some rural areas of the country including but not limited to the Waikato region. The proposal is high cost for the marginal change in the number of rural general practitioners which is unlikely to improve outcomes for high needs and vulnerable individuals and families/whanau in the short, medium, or long term. In addition the cost of graduate entry programmes is more expensive than direct entry training.
122. The focus should be on achieving broader health and social outcomes for high needs rural communities in the most cost effective manner. A wider range of alternatives need to be analysed. These include better use of existing workforces such as nurses, nurse practitioners and pharmacists, use of technology and new models of care.
123. The Ministry is preparing separate advice to the Minister of Health about the opportunities and risk associated with the IMG workforce.
124. The Ministry does not support this proposal proceeding at this time.

Ministry of Business Innovation and Employment comment

125. The business case does not consider the research function of the medical school. Universities are the main providers of health research in New Zealand and the Waikato proposal would have effects on the health research system. Alongside teaching, Universities have a critical role in performing research and transferring knowledge to industry and community groups.
126. The recently released health research strategy highlights that health services research and evaluation of health interventions is weak in New Zealand. It also highlights the need for tighter collaboration between tertiary education and the health sector on research to ensure effective translation of knowledge and improved health outcomes. The March 2017 MoU between the University of Waikato and Waikato DHB focuses on teaching and research. It lays a solid foundation for research to be more demand-led and more responsive to the needs of local populations. MBIE therefore considers the proposal could lead to some positive effects on the health research system. It may also spur the existing medical schools to work more closely with the health sector on their research agendas. MBIE notes there is a significant degree of competition between universities as most health research funding is allocated through open contest.
127. MBIE concurs with the Treasury and the Ministry of Health that further consideration is needed on how to improve health outcomes. However, MBIE notes that there is a lack of evidence on cost-effective interventions in New Zealand and poor uptake of the evidence that does exist. Improving health outcomes is not solely about improving access to care. The Waikato proposal could lead to an increased evidence base on service delivery and public health interventions which would be of benefit to the Waikato region and beyond. The evidence base is likely to be particularly important for Māori health outcomes given the proposed engagement with Māori.
128. Finally, MBIE notes that international evidence shows that universities have a long-term positive effect on economic growth in the area where a university is located. The Waikato proposal could contribute to the government's regional economic development goals over the long term.
129. MBIE considers there is merit in further considering the proposal.

Conclusion

130. The Waikato proposal is an interesting and novel way to train doctors in New Zealand. It is based on a four-year graduate training model that has been shown to work overseas and is likely to deliver more graduates seeking a rural career, even if only marginally. In addition, the four-year graduate programme is less costly to students and government than the current graduate training pathways at Auckland and Otago.
131. There are also a number of regional economic benefits that the proposal will bring to the Midland region through the establishment of regional clinical training centres that incorporate training for other allied-health professions.
132. But, the proposal is high cost and it is not certain that it will significantly change the distribution of the health workforce to benefit rural communities.
133. There are other initiatives and interventions that may prove to be more cost effective and better at addressing these issues.

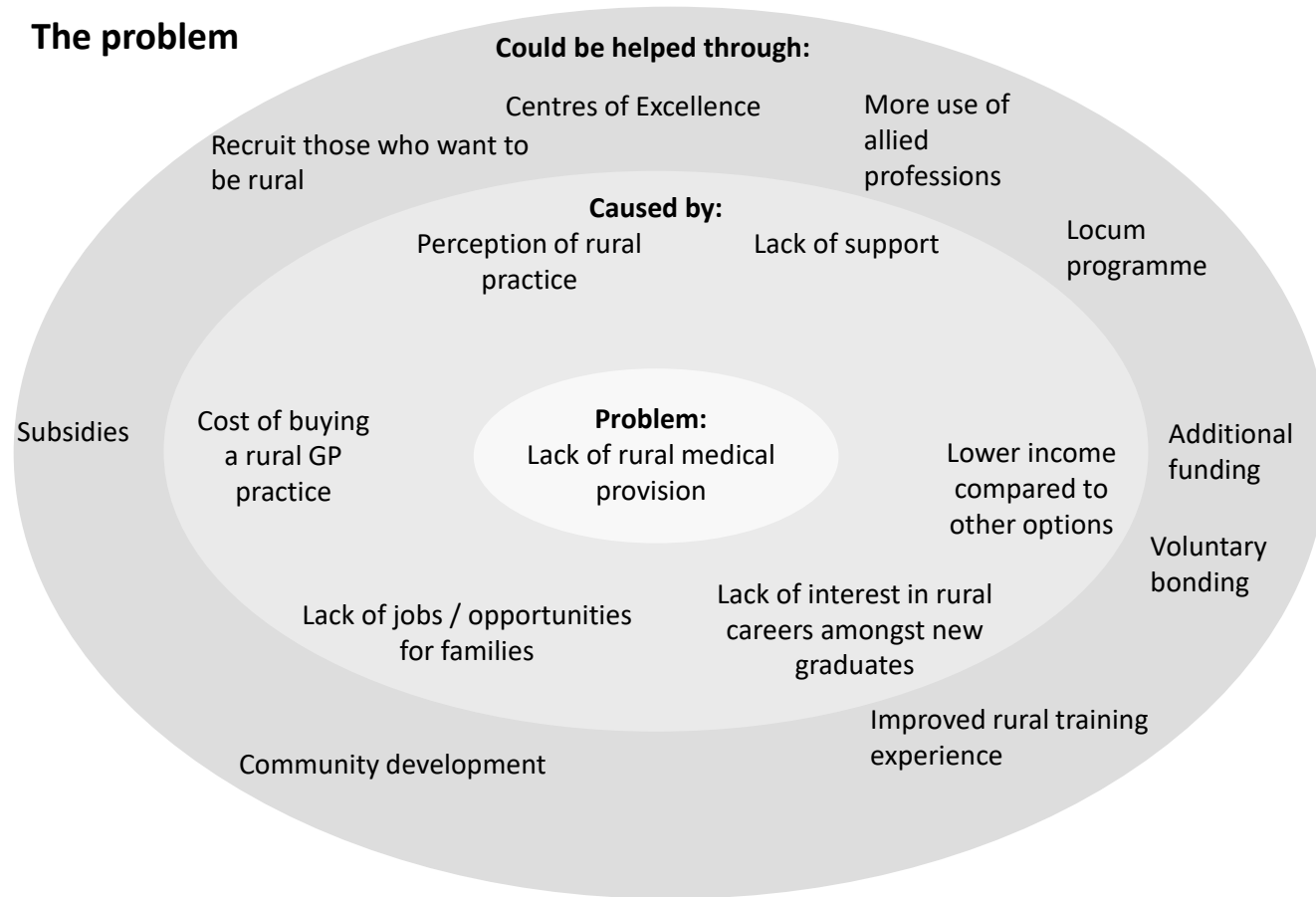
JOINT TERTIARY EDUCATION, HEALTH AND TREASURY REPORT: THE UPDATED UNIVERSITY OF WAIKATO/WAIKATO DHB PROPOSAL
TO ESTABLISH A THIRD MEDICAL SCHOOL IN NEW ZEALAND

Appendix 1 – Summary of the Proposal

Joint proposal from The University of Waikato and Waikato DHB to establish a graduate medical school

30 June 2017

The problem



What is proposed?

- 4-year graduate entry programme (requiring an undergraduate degree from any university in any subject)
- Training of 60 students per year from 2021
- Based in Hamilton, but incorporating 12-15 rural training centres

Capex funding required by source 2017-2026

Capex	Total 2017-2026 (\$ million)
Medical School Facilities	\$70.0
Rural Health Centres	\$40.0
Programme/curriculum development	\$21.7
Total capex	\$131.7
Capex sought from government	\$111.7
Philanthropic capital funding	\$20.0

Main benefits of the proposal

- Based on successful international models
- Recruitment model shown to build interest in rural careers
- Enhanced rural training experience

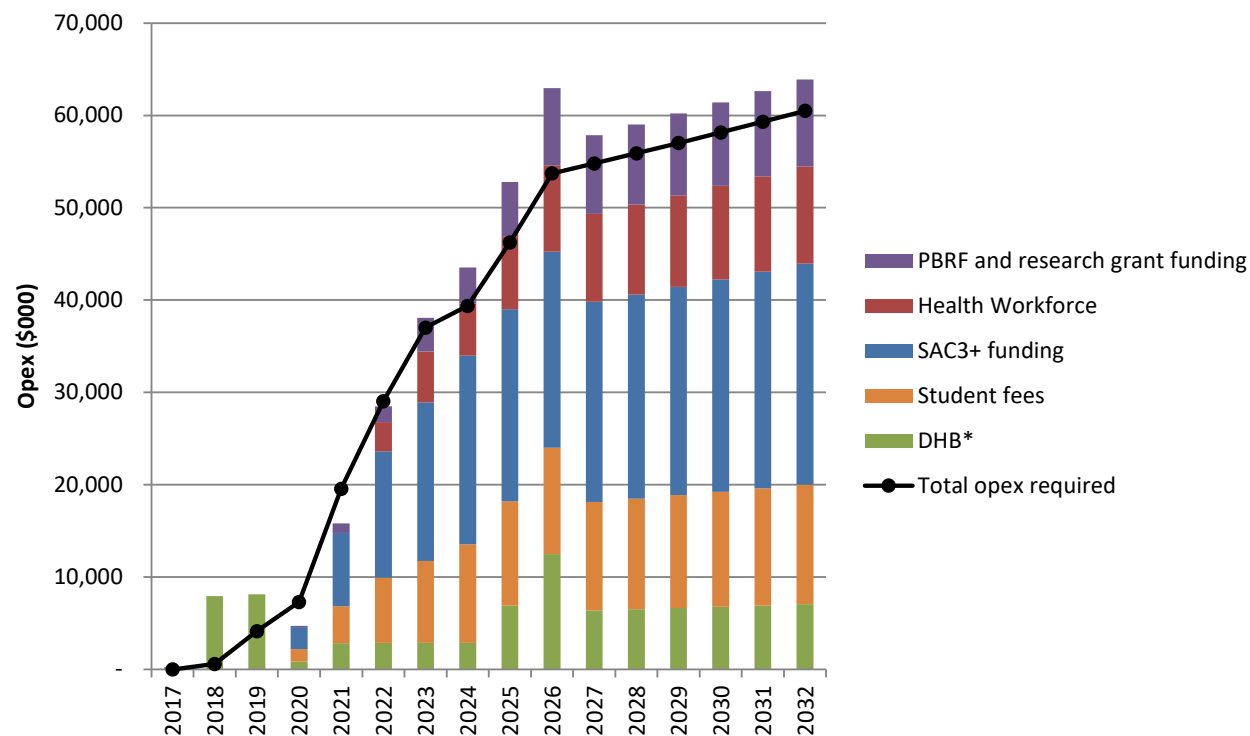
Main Risks:

- Significant investment required – seeks government capital funding of \$111.7 million and operational expenditure would largely come from government sources (SAC, DHB, Health Workforce NZ)
- Costs could significantly escalate
- Benefits may be overstated/not delivered

Options:

- Support and fund proposal – either in full or in part
- Support in principle, but request more information
- Defer decision
- Decline

Opex requirement (\$000) by source



JOINT TERTIARY EDUCATION, HEALTH AND TREASURY REPORT: THE UPDATED UNIVERSITY OF WAIKATO/WAIKATO DHB PROPOSAL
TO ESTABLISH A THIRD MEDICAL SCHOOL IN NEW ZEALAND

Appendix 2 – Background Information about the University of Waikato



Key facts about the University of Waikato (Waikato)

Waikato was founded in 1964 and is the second smallest New Zealand university by EFTS and has the highest proportion of Māori EFTS. Waikato has recently revised its areas of distinction to include civil and environmental engineering, freshwater, health and sports science.

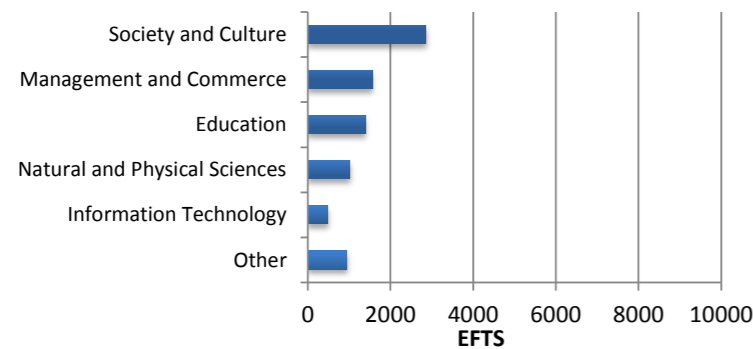
2016 Total Equivalent Full-Time Students (EFTS) = 9,805
 2016 Total Student Achievement Component (SAC) EFTS = 8,250
 2016 SAC delivery compared to allocation = 99.1%

	2012 actual	2013 actual	2014 actual	2015 actual	2016 actual	2016 subsector average	2016 actual to subsector average
Undergraduate SAC EFTS	82.9%	79.5%	78.4%	78.6%	77.7%	75.2%	2.4%
Postgraduate SAC EFTS	17.1%	20.5%	21.6%	21.4%	22.5%	24.8%	-2.3%
Total SAC EFTS	8,776	8,726	8,473	8,451	8,250		
International full-fee paying EFTS	14.1%	13.9%	14.1%	15.3%	15.4%	11.9%	3.5%
Total EFTS	10,370	10,157	9,904	10,018	9,805		
% difference between EFTS delivery and allocated EFTS	2.6%	-0.9%	-0.5%	2.1%	0.0%		

- Total domestic EFTS have decreased from 8546 in 2010 to 8,250 in 2016.
- Māori student participation rates are the highest in the subsector with 22.6 percent of Waikato's total EFTS being Māori compared to the subsector average of 10.8 percent in 2016.

Priority group participation rates	2012 actual	2013 actual	2014 actual	2015 actual	2016 actual	2016 subsector average	2016 actual to 2012 actual	2016 actual to subsector average
Māori (Level 4+)	21.8%	21.4%	22.0%	22.1%	22.6%	10.8%	0.7%	11.7%
Pasifika (Level 4+)	5.6%	6.1%	6.0%	6.7%	6.8%	8.0%	1.2%	-1.3%
Under 25 (Level 4+)	67.0%	68.6%	68.9%	70.5%	70.8%	75.6%	3.8%	-4.8%

EFTS delivery in top 5 subjects by Standard Classification of Education (NZSCED) broad field (2016)



Waikato has a proportionately higher share of SAC delivery in Education and in Society and Culture compared to those fields' share as a total of subsector delivery.

Educational Performance

Pease note: Cohort measures are only available from 2015.	2013 actual	2014 actual	2015 actual	2016 actual	2016 subsector average	2016 actual to 2013 actual	2016 actual to subsector average
All students							
Course completion	85.2%	84.7%	84.3%	85.1%	86.5%	-0.1%	-1.4%
Qualification completion (cohort)			67%	67%	63%	n/a	4.0%
First-year retention (cohort)			74%	75%	78%	n/a	-3.0%
Māori students (Level 4+)							
Course completion	80.2%	78.9%	78.3%	78.8%	80.6%	-1.4%	-1.8%
Pasifika students (Level 4+)							
Course completion	65.1%	69.4%	67.1%	70.7%	71.9%	5.6%	-1.2%

- Waikato's course completion educational performance indicators (EPis) for all students and Māori increased slightly in 2016 following decreasing results over the preceding 3 years, although they are all still below sub-sector average. Pasifika course completion rate increased in 2016 although it's still below the sub-sector average.
- Waikato's cohort qualification completion rate exceeds the university subsector average; however its cohort first year retention is below the university subsector average

Research Performance

- Ranked fifth in the 2012 PBRF Quality Evaluation with an AQS(N) score of 4.53. Its AQS(N) score is essentially unchanged compared to 2006. The highest AQS(N) score by a university was 5.51.
- Waikato's PBRF funding allocation for 2013 reduced compared to previous years. This did not reflect a drop in research quality - rather, it means that Waikato's PBRF performance improved less in relative terms when compared to other providers.
- PBRF indicative allocated funding for 2017 is \$15.8 million (5.3% of all PBRF funding).
- By subject in the 2012 PBRF evaluation, Waikato ranked second in economics; education; marketing and tourism; and music.

Financial Performance

(\$ million)	2008	2013	2014	2015	2008-2015 change (percentage point or \$)
Total revenue	188.5	228.9	229.5	241.8	53.3
Total Government funding	86.6	101.6	99.8	101.8	15.2
Net surplus/deficit (after unusual items)	-1.7	9.7	11.6	9.5	11.2
Net surplus/deficit as % of total revenue	-0.9%	4.2%	5.0%	3.9%	4.8%
Total assets	355.5	423	457.5	473.9	118.4
Net cashflow from operations	23.3	24.2	39.6	36.5	13.2
Cashflow from operations (%)	113.2%	112.0%	120.2%	117.3%	4.1%

Revenue source as a % of total revenue	2008	2015	2015 subsector average
Government income (including PBRF)	45.9%	42.1%	41.9%
Domestic tuition fees	17.8%	19.3%	17.9%
International tuition fees	12.5%	12.5%	10.1%
Other	23.8%	26.1%	30.1%

Audited figures

Funding

(\$ million)	2010	2015	2016	2017	2010-2017 % change
Total TEC funding allocation	86.2	88.1	88.5	89.4	3.7%
SAC funding	65.1	71.1	71.7	72.6	11.5%
PBRF funding	15.5	15.9	15.8	15.8	1.9%

- Waikato successfully delivered 36 more undergraduate EFTS for Priority Engineering in 2015 compared to 2014.

World Rankings

Waikato has typically been in the lower band of New Zealand universities featured in the Times Higher Education Supplement (THES) but for 2018 is up 32 places in the Quacquarelli Symonds (QS) world university rankings, placing at 292 out of the top 500.

	2010 (2010/11 THES)	2013 (2013/14 THES)	2014	2015	2016	2017	2016-2017 change
THES ranking	401+	301-350	351-400	401-500	401-500		n/a
QS ranking	316=	405=	405	338=	324	292	up 32

TEC-funded initiatives

- Waikato hosts the National Centre for Adult Literacy and Numeracy, which focuses on embedding literacy and numeracy in the tertiary sector.
- Waikato has partnered with the University of Auckland to host an ICT Graduate School based in Auckland, with satellite locations in Hamilton and Tauranga.
- Waikato is also a consortium member along with three other universities that will run the Centres for Asia Pacific Excellence. This was a competitive process run in early 2017.

Current Issues

- Waikato is a key stakeholder in the Bay of Plenty Tertiary Education Partnership (the Partnership) involving Waikato, Toi Ohomai Institute of Technology, and Te Whare Wānanga o Awanuiārangī which collaborates to enhance tertiary provision in the region.
- Waikato is recruiting additional students from the greater Waikato region through its 'Pathways to Excellence' programme, which offers eligible students scholarships and subsidised travel.
- In late 2016 Waikato and the Waikato DHB proposed establishing a third Medical School in the Waikato region. The proposal is for a 4-year graduate entry programme focussed on encouraging more students to train as General Practitioner's for rural practice, and also aims to encourage more Māori into medical studies. The proposal is being considered by government.

Key University and TEC personnel

- Chancellor: Rt Hon Jim Bolger
- Vice-Chancellor: Professor Neil Quigley

TEC Contacts

- University Team Manager: Dr Dafydd Davies
- Investment Manager: Dr Bronwen Kelly

Last updated: 20 June 2017

JOINT TERTIARY EDUCATION, HEALTH AND TREASURY REPORT: THE UPDATED UNIVERSITY OF WAIKATO/WAIKATO DHB PROPOSAL
TO ESTABLISH A THIRD MEDICAL SCHOOL IN NEW ZEALAND

Appendix 3 – Draft covering letter to send to other Ministers

Rt Hon Bill English
Prime Minister
PARLIAMENT BUILDINGS

Dear Prime Minister

University of Waikato and Waikato DHB proposal to establish a third medical school

I attach the latest joint briefing from the Tertiary Education Commission, Ministry of Health and the Treasury regarding the University of Waikato and Waikato DHB joint proposal (the Waikato proposal) to establish New Zealand's third medical school. This briefing takes account of the updated business case provided to government on 31 May 2017 and incorporates comment from the Treasury, the Minister of Health and other interested agencies.

I look forward to discussing the options for progressing the consideration of this proposal, and the broader issues of the rural health workforce with you.

Yours sincerely

Paul Goldsmith
Minister for Tertiary Education, Skills and Employment

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Treasury Report: Medical Training and Workforce: Competition, Supply and Regional Distribution Considerations

Date:	21 July 2017	Report No:	T2017/1935
		File Number:	SH-4-6

Action Sought

	Action Sought	Deadline
Minister of Finance (Hon Steven Joyce)	Note the contents of this briefing ahead of your meeting with Ministerial colleagues to discuss the Waikato Medical School proposal Discuss with Treasury officials	None

Contact for Telephone Discussion (if required)

Name	Position	Telephone		1st Contact
Andrew Rutledge	Team Leader, Labour Markets, Immigration and Tertiary Education	s9(2)(k)	s9(2)(g)(ii)	✓
Carolyn Palmer	Manager, Education and Skills			

Actions for the Minister's Office Staff (if required)

Return the signed report to Treasury.

Note any feedback on the quality of the report

Enclosure: No

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Treasury Report: Medical Training and Workforce: Competition, Supply and Regional Distribution Considerations

Executive Summary

You will be meeting with your Ministerial colleagues in the near future (date yet to be finalised) to discuss the Waikato medical school proposal. The purpose of this report is to provide you with additional advice prior to that meeting.

On 7 July 2017 the Ministry of Health, Tertiary Education Commission and Treasury provided Ministers with a joint report assessing the business case submitted by Waikato University and the Waikato District Health Board. Treasury recommended deferring a decision on the Waikato medical school proposal at this time. We also recommended that officials should be directed to undertake further work on a broader range of policy options to improve the maldistribution of doctors (GPs in particular), which the proposal is primarily aimed at addressing.

There are three different but interconnected policy considerations raised by the proposal: how to increase the level of competition in medical training; whether and how to increase the supply of doctors; and how to improve issues with the rural medical workforce. Depending on the policy intent of the Government, there are various options for achieving each of these aspects.

Treasury's view is that there is not a compelling case for increasing the number of medical schools as the key lever for improving competition. This is more likely to be achieved by increasing the competition for Equivalent Full-Time Students (EFTS) between existing medical schools. We believe a competitive market could be created with or without creating a new medical school or extra medical places. However, either of these choices increases the options available so should be considered.

On balance we consider the evidence is not compelling that there is a shortage of New Zealand-trained doctors. We base this largely on Health Workforce New Zealand (HWNZ) modelling and the fact that we have significantly increased the number of medical students since the mid-2000s (Treasury comment on the HWNZ model is in Appendix 1). If the number of EFTS were to be increased, it would be appropriate to consider a new medical school as a way of improving the competition for EFTS places further.

There is evidence of a maldistribution of doctors across the country with lower numbers of GPs in rural areas. This maldistribution issue is not peculiar to New Zealand, is not primarily a supply issue, nor primarily to do with medical training. We do not consider that the Waikato proposal is the appropriate response to solve this problem mainly because it is unlikely to produce very many graduates that end up in rural practice (and is costly).

We consider that more work should be undertaken to provide Ministers with substantive advice on alternative policy options to the Waikato proposal which better meet the objectives. This could be supplemented with further advice on how the proposal could be strengthened to improve its efficacy. We indicate some initial thinking about how this could be done.

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Recommended Action

We recommend that you:

- a **note** that Treasury considers there are three different but interconnected policy objectives raised by the Waikato medical school proposal (with a range of options to address them): how to increase the level of competition in medical training; whether and how to increase the supply of doctors; and how to improve issues with the rural medical workforce;
- b **indicate** the options discussed in this report on which you require officials to undertake further work;
- c **note** Treasury considers the best way to introduce competition into medical training is to make medical training EFTS contestable between providers, not by introducing a third medical school;
- d **discuss** with your Ministerial colleagues the idea of making medical training EFTS contestable to drive competition between providers, with a view to seeking further advice from officials;
- e **note** Treasury considers that whether a third medical school is required is dependent on whether the Government considers that the current level of supply of domestic medical graduates is insufficient and that medical training EFTS should be increased;
- f **note** that Treasury does not consider that the Waikato proposal is the appropriate response to solve the maldistribution problem identified with the medical workforce, and with General Practitioners in particular;
- g **discuss** with your Ministerial colleagues the alternative options for improving the regional distribution of the medical workforce with a view to seeking further advice from officials on substantive policy options;
- h **direct** officials to provide advice on how the Waikato proposal can be strengthened;
and
Agree/disagree
- i **discuss** this report with Treasury officials.

Carolyn Palmer
Manager, Education and Skills

Steven Joyce
Minister of Finance

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**Treasury Report: Medical Training and Workforce: Competition,
Supply and Regional Distribution Considerations**

Purpose of Report

1. The purpose of this report is to provide you with additional advice prior to a meeting with your ministerial colleagues on the Waikato medical school proposal (the Waikato proposal).
2. We consider that the Waikato proposal raises three interconnected policy issues:
 - how to increase the level of competition in medical training
 - whether and how to increase the supply of doctors, and
 - how to improve issues with the rural medical workforce.
3. These three objectives are a useful organising framework for analysing the investment options available to government within a broader overarching aim of improving health outcomes.
4. There are a range of policy options to address each of these objectives. What intervention the Government chooses will necessarily depend on how it weights these objectives of competition, supply and regional distribution, and an analysis of the relative merits of any proposals.
5. This report covers:
 - the value of competition for encouraging efficiency and innovation and why we see an additional medical school as a limited lever in the medical school market,
 - the evidence about whether New Zealand needs to produce more medical graduates, and whether the country could support an additional medical school, and
 - the options for creating a more competitive market, both with and without a third medical school, and some indicative options for improving rural health workforce issues.

The Nature of the Medical Training Market

6. Competition drives firms/providers to increase efficiency (reduce internal/sourcing costs) and to innovate (develop new products/services). Where there is limited or no competition between firms/providers, incentives to innovate and to improve efficiency are significantly dampened. In contrast to a regular market scenario, many sectors are defined by government regulation of providers who deliver a service for fixed and predictable government funding. At worst, this can lead to incentives to maintain/increase the level of inputs (being funded by government) required to produce the outcome (being purchased by government).

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7. All medical training takes place in universities, and while they are highly autonomous Crown entities, there is no competition between them on either the number of students (which is set through the capped EFTS allocation¹) or the amount they are paid to train them (which is set by government as both the Student Achievement Component (SAC²) government funding and student fees³).
8. New Zealand is not unusual in having a capped medical training system. In almost every country, the high cost of medical training has led to limits on access, either by a cap on places or through high prices. Doctors are amongst the most expensive students in New Zealand, with those who take the undergraduate route costing about \$340,000 in SAC funding, fees, and student support by the time they graduate. Because of the high cost of training, we would not recommend that the government increase competition by removing the cap to allow open entry.
9. Medical provision is capped on the first-year EFTS intake (for direct entry, this is year 2 of study - the first year of the MB/BCh). The medical EFTS cap is set based on future forecast need by Health Workforce NZ but is also constrained by New Zealand's capacity to provide quality clinical training placements for graduate students. This latter factor has been a significant constraint in recent years. In 2015 Auckland and Otago Universities wrote to Ministers asking for a pause in the planned growth in the cap to 565 places for this reason. The cap currently sits at 539 SAC 3+ funded EFTS and it is the binding constraint on training as the demand for medical places far exceeds the cap. Auckland and Otago Universities work together to agree the distribution of the cap.
10. These settings mean that there is no competition on either price or quantity and therefore little competition between providers of medical training. The Productivity Commission has suggested that the current settings have encouraged providers to predominantly differentiate themselves with brand, quality and location. It suggested that the level of funding received is more influenced by geography and a university's reputation, rather than student choice based on the quality of education. The Productivity Commission has stated that the "government's economic regulation of Tertiary Education Institutions (TEIs) serves to maintain incumbent suppliers and prevent new market entrants. It appears to have evolved in such a way that the market power of institutions (and collective behaviour on the part of universities) is an established part of the system".⁴ Essentially, government regulation increases the market power of providers.
11. Often government can exert the greatest pressure and create the most competition between providers at the point of contracting for services. By using a tender process to seek a provider for a desired service the government creates competition between potential providers who will differentiate their proposal on cost and type. We think that competition between (potential) providers of medical training can be driven through the government going to the market with a clear delineation of the problem definition it is seeking providers to solve, and overseeing a tender process.

1 EFTS is the unit used to allocate student places to each tertiary education provider. The number of EFTS allocated to medical students at each of the universities determines how many students they train. This is agreed with each institution in their Investment Plan.

2 SAC is set by the government for each type of course.

3 Student fees are regulated by government and the amount by which they can change each year is determined by government through the Annual Maximum Fee Movement

4 Productivity Commission (2016) draft report *New Models of Tertiary Education*, p. 179.

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12. The situation for medical training is further complicated by the significant capital investment required to deliver the required services. This will necessarily advantage the status quo providers as the costs of entry for potential competitors will be high. This means new competitors will likely not be able to compete on price, but they could compete on product differentiation (e.g. the shorter training time for graduates or a focus on rural health). Government would then need to consider whether it was worth paying a higher price for a new provider (because of the need to help fund its entry into the market through significant capital investment) to deliver the desired type of product.

Objective 1: Increasing Competition

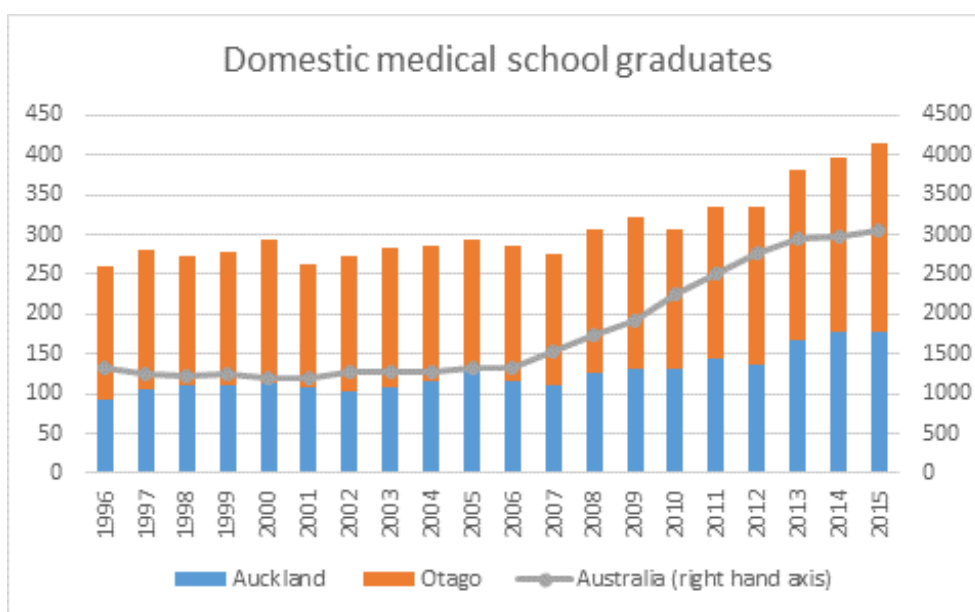
Issues with the current settings: Lack of competition and innovation

13. Any market with only two providers runs the risk of the anti-competitive behaviour of a duopoly. However, in the medical training market, the issues are less about the number of providers than the way in which the EFTS system creates a defined and stable market share with limited scope for contestability between them (especially as the demand from students is so high providers have no need to compete for students).
14. Figure 1 below indicates how the allocation of Year 2-6 medical EFTS has changed over time. Figure 2 shows the wider context of the increase of medical graduates over time, and in comparison with Australia. The 2009 increase in medical training EFTS will lead to an increase in graduate numbers over the next decade. We discuss supply issues in the next section.

Figure 1: Years 2-6 medical EFTS allocation between Otago and Auckland 2003-2017

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Auckland	307	360	485	599	661	701	720	779	835	900	989	1,045	1,128	1,174	1,214
Otago	851	882	894	910	926	952	979	1,024	1,101	1,166	1,248	1,278	1,313	1,358	1,329

Figure 2: Domestic medical school graduates 1996-2015



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15. The government has not to date used its powers to vary the EFTS allocation between medical schools to create a more competitive environment. This option will be discussed further when we discuss the options for creating more competition. This has led to a situation where the two providers have instead competed for status, ranking, research contracts, quality staff (and therefore international students) and are showing signs of wanting to increase the value of each student by extending the length of training (through increasing the graduate entry proportion)⁵.

Options to increase competition

16. Given current policy settings where government sets price and volume, it is possible that a third provider could differentiate itself either by changing the length of study (which would essentially be competing on cost – both cost to the government and to the student) or course content (such as the rural health focus proposed by Waikato).
17. However, this would only create meaningful competition between providers if there is contestability for EFTS and therefore the possibility for there to be winners and losers. Creating an extra medical school or creating extra medical student places will not increase competition unless it is accompanied by changes to the EFTS allocation that create a competitive environment.
18. We believe a competitive market could be created with or without creating a new medical school or extra medical places. However, either of these choices increases the options available so should be considered.
19. Increasing competition could create positive system benefits – particularly an increase in quality (due to innovation). It is worth noting however that the quality of medical training is already high and competition between providers may only marginally improve the status quo. Rather than competition by itself, we think broader health outcomes should be the overarching metric of value by which we assess the desirability of changes to the number of providers and the medical training EFTS system. There is clearly a link between improved quality of medical training leading to higher quality medical professionals and therefore contribution to improved health outcomes.
20. In our view, the key options for increasing the level of competition involve increasing the competition for EFTS for the entry year of medical school (Year 2).⁶ The key ways of doing this are:

Figure 3: Options for increasing competition in medical training

Option	Effect	Treasury view
1. Make all medical EFTS contestable	Creates maximum competition, but with maximum risk that a provider could become unsustainable. With two providers they may collude to limit competition. This could be managed by a “floor” on size, but this would reduce competition	The risk exceeds the benefit
2. Make some medical EFTS contestable (e.g. 10% each year or investment planning)	Creates some competition, but may over time still mean one provider becomes unsustainable. With two providers they may collude to limit competition. This could be managed by a “minimum floor”	Worth further consideration

5 Graduate entry increases the value of each student because the university gets the funding for the original degree (at least three years) and the medical degree (at least five years), so eight years of funding per student rather than six for undergraduate entry. Graduate entry increased from 20% of the intake in 2008 to 29% in 2015 and is continuing to increase. In most countries graduates only train for four years at medical school, not five or six.

6 Year 2 is the critical variable as once a student is accepted, their EFTS place needs to continue until they graduate.

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Option	Effect	Treasury view
round)	on size, but this would reduce competition	
3. Establish a third medical school from the existing EFTS, and make EFTS contestable using one of the first two options	Making the EFTS contestable is what creates competition. The third medical school would reduce (but not eliminate) the risk of collusion. The size of the medical schools would be smaller, so their desire to grow may be larger	We think it would be better to increase the EFTS allocation
4. Establish a third medical school with new EFTS and make EFTS contestable using one of the first two options	As above, but the third medical school would reduce (but not eliminate) the risk of collusion. The size of the schools would be larger than the Australasian average so may not compete for EFTS as robustly	Worth further consideration
5. Allow students to use their funding (SAC plus fees) to train overseas (as loans using the student loan scheme)	Would increase competition, but it is likely to mean a higher proportion of students do not return to New Zealand (reducing the value of their training to us) or pay back their loans if they do not	The risk of students not returning and/or repaying makes this unattractive

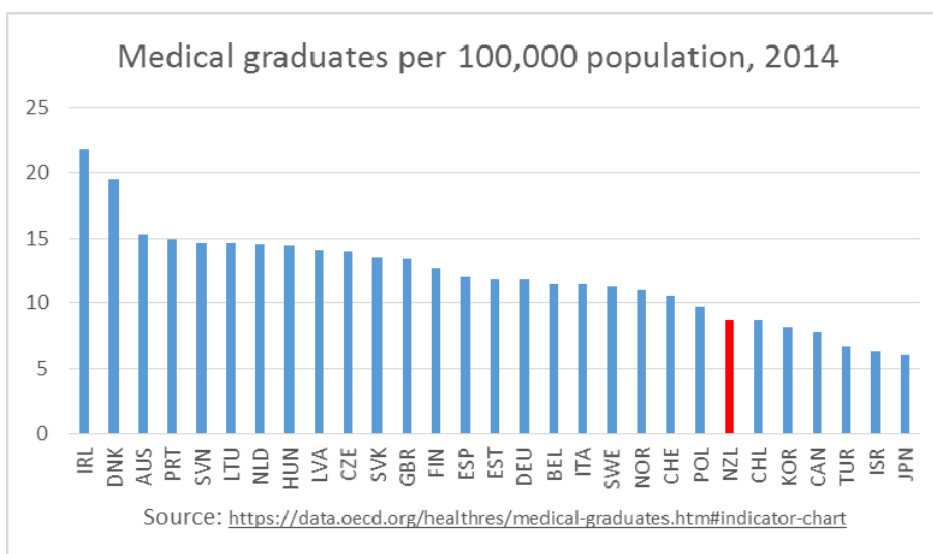
Objective 2: Increasing Supply

Increasing the number of medical students

21. There is competing evidence about whether New Zealand is producing enough medical graduates.
22. We think the main arguments that suggest New Zealand is training too few doctors are:
 - Working hours in the profession have tended to be above the standard 40 hours a week. In the latest available year (2014) the average was 43.6 hours across all levels of the profession. The rates were particularly high for house surgeons and registrars (the group where there is difficulty finding enough places for new graduates).
 - The high proportion of International Medical Graduates (IMGs) in New Zealand, which at 43% is the second highest in the OECD. (We will discuss the merits of this shortly).
 - The relatively low rate of medical graduates compared to our population (see figure 4).

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Figure 4: Medical graduates per 100,000 population 2014



23. The reliance on IMGs has both advantages and disadvantages. The main advantage is (as the Ministry of Health has noted) using them is likely to be cheaper than further increasing the domestic supply of graduates. This is in part because they come fully trained, but it may also be because many of them are young and relatively inexpensive, and frequently wanting to gain overseas experience (so perhaps willing to work for less for a few years).
24. There are two main disadvantages: they have a very high turnover (with only 30% staying for four years or more) and effectively New Zealand is making a trade-off of taking foreign doctors instead of allowing its own young people to train for jobs that have high wages both here and overseas.
25. IMGs also have one other advantage in that they do not require supervision. The major constraint on training doctors in New Zealand is not just the number of medical EFTS at universities but also the ability of the health system to absorb further graduates in their first year (PGY1 placements) when they are required to work in the supervised environment of a District Health Board (DHB). The lack of PGY1 places was the reason why the Otago and Auckland Universities sought to slow the growth in medical places in 2015.
26. The main arguments that New Zealand is training the right number of doctors are:
 - The model used by the Health Workforce New Zealand suggests that New Zealand has enough graduates and that our dependence on IMGs is likely to decline, in part because New Zealand graduates are less likely to move overseas (we consider the model is robust and our view is attached as Appendix 1).
 - New Zealand has a relatively low proportion of doctors close to retirement compared to most OECD countries, though this is probably because we import so many young IMGs.
 - There has been a significant increase (38% overall) in the number of medical personnel employed by the DHBs over the last decade.
 - Changing models of care (such as better utilisation of nurse practitioners and the use of technology to increase the productivity of individual doctors) may reduce the demand for medical personnel in the future.

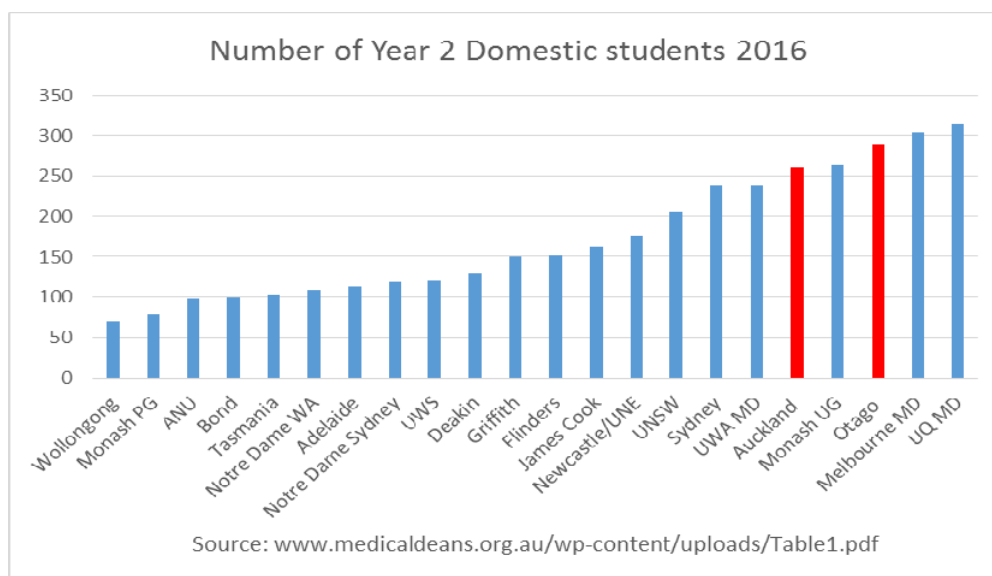
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27. Treasury’s view is that the evidence is not compelling that there is a shortage of New Zealand-trained doctors. We base this largely on the Health Workforce New Zealand modelling and the fact that we have significantly increased the number of medical students since the mid-2000s. On the other hand, New Zealand does train fewer students than most OECD countries and relies more heavily on IMGs, so if we did train more students, there is the potential to replace some of these foreign trained doctors with New Zealanders. However, the advice of the Ministry of Health is that this is likely to be more expensive and it would require addressing the bottleneck of first year placements for new graduates.

Increasing the number of medical schools

28. The practicality of a third medical school depends upon whether it can achieve a critical mass of students, attract sufficient skilled staff, and whether it has the facilities needed (which is more dependent on funding than size).
29. Looking at the size of Australasian medical schools, it is clear that the critical mass for a medical school is not large. Most schools have more than 100 students, but both Auckland and Otago Universities are at the upper end of medical school sizes with their numbers exceeding 250. This suggests that New Zealand could have a third medical school without training more students, by making the existing schools smaller. We do not think, however, that there is room for a fourth medical school without increasing the number of student places significantly (say by more than 300)⁷.

Figure 5: Number of Year 2 domestic students 2016



30. The main advantage for the Government of creating a third medical school is that it could make it less dependent on the current two institutions. For this reason, if a significant increase in the number of medical students was sought, we think there is value in establishing a third medical school.
31. However, we do not think it is the cure for the non-competitive nature of the current medical training market. It is possible that a third institution could place some competitive tension into the situation but that is not guaranteed to happen. It is possible, if not more likely, that the third institution would react to the incentives embedded in the funding system and collaborate with the other two.

⁷ Across England, Scotland, Australia, Canada and New Zealand the ratio of medical schools to population range from a low of 1 per million in Scotland to 2.3 per million in New Zealand, with an average of 1.8 per million. This suggests that the optimum number for our population is about 3, and that if we had four all our medical schools would be below optimum size.

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32. Treasury's view is that there is not a compelling case for increasing the number of medical schools as the key lever for improving competition. This is more likely to be achieved by increasing the competition for EFTS between existing medical schools. However, both our current medical schools are now large compared to others in Australasia so if the number of places were to be increased, it would be appropriate to consider a new medical school as a way of improving the competition for EFTS places further.

Options to increase the supply of doctors

33. An important question is whether the value the country receives from training more doctors is worth the cost. To a large extent this depends on whether New Zealand is able to effectively use additional doctors and not (as the Waikato proposal frames the question) about whether we have achieved the correct regional distribution of the doctors. If the regional distribution is not working well but there are enough doctors in total, then the appropriate policy response is to seek to understand why some areas are not attracting the available doctors and then to reduce or remove these barriers.
34. The main options to increase the supply of doctors are to either increase the recruitment of IMGs or train more medical graduates ourselves. Both options could be supplemented with a focus on improving the retention rates for IMG's or domestic graduates. Recruitment of IMGs is cheaper but has the disadvantages already covered. Further increasing New Zealand's reliance on IMGs could open us to marginal risk if global labour market or other conditions affect our ability to attract the quality and number that we are deliberately relying on (this risk would mainly be about having to pay a higher price rather than facing a shortage issue).
35. To train more medical graduates a new medical school could be created or current providers asked to train more. A restriction on the extent to which providers can train more doctors is the availability of clinical training placements. This would need to be addressed whether the increase of graduates was from a new medical school or the current providers. A potential benefit of increasing graduates through the current providers is that they would be able to supply them faster than a new medical school (the Waikato proposal is premised on first graduates in 2029).

Objective 3: Improving Regional Distribution of Doctors

Regional distribution of doctors in New Zealand

36. The evidence does suggest that there is variation in the distribution of GPs across the country. For example, Waikato has 68 FTE GPs per 100,000 population while the Auckland region has 70 and Northland has 86. However, access to a GP is only one factor in getting good health and social outcomes and there is no absolute benchmark for the number of GPs for a given population.
37. The maldistribution of doctors is not peculiar to New Zealand, is not primarily a supply issue, nor primarily to do with medical training. Attracting medical professionals to rural areas, and retaining them, is difficult and not a problem peculiar to the medical profession.

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Factors influencing maldistribution

38. As we noted in the joint briefing on the Waikato proposal, there are a number of factors which contribute to overall low perceptions of a rural career. These include:
- a general lack of support, including cover for training or holidays
 - reduced down-time with doctors in rural practice spending more of their free time 'on call'
 - practices are located in remote areas with few facilities, few opportunities for partners and children, and a large amount of travel is required between practices
 - there is anecdotal evidence that the high cost associated with buying into a rural practice is also off-putting, which is compounded in that a lack of interest in vacancies means that it is often hard to sell the practice later, and
 - lower intensity than urban practices, which leads to lower salaries for those remunerated on a per patient or per hour basis.

Interventions to improve regional distribution

39. In all OECD countries, the number of doctors per capita tends to be lower in rural areas compared with urban areas. Countries use a range of policies to achieve better geographic distribution of doctors and a mix of policies has been shown to be most effective. This includes targeted selection of medical students from rural areas (e.g., Otago Rural Origins Admissions Pathway), financial incentives (e.g., the Voluntary Bonding Scheme), regulations to restrict doctors from practising in adequately supplied areas, and financial incentives to set up practice in hard-to-staff areas.
40. Treasury's view is that whilst there is a maldistribution of doctors across New Zealand, the policy interventions required to improve the situation are not primarily related to the supply of doctors. We consider that officials should develop a national strategy for managing the future of the health workforce, undertake a robust analysis of all the alternatives to achieve the desired outcome, and provide further advice to Ministers.
41. Outside wider policy interventions to improve regional social infrastructure, some key options to address distribution issues are:

Figure 6: Options for addressing health workforce issues – rural focus

Option	Effect	Treasury view
1. Establish a medical school with a dedicated focus on rural health i.e., Waikato proposal	Given selective recruitment and placements, would result in more doctors choosing rural practice relative to graduates from other providers. Number would depend on size of school (Waikato proposal suggests about 18% of 60 EFTS p/a.). Evidence suggests that medical training is not the main driver of better regional distribution of doctors	Not the right intervention if the aim is to increase rural doctors
2. Improve rural placement practices in medical training i.e., School of Rural Health	Could result in more doctors choosing rural practice relative to the status quo within the current EFTS. Little data or evidence exists to evaluate likely efficacy. Would be fairly low cost (if delivered by current providers)	Worth further consideration

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Option	Effect	Treasury view
3. Better utilise/increase health workforce beyond doctors, nurse practitioners in particular	Non-doctor medical professionals such as nurse practitioners may be more likely to take up rural practice (as more likely to be living in these areas, or happy to). This would significantly improve health care access in rural areas. There are only a small number of nurse practitioners in NZ which suggests significant under-utilisation	Worth further consideration.
4. Looking at financial incentives (including the existing Voluntary Bonding Scheme) to encourage more doctors to work in rural areas	Could result in more doctors choosing to work in hard to staff rural areas if financial incentives are more attractive	Worth further consideration
5. Develop alternative models of care (such as multi-disciplinary teams or hub and spoke models) and leverage new technologies	Depends on the model and technology in question. Findings about the effectiveness of alternative models of care are mixed. Generally new technologies will increase access to health care, reduce unnecessary GP visits, and allow both remote triaging and monitoring. More effective and cost efficient first point care than status quo	Further evaluation required but worth piloting

Improving the Waikato Proposal

42. As the Waikato proposal stands we believe it is not the best possible investment to improve competition in medical training, increase the supply of doctors, or improve their regional distribution. As we have argued in this report we believe there are alternative policy options worthy of further consideration that could be cheaper and more effective. We have previously advised that these alternatives should in the first instance be more fully considered in comparison to the Waikato proposal.
43. There are ways in which the Waikato proposal itself could be improved and supplemented (with other government interventions) to increase its efficacy against the three objectives discussed (or the particular ones Ministers value most). Further work could be undertaken on how to improve the Waikato proposal. For example:
- a. **Competition:** We believe the Waikato proposal would not increase competition between medical training providers unless some contestability for EFTS is introduced. Government could therefore (following scoping) introduce contestability to ensure that the creation of a third medical school did increase competition. For example government could secure 60 EFTS for Waikato and then allow Waikato to compete for EFTS currently distributed to the other providers (which would not be able to compete for Waikato's EFTS).
 - b. **Supply:** The current proposal is for a medical school that produces 60 doctors per annum. Unless EFTS are taken from the current providers, this will require an increase in the EFTS cap for medical training. Therefore, if supply is an important driver for creating a new medical school, it would be worth considering significantly increasing the scale of the school to make a meaningful impact on supply (mitigating against international migration of graduates etc.).

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- c. **Regional distribution:** Evidence indicates the Waikato proposal would produce graduates who are more likely to choose rural practice given candidate selection and placement practices. If government were to address some of the barriers to professionals choosing to work in rural areas this could increase the proportion of the 60 graduates who choose rural practice (from the current projected 18%).
44. We consider that any final decision on the Waikato proposal is best informed by an assessment of (the improved) proposal relative to other potential government investments as briefly scoped in this report (and on the back of a national strategy for the future health workforce). Therefore if further work is requested on how to improve on and supplement the Waikato proposal we suggest that this could also concurrently include further work on alternative policy options that do not include the Waikato proposal.

Conclusion

45. Depending on the policy intent of the Government there are various options to increase competition in medical training, increase the supply of doctors and improve the regional distribution of the workforce.
46. Treasury's view is that there is not a compelling case for increasing the number of medical schools as the key lever for improving competition. This is more likely to be achieved by increasing the competition for EFTS between existing medical schools.
47. Treasury's view is also that the evidence is not compelling that there is a shortage of New Zealand-trained doctors. However, if the number of EFTS were to be increased, it would be appropriate to consider a new medical school as a way of improving the competition for EFTS places further.
48. There is evidence of maldistribution with lower numbers of GPs in rural areas. However, we do not consider that the Waikato proposal as it stands is the appropriate response to solve this problem mainly because it is unlikely to produce very many graduates that end up in rural practice. It is also costly and does not address the broader issues with attracting and retaining medical professionals in rural areas.
49. We consider that more work should be undertaken to develop the range of alternative policy options. This could be supplemented with further advice on how the Waikato proposal could be strengthened to improve its efficacy against the objectives outlined in this briefing.

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Appendix 1

Health Workforce New Zealand (HWNZ) Forecasts

HWNZ's future workforce demand and supply projections for general practitioners (GPs) are derived from its Medical Speciality Workforce Forecasting Model (the Model). We met with HWNZ management to understand how the Model works and the logic behind it, major inputs to the Model and key assumptions. We also reviewed the Model directly to get a better understanding of the Model's logic. From our review of HWNZ's Model it appears reasonable for forecasting future GP workforce demand and supply.

In the time available we have not undertaken a full independent review of HWNZ's forecasting model. HWNZ informed us that the Model has been peer reviewed by the Office of the Chief Economist in the Ministry of Health and it has tested the Model with a number of organisations in the health sector. It informed us that the Model won first prize in the Data Olympics at the 16th International Health Workforce Collaborative in the United States, which Minister Coleman recognised in a media statement earlier in the year. While we recognise the reviews that have taken place it may be useful for HWNZ to obtain an independent external audit of the Model to provide additional assurance to key stakeholders.

HWNZ has analysed actual historical data over a period of five years to establish GP workforce entry and exit patterns, and age, gender and ethnic specific GP utilisation rates. It then uses these to estimate future utilisation. The forecasting model assumes that historical workforce patterns and GP utilisation rates will continue for the next ten years. The Model's projections are based on existing system settings and do not include any adjustment for potential impacts on GPs as a result of new models of care.

Input information is sourced from a range of external parties. For example, information on the GP workforce is sourced from the Medical Council of New Zealand and the Royal NZ College of General Practitioners. Utilisation information is sourced from the Ministry of Health's dataset on consultation rates supplied by Primary Health Organisations. Population information is sourced from Statistics New Zealand.

Ratios of FTE to headcount are used for each age group to reflect different patterns of working over a lifespan. The model accounts for doctors who reduce their hours when they are of child-bearing age, and a tendency for doctors in older age groups to reduce their hours. For each year, exit rates and the number of new GPs expected to join the workforce are applied to the various age distributions. Specific exit rates for each age group are used to account for the different characteristics.

To test the accuracy of the Model, HWNZ analysed data from 2006 to 2011 and compared its Model's projections for 2012 to 2016 with actual data for that period. The forecasting model was shown to be accurate to 98.4 percent.

One limitation of the Model is that it is based on historical GP utilisation rates, entry and exit patterns. There is the possibility that these could change in the future. For example, the workforce in the current 30- to 35-year age group may not work the same number of hours in 10 years' time as the current 40- to 44-year age group or utilisation rates could change for particular parts of the population. HWNZ informed us that it continues to engage with professional bodies in the health sector and would update the assumptions in the Model if it became aware of better information.