



ASSOCIATION OF SALARIED MEDICAL SPECIALISTS
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Preface

Over the coming months the Association of Salaried Medical Specialists (ASMS) is to publish a series of *Research Briefs* examining key issues facing the public health system, with a particular focus on health needs and services provided by senior public hospital doctors and dentists (for simplicity, referred to as specialists).

This first of the series attempts to address the question of how many specialists are required to adequately meet New Zealand's current and future health needs and fulfil government health policies.

A second *Research Brief* examining workforce needs will investigate issues surrounding the future stability of the workforce and the significant part played by overseas trained doctors – or 'international medical graduates' (IMGs) – to deliver the country's public health services.

This will be followed by a *Research Brief* assessing the evidence for the Government's policy intent to reduce hospital admissions by improving access to primary care and a greater policy emphasis on illness prevention.

Other *Research Briefs* will include (not an exhaustive list) an examination of the benefits of integrated care and how to achieve it; the benefits of integrated clinical leadership and how to achieve it; the impact on health services of an aging population; and unmet need, as part of a broader look at the determinants of ill health, including issues underpinning population wellbeing.





Assessing the extent of senior medical officer workforce shortages

At a glance

Two approaches to assessing New Zealand's senior hospital doctor workforce requirements indicate we are approximately 1000 specialists short to adequately meet the country's growing health needs.

One approach considers overseas comparisons, taking into account a range of workforce and health needs indicators, including access to hospital specialist services and patient outcomes. It concludes the Netherlands presents the best example of a specialist workforce that, based on the available evidence, appears to be reasonably adequate to meet its population's health needs. To be on a par with the Netherlands in 2016, New Zealand would have needed approximately 1000 additional specialists.

A local approach uses the on-the-ground knowledge of hospital head of departments (HoDs) to assess the staffing needs of senior hospital doctors and dentists (SMOs). Surveys of HoDs in seven district health boards (DHBs) have been undertaken to ascertain, in their assessment, the adequacy of senior doctor staffing levels to provide safe, good quality and timely health care and enable SMOs to fulfil essential non-clinical roles such as training and education, and clinical leadership.

On average, across the seven DHBs, HoDs estimated a staffing shortage of 21.8% full-time-equivalent SMOs. Translated across the whole SMO workforce this would have amounted to a shortage of approximately 1000 specialists and 100 medical and dental officers in 2016.

This is the first of a two-part examination of workforce needs. The second part, to be published soon, will investigate issues surrounding the future stability of the workforce and the significant part played by overseas trained doctors – or 'international medical graduates' (IMGs) – to deliver the country's public health services.



Introduction

A health workforce with an adequate supply of well-trained practitioners, including medical practitioners, underpins the delivery of high quality health care. Governments are instrumental in determining their populations' needs for health care, and what constitutes an adequate medical workforce to meet those needs. The evidence gathered over many years shows successive governments have been found wanting on both counts.

Access to primary care and hospital services in New Zealand has been assessed as poor to mediocre when compared to other like countries,¹ and nearly one in 10 New Zealanders have reported an unmet need for hospital care.² Two surveys of hospital doctors, including one of senior doctors specifically, have shown more than 80% of respondents went to work while ill, mostly because of a lack of service cover; and another national survey of senior DHB doctors and dentists shows 50% report symptoms of burnout (high levels of fatigue and exhaustion).^{3 4 5} Health Workforce New Zealand acknowledged the pressures in 2016, stating: "The most important issue is the impact of a prolonged period of medical labour market shortages on the workloads, wellbeing and productivity of DHB-employed senior doctors."⁶

These studies, and others discussed in this paper, indicate that while the senior medical workforce is growing in New Zealand, the rate of growth is insufficient to match the increasing demand for services, to the detriment of both patients and doctors.

This *Research Brief* looks at what is required to address the mismatch. It is the first of a two-part examination of workforce needs, pulling together international evidence and local needs assessments to gauge the extent of New Zealand's shortage of senior hospital doctors and dentists (for the purpose of this report, referred to as specialists). The second part of this examination, to be published soon, will investigate issues surrounding the future stability and reliability of the workforce and the significant part played by overseas trained doctors – or IMGs – to deliver the country's public health services. It will also include discussion on ways to address New Zealand's workforce needs.

Setting a workforce benchmark

Assessing the adequacy of the medical workforce to meet the country's health needs is complex in any context. No country in the world does it in a manner that can be referred to as best practice. It relies on good data to enable estimates of underlying need for services and value judgements in relation to an appropriate level of response, depending on what health outcomes and service objectives policy-makers have set.^{7 8 9 10 11}

Under the Public Health and Disability Act 2000, core health objectives include "to achieve for New Zealanders ... the best care or support for those in need of services ... [and] to facilitate access to, and the dissemination of information to deliver, appropriate, effective, and timely health services, public health services and programmes..."

According to the assessments of the Minister of Health, David Clark, and the Director-General of Health, Ashley Bloomfield, overall the health system is performing well towards achieving those objectives. The Director General surmises that: "New Zealand has one of the best public health systems in the world."¹² And the Health Minister has said, "We want to make sure we are the best

health system in the world, and we compare relatively well to many of the countries we would compare ourselves...”¹³ The acknowledged areas that need improving concern inequities in health outcomes and access to services, especially for Māori and Pacific peoples. Growing pressures on services have also been acknowledged.¹⁴

It can be concluded from the service priorities and objectives policy-makers have set, and the stated views on how well the objectives are being met, that the benchmark on which to gauge the adequacy of supply of New Zealand’s senior medical workforce is that of being a world leader in terms of access, effectiveness, and timeliness of hospital treatment.

International medical workforce comparisons

Reporting the number of doctors relative to the population is commonly used to compare workforce volumes across countries and over time. A World Health Organisation (WHO) report discussing health system performance indicators says measuring doctor numbers “represents a critical starting point for understanding the health system resources situation in a country”.¹⁵ However, this measure has obvious limitations. It does not take into account a country’s health needs, nor its health system objectives, its quality or efficiency. Some countries with relatively high numbers of specialists per population do not necessarily have good records of access to services and health outcomes.^{16 17}

Nor do international comparisons necessarily match apples with apples. The Organisation for Economic Cooperation and Development’s (OECD) measure of member countries’ medical specialist workforces is frequently referenced in the literature. But despite the OECD’s attempts to standardise the data across countries, the quality of data provided to the OECD is variable, as the quality of many national health workforce databases is inadequate, with information gaps, especially in the private sector.¹⁸ There is also variation in how countries report their workforce numbers, with some reporting only specialists in clinical practice (excluding those primarily employed in research, teaching etc), some including all ‘professionally active’ registered doctors and some reporting all ‘licensed physicians’ (ie, not necessarily employed); some include trainee specialists in their ‘specialist’ category, as per the OECD definition, but others do not.

Notwithstanding these inconsistencies, New Zealand has for many years been placed among the bottom group of OECD countries in terms of specialists per capita. Countries such as Canada and Ireland rank even lower, though Canada’s specialist-plus-trainee workforce appears to be under-represented as it excludes more than 4700 ‘visa trainees’ and fellows (an estimated 9% of the workforce). New Zealand’s reported figures, on the other hand, appears to overstate workforce numbers: using a consistent ‘specialist’ definition, they are 15% higher than the Medical Council of New Zealand’s (MCNZ’s) Medical Workforce Survey data and 8% higher than data compiled by the Ministry of Health, which supplies the OECD with the workforce figures.ⁱ The ASMS has requested an explanation but as at the time of publishing has not received a response.

ⁱ Data is sourced from Medical Council of New Zealand Medical Workforce Surveys. Data are collected as part of the renewal of practising certificates over four periods, based on the doctor’s birth date. The four periods of data for the 2016 report are November 2016, February 2017, May 2017 and August 2017.

Further, like New Zealand, reports from Canada and Ireland indicate specialist workforce shortages which are affecting doctors' health as well as access to health care. In Ireland, a study of wellbeing of hospital doctors found 80% of doctors reporting significant levels of stress, including one in three doctors reporting symptoms of burnout.¹⁹ In Canada, a recent study found one in four hospital doctors reported symptoms of burnout and a third screened positively for symptoms of depression.²⁰ And in Denmark, which sits above New Zealand in the OECD rankings, a survey has indicated a shortage of at least 500 medical specialists.²¹

Shortfalls in supply of medical specialists will inevitably influence the availability of their services.

In the Euro Health Consumer Index, an annual evaluation of the effectiveness of 35 European countries, including a range of measures relating to accessibility, outcomes, range and reach of services and patient information, Ireland was ranked equal last in 2016 for accessibility (access to a family doctors and hospital specialists, and waiting times for elective surgery, cancer therapy, CT scans and treatment in an emergency department). Denmark was ranked 18th.²²

In a New York-based Commonwealth Fund study comparing the health system performance of 11 countries,ⁱⁱ using 23 health system performance indicators in five domains, Canada was ranked last in terms of waiting time to see a specialist, waiting time for elective surgery and waiting time in emergency departments. It was ranked 10th in a broader of measure of access, 9th in health care outcomes and equity, and 9th overall. (Table 1)

Table 1: Comparisons of the performance of health systems in 11 countries, 2015/16

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL RANKING	2	9	10	8	3	4	4	6	6	1	11
Care Process	2	6	9	8	4	3	10	11	7	1	5
Access	4	10	9	2	1	7	5	6	8	3	11
Administrative Efficiency	1	6	11	6	9	2	4	5	8	3	10
Equity	7	9	10	6	2	8	5	3	4	1	11
Health Care Outcomes	1	9	5	8	6	7	3	2	4	10	11

Source: Commonwealth Fund 2017.
Data from 2015 & 2016.

New Zealand's performance on efficiency and quality of care is among the best, being ranked 2nd and 3rd respectively, with the country having an overall ranking of 4th. Its main weaknesses are reported in poor equity, and mediocre access and health outcomes. In measures relating to accessing hospital specialist services, New Zealand ranked 7th for emergency department waiting times, 9th for waits for treatment after diagnosis, 9th for waits for elective surgery, and 10th-equal for access to diagnostic tests (eg, CT, MRI scans etc). On a measure of mortality amenable to health care - that is, deaths that could have been prevented with timely care - New Zealand was placed 10th, with the United States recording the worst rates.^{23 24}

ⁱⁱ Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States.

Table 2: Euro Health Consumer Index: Top 10 performers of 35 European countries, 2016

	NETH	SWITZ	NOR	BEL	ICE	LUX	GER	FIN	DEN	AUS
Overall Ranking	1	2	3	4	5	6	7	8	9	10
Patient rights & information	2	5	1	<i>13</i>	4	<i>17</i>	<i>13</i>	7	5	7
Accessibility	5	1	<i>23</i>	1	<i>13</i>	5	8	<i>19</i>	<i>19</i>	5
Outcomes	1	1	1	<i>12</i>	1	9	1	1	7	<i>16</i>
Range and reach of services	1	<i>13</i>	3	7	3	9	20	3	3	12
Prevention	4	6	1	<i>14</i>	2	4	6	6	<i>14</i>	6
Access to pharmaceuticals	1	1	6	<i>12</i>	<i>18</i>	<i>12</i>	1	6	6	6

Source: Health Consumer Powerhouse 2016

Note: Figures in italics indicate equal ranking within the total 35 countries

Matching the best performers

On the face of it, considering measures of access to specialist services alongside the broader measures of quality, equity and health outcomes, the Netherlands, Australia and the United Kingdom (UK) appear to be the standard-setters.

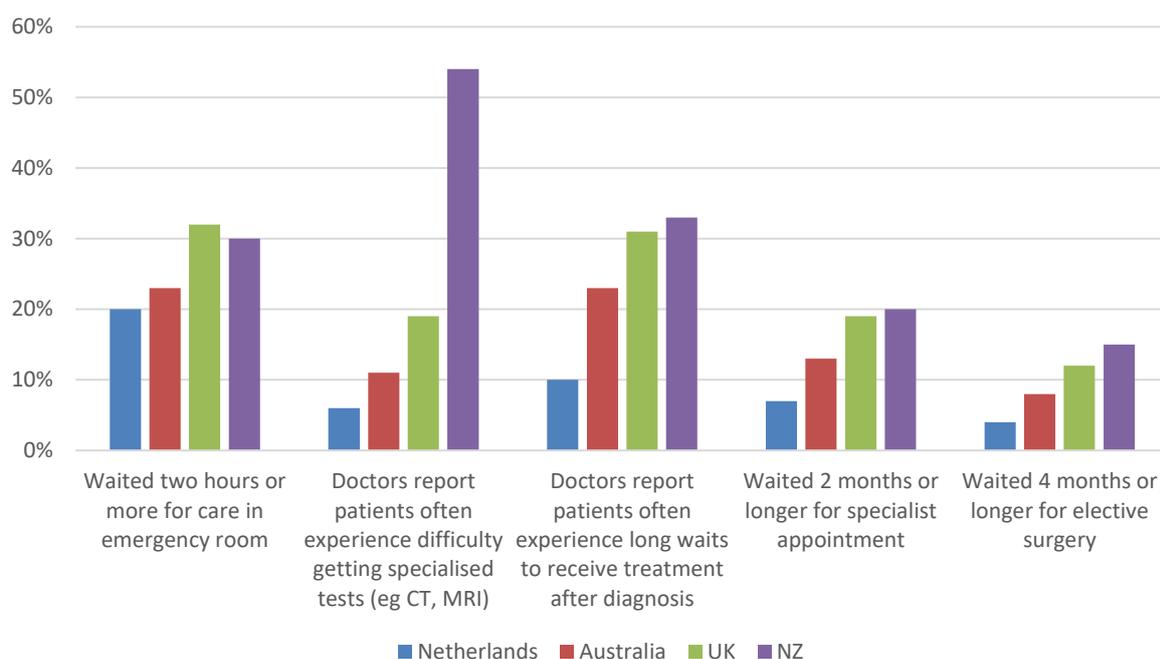
The Netherlands

In the Commonwealth Fund study the Netherlands is ranked best in terms of access, second-best on equity and third-best overall. In the Euro Health Consumer Index (Table 2), using different performance measures and methodology but including assessments of accessibility and outcomes, the Netherlands is the top overall performer of 35 European countries. Further, rates of premature mortality, including mortality amenable to health care, is relatively low, and an OECD 'state of health' report on the Netherlands indicates "there is no sign of acute shortages of health professionals" (though there are concerns of growing waiting lists).

The main weakness of the Netherlands' health system, which runs as a private insurance market under regulated competition, lies in poor measures of administrative efficiencies, but most indicators reflecting on the adequacy of the workforce are positive.

Australia

Australia, ranked second overall in the Commonwealth Fund study, is the top performer for health care outcomes and administrative efficiency. It is ranked second on the quality of care and fourth on access (a lower ranking due mainly to access affordability issues rather than timeliness of treatment, for which it scores well [Figure 1]).



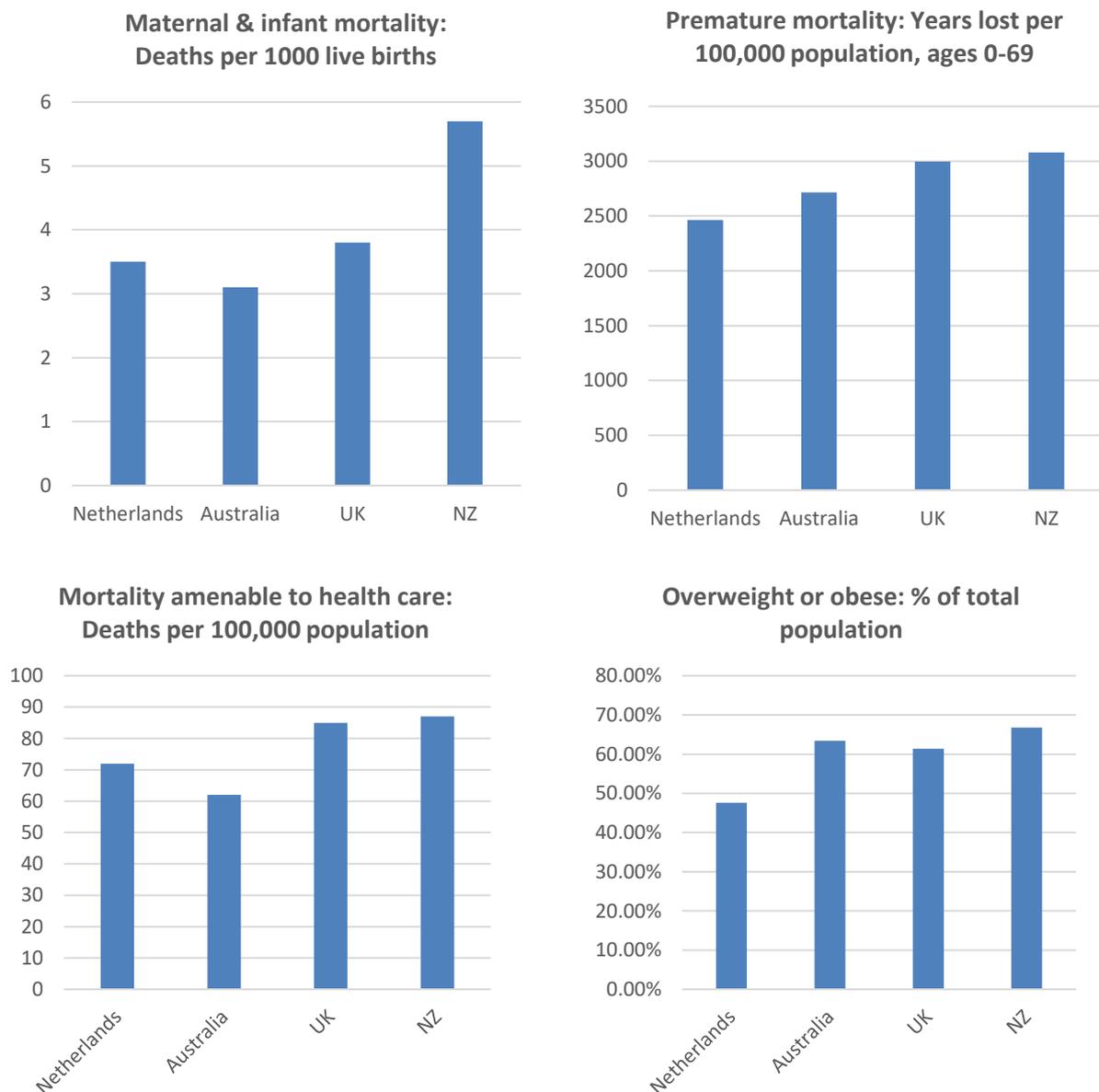
Source: Commonwealth Fund 2017

Figure 1: Waiting times for specialist services, 2016

Again, on the available evidence and health indicators, Australia may also be an applicable specialist workforce benchmark for New Zealand. Australia’s population is of a similar age structure to New Zealand’s (15% of Australians and New Zealanders were aged 65 and over in 2016). Both countries have a near balance of hospital specialists and general practitioners, with a specialist:GP ratio of 10:9 in Australia and 10:8 in New Zealand (including other doctors practising in primary care).^{25 26} Both countries have a similar number of nurses on a per capita basis (11.6/1000 population in Australia and 10.3/1000 in New Zealand).²⁷ New Zealand and Australia also share a common medical training system and medical colleges, as well as having well-established social and economic ties, and it may be reasonably assumed that New Zealanders in general would expect New Zealand’s health system to be at least on a level with Australia’s.

Australia’s weakness is in poor equity, where it is ranked just ahead of New Zealand. Further, a national study published in 2013 found 28% of hospital consultants reported high levels of emotional exhaustion and the main sources of stress reported by all doctors were lack of work-life balance and workloads.²⁸ Despite workforce increases over recent years, Australia continues to experience specialist shortages in some parts of the country and in some specialties.^{29 30 31} Workforce projections indicate a range of specialties will still be in short supply well beyond 2021.³²

In addition, high-level health indicators suggest New Zealand has a more acute health need than Australia (Figure 2). Among the main causes of premature mortality – cancers, circulatory diseases, respiratory diseases, and external causes such as accidents and suicides – New Zealand has the worst rates compared to the UK, the Netherlands and Australia, especially the latter two. New Zealanders are two-and-a-half times more likely to die prematurely of heart disease than Dutch people and nearly 30% more likely than Australians. New Zealanders are nearly three times more likely to die prematurely from a traffic accident than Dutch people and 40% more likely than Australians.³³



Source OECD Health Data, 2016; European Observatory on Health Systems and Policies 2017. Note: The Netherlands' obesity/overweight statistics are self-reported.

Figure 2: Health indicators, Australia, Netherlands, UK and New Zealand, 2016 or nearest year

United Kingdom

While the UK is ranked the best performer overall in the Commonwealth Fund study, despite well-reported shortcomings over recent years, including workforce shortages, it is ranked second-to-last on health care outcomes. Its third placing for access (based on six measures of affordability and 10 measures on timeliness of treatment) is due to a high score for affordability but performs relatively poorly for timelines (Figure 1). In the European reports, the UK health care system has never made it into the top 10 performers, mainly due to poor accessibility, which is assessed on six measures of waiting times for treatment, five of them relating to hospital services.

A recent King's Fund report reveals there are over 100,000 vacancies for all staff across NHS trusts (1 in 11 posts), and a National Health Service (NHS) survey showed that 38% of staff had felt unwell during the previous 12 months due to work-related stress. The report indicates specialist shortages in a number of areas, especially psychiatry.³⁴ A recent survey by the Royal College of Physicians found 53% of consultants and 68% of trainees reported there were 'frequently' or 'often' gaps in hospital medical cover that raised significant patient safety issues.³⁵ These and other reports reflecting the state of the specialist workforce in the UK indicate it is an example to avoid.

Workforce parity with the best performers

The available high-level evidence suggest the Netherlands' has an adequate supply of hospital specialists to meet the country's health needs within reasonable parameters. Of note, there is a strong incentive for the Netherlands to train and retain enough of its own doctors because it is hard to recruit IMGs, even from within Europe, owing to the difficulty in learning and speaking Dutch compared with other languages. Just 2% of the total medical workforce are IMGs, compared with 42% in New Zealand.

Based on European specialist workforce data and Dutch information on specialist trainee figures, in 2016 the Netherlands had an estimated 140 specialists per 100,000 population (excluding trainees). Based on New Zealand Ministry of Health data, New Zealand had 120/100,000 (excluding trainees).³⁶

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On those figures, to be on a par with the Netherlands in 2016, New Zealand would have needed approximately 1000 additional specialists.

Australia presents a less-than-optimal target given the factors discussed above. Based on Australian government workforce figures, not including specialist trainees, in 2016 Australia had an estimated 135 specialists per 100,000 population. To be on a par with Australia in 2016, New Zealand would have needed more than 700 additional specialists.³⁸

Surveys of clinical leaders

Another way of assessing the adequacy of the hospital specialist workforce is to ask those with on-the-ground knowledge of clinical staffing needs – the heads of hospital departments. To this end the ASMS is conducting a series of studies using surveys of clinical leaders in selected DHBs to ascertain how many senior medical staff (Senior Medical Officers, SMOs) are required, in their assessment, to provide safe, good quality and timely health care for those who need it.

The surveys ask clinical leaders (generally head of departments) not only about the adequacy of staffing to meet clinical needs but also to fulfil other essential roles such as training and supervising, and time to provide effective patient-centred care, which involves among other things SMOs spending more time with their patients so they are better informed about their condition, their treatment, any treatment options, and benefits and risks. Patient-centred care has been shown to not only improve the quality of care and health outcomes for patients but also improve health service efficiency and cost-effectiveness.

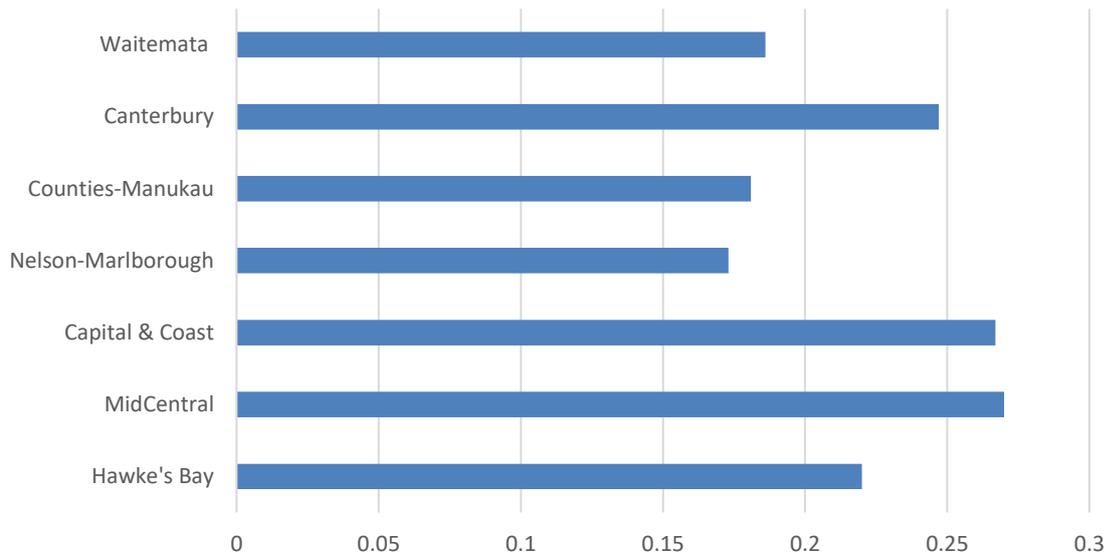
Questions also sought estimated staffing requirements to enable SMOs adequate access to leave, including sick leave, noting the high rates of ‘presenteeism’ reported by SMOs, in part owing to lack of staff cover and concern about the effects on booked patients and additional pressure on colleagues.³⁹

To date, seven studies have been completed, starting with Hawke’s Bay DHB in February 2016, followed by MidCentral (2016), Capital & Coast (2016), Nelson-Marlborough (2016/17), Counties Manukau (2016/17), Canterbury (2017) and Waitemata (2019). The estimated additional SMOs needed to provide safe, quality and timely health care at the time of the surveys is summarised in Figure 3.

The average assessed SMO staffing shortage across the seven DHBs is 21.8%. Translated across the whole SMO workforce this would have amounted to a shortage of approximately 1000 specialists and 100 medical and dental officers in 2016.

To put that into an international perspective, an additional 1000 specialists in 2016, assuming trainee specialist numbers increased by a similar proportion, would still see New Zealand in the bottom half of OECD countries.

Further, such an increase would require an extensive recruitment campaign for overseas specialists and trainees, based on a preliminary assessment of trends in domestic supply of new specialists and rates of retirement. This will be examined further in the second part of this examination into workforce shortages.



Source: ASMS surveys of clinical leaders. Full reports available: <https://www.asms.org.nz/publications/researchbrief/>

Figure 3: Estimated SMO staffing shortfall as a percentage of current staffing allocations

Conclusion

High-level international comparisons of specialist workforces, taking into account various performance measures and health needs indicators, suggest an additional 1000 specialists are needed in New Zealand to provide a good quality, accessible service. Staffing needs assessments by DHB Head of Departments also indicate that to achieve best practice and greater effectiveness and efficiency approximately 1000 additional specialists are required.

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