

Securing a Sustainable Senior Medical and Dental Officer Workforce in New Zealand: **the Business Case**

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Association of Salaried Medical Specialists & 20 District Health Boards, New Zealand

ASMS

Association of Salaried Medical Specialists

20 District Health Boards

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Glossary of Terms

Senior Medical Officer (SMO): used in this document as an umbrella term inclusive of senior medical and dental specialists and medical and dental officers (where the term 'senior doctor' is used this also means SMO).

Medical or Dental Officer: a general registrant employed in a hospital who is not in a training programme.

Specialist: used in this document to mean a doctor registered by the Medical Council of New Zealand in a vocational branch of medicine other than general practice or accident and emergency medicine.

Resident Medical Officer (RMO): a term including house officers and registrars from postgraduate year (PGY) 1 to those nearing the end of specialist training.

Registrar: a doctor in a training programme to become registered in one of the vocational branches of medicine (there are also doctors on registrar rosters who are not in training programmes who are referred to as registrars).

Junior doctor: a term synonymous with RMO but falling out of use in New Zealand.

Vocational Registrants: doctors who are registered with the Medical Council in a vocational branch, including general practice and accident and emergency medicine.

International Medical Graduate: a doctor whose primary medical degree was gained in a country other than New Zealand.

Adverse event: an unintended and undesired occurrence in the healthcare process because of the performance, or lack of it, of a healthcare provider and/or the healthcare system.

1. Executive Summary

- 1.1 *"We have a workforce crisis in New Zealand because we need to maintain more of our hospital specialists, I say yes we do, it's our number one priority." – Hon Tony Ryall¹*
- 1.2 New Zealand, **like** many other countries around the world, is facing increasing demands for health services, due in large part to the growth and ageing of its population but also because of advances in medicine and increased public expectations of access to these.
- 1.3 **Unlike** other developed countries New Zealand has the lowest ratio of specialists per thousand population in the OECD **and** has the highest proportion of international medical graduates (IMGs) of any country in the OECD, a third of whom leave within 9 years of registration, **and** we lose around 16% of New Zealand trained specialists within 9 years of starting their specialist career. This has left our DHB senior doctor workforce both over-extended and vulnerable.
- 1.4 The Government has embarked on a programme to address the medical workforce crisis. The training of junior doctors will be addressed through recommendations of the RMO Commission for a revitalised apprenticeship model of medical training. Projects led by Health Workforce New Zealand include the phased doubling of medical school intake by 2015, financial incentives to retain doctors, improvements to general practitioner training and a mentoring programme for junior doctors. To be effective these will **all** require increased input from senior doctors.
- 1.5 There will be a several year time lag before these projects have significant effect. In the meantime the SMO workforce will have to increase their direct involvement in clinical care, as well as train, mentor and lead these initiatives.
- 1.6 The Government has six health targets aimed at improving the health of New Zealanders and has also embarked on an ambitious programme of clinical leadership. International evidence suggests that this is the strategy with the best chance of improving accessibility, safety and quality of health services while managing the increasing costs of health care.
- 1.7 These initiatives are at risk because the New Zealand SMO workforce is caught in a downward spiral where junior doctors complain of poor access to good quality training by senior doctors, who are unable to train them because they are dealing with increased clinical demands. Where clinical leadership is lacking because of high proportions of short-term locums our own well-trained and culturally attuned generalists leave to be replaced by IMGs, of whom between 16% and 20% leave within 2 years.
- 1.8 The evidence gathered in this business case shows that adequate increased senior doctor capacity will improve the training of junior doctors and through clinical leadership achieve gains in safety, reduce waste, improve collaboration between primary care and secondary care and ensure the regional and national coordination of our health services.
- 1.9 Without adequate measures to retain our senior hospital doctors, and our New Zealand graduates once they have finished their specialist training, we will be unable to reduce our dependence on overseas-trained doctors or rebalance our workforce. We will not achieve the correct proportion of generalists and sub-specialists, nor will we have the correct proportion of senior doctors to doctors-in-training.

- 1.10 Investing in SMO remuneration and conditions is recommended in this Business Case in order to enhance SMO workforce in DHBs which is a high Government priority. An initial investment pathway over three financial years commencing 2011-12 is recommended which is expected to realise increasing sustainable financial benefits during this period and increasingly beyond it.
- 1.11 The 20 DHBs and the Association have committed to pursue quality improvement and clinical leadership and better integration with primary care. There are some actions which have been recommended from the DHBs and ASMS which will change the way SMOs are utilised and potentially reduce service demand, as well as improve SMO retention:
- Increase focus on clinical leadership in practice
 - Change existing service models
 - Increase integration and regional clinical networks
 - Increase investment in the medical and dental specialist workforce
 - Improve quality and safety using a reinvestment strategy

These measures are further outlined in this document.

- 1.12 SMOs will be expected to:

- Lead the identification of issues with current work practices and suggest possible solutions
- Act in an advisory capacity to aid case management with efficiency initiatives
- Identify opportunities to streamline systems and/or processes to improve DHB capacity and throughput
- Take a 'whole of patient' approach to the provision of healthcare and reduce silos between other specialties and other health professionals
- Enhance the patient's experience and outcome

- 1.13 It is envisaged that these improvements will be monitored through a set of 'public quality accounts'.

- 1.14 Once SMO capacity has started to build, quality improvement initiatives and waste reduction will begin to return savings to fund this investment, but it is unrealistic to expect these savings to appear until 2012-13 to some extent and substantively from 2013-14 and beyond, hence up-front investment is required.

- 1.15 This business case outlines the problem (section 3), canvasses two future options (section 4), describes the path to a sustainable future (section 5), the shape and timing of the investment needed (section 6) and provides a menu of actions from which DHBs and their senior medical and dental officers can commit to make the required savings alongside a Government commitment to invest in the senior medical and dental workforce as a priority.

2. Introduction

- 2.1 New Zealand, like many other countries around the world, is facing increasing demands for health services, due in large part to the growth and ageing of its population. This increase in demand is coupled with a strain on supply seen through a shortage of Senior Medical and Dental Officers (SMOs) resulting in a stretched workforce that is coping with increasing pressure.
- 2.2 The Government has acknowledged that the SMO workforce needs to be addressed as a priority. Medical school intakes are being increased, and financial incentives have been introduced to help retain newly qualified doctors and doctors embarking on specialist vocational training. A programme of activities is to be implemented by Health Workforce New Zealand (HWNZ) for the health workforce as a whole. This includes promotion of innovative service models to, among other things, ensure the most efficient use of SMOs' time, and a better coordinated recruitment programme.
- 2.3 However, the effects of these positive measures on the supply of SMOs will not be seen for some years. The next 10 to 15 years will see the need for greater input from SMOs in teaching the increased numbers of medical students and junior doctors. Implementing the recommendations of the RMO Commission, adopted by the Government, requires SMOs to play a greater role in RMO training, education and supervision. Senior doctors will also need to undertake more clinical duties in order to allow RMOs protected time for training.
- 2.4 Some of the Government's other key policy objectives also have significant implications for the SMO workforce. They include comprehensive clinical leadership as envisaged by the Government's In Good Hands policy statement and by the Time for Quality agreement between the ASMS and the 21 DHBs; enhancement of integration within the spectrum of care, including primary and secondary; achievement of clinical networks and regional service collaboration and delivery between DHBs; improvements in safety and quality of services; the whole-of-hospital changes to achieve the government's six-hour target for emergency departments; the year-on-year increases to elective volumes; and improvements in access to cancer treatment.
- 2.5 These policy objectives are aimed at improving the performance and cost-effectiveness of the health services to alleviate pressure and to meet the challenges of healthcare demand, and to provide improved health outcomes for New Zealanders.
- 2.6 In facing these challenges, changes need to be made. Achieving the Government's objectives on a sustainable basis is largely dependent on the capacity of the specialist workforce. Our assessment, as outlined in this document, is that the SMO workforce currently lacks that capacity. Indeed the combination of New Zealand's workforce shortages, the growing demand for services and increased global competition for specialist staff, is making services increasingly vulnerable.
- 2.7 To attempt to fill the gaps in the SMO workforce, services have become heavily dependent on importing international medical graduates (IMGs), who have a higher turnover rate than New Zealand-trained doctors. Many are trained in countries to meet that country's needs rather than New Zealand's needs. Growing international competition for specialists is making it increasingly challenging to find staff, which has led to an increased use of locums, whose services cost significantly more than permanent salaried senior doctors and dentists. Such measures, though currently unavoidable, are inefficient and unsustainable.

- 2.8 The task of attracting our doctors back to New Zealand is becoming increasingly important. With so many New Zealand doctors working in countries like Australia and other OECD countries (equivalent in number to about 50% of the IMGs working here), there is potential for New Zealand to both address shortages and reduce dependency on overseas doctors in a relatively short time. The available data indicate a virtual “revolving-door” element to the DHB specialist workforce where we are losing about as many specialists as we are gaining, so improving retention will have an even greater impact.
- 2.9 Reflecting our agreement on the scope and nature of the problem, ASMS and the DHBs have coordinated our efforts in order to identify ways to meet the challenges ahead. Key themes were examined at a series of four DHB-ASMS workshops covering: the state of the senior medical workforce with respect to recruitment and retention; the Australian medical labour market; development of extensive and comprehensive clinical leadership at all levels of the specialist workforce; and SMO-RMO relationships and roles in light of the recommendations of the RMO Commission.
- 2.10 This Business Case to secure a sustainable medical and dental specialist workforce has been jointly developed by DHBs and ASMS from common understandings arising from those four workshops and examination of the latest available data on the specialist workforce. It describes a desired future state of healthcare, complementing HWNZ’s programme of activities and reinforcing their viability. Where additional investment is needed, particularly for developing the current and future specialist workforce, the potential sources of that investment are identified.
- 2.11 While each DHB will differ in the set of clinically appropriate initiatives it chooses to employ, the underlying assumption of this document is that action will be taken, and the resulting improvement in quality and care for patients will be tangible. The model essentially sees a commitment by the Government to adopt an approach of an initial investment as recommended in this Business Case, followed by reinvestment of funds gained from initiatives each DHB selects from those itemised in the actions menu in this business case.
- 2.12 Workforce investment is central to our current negotiations for a new national multi-employer collective agreement (MECA). The Minister’s response to this business case will inform those negotiations.

Business Case Methodology

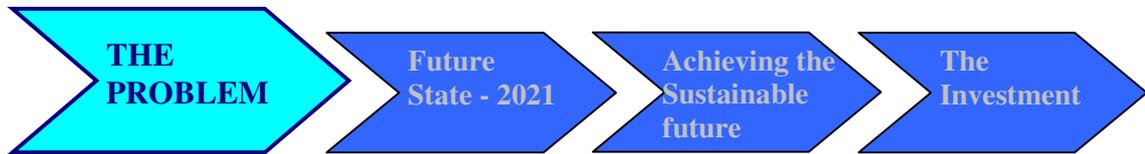
- 2.13 The business case includes a compilation of evidence, from New Zealand and overseas, of the qualitative and quantitative benefits of implementing the proposed actions. New Zealand medical workforce statistics have been supplied by the MCNZ and DHBNZ. DHBNZ has also supplied additional quantitative data, including that relating to the employment of locums, vacancy rates, medical training costs, recruitment costs, and migration of doctors to Australia.
- 2.14 The business case also includes some indicative costs of implementation over the next three years.
- 2.15 The development of the business case has been overseen by a steering group comprising representatives of the ASMS and DHBs.
- 2.16 Quality Improvement data has been supplied by Counties Manukau DHB and Canterbury DHB

2.17 Information on exam pass rates to become a specialist has been supplied by some of the Medical Colleges.

Assumptions

2.18 The following key assumptions have been made in compiling this business case:

- Willingness of SMOs and managers to work effectively in partnership to implement service development and change as and when required.
- Addressing staff shortages, and increasing the supply of specialists, will occur incrementally.
- Improvements in salaries and conditions will be sufficient to have a significant impact on recruitment and retention.
- There are no policies introduced overseas that undermine the ability to achieve the gains identified.



3. The Problem

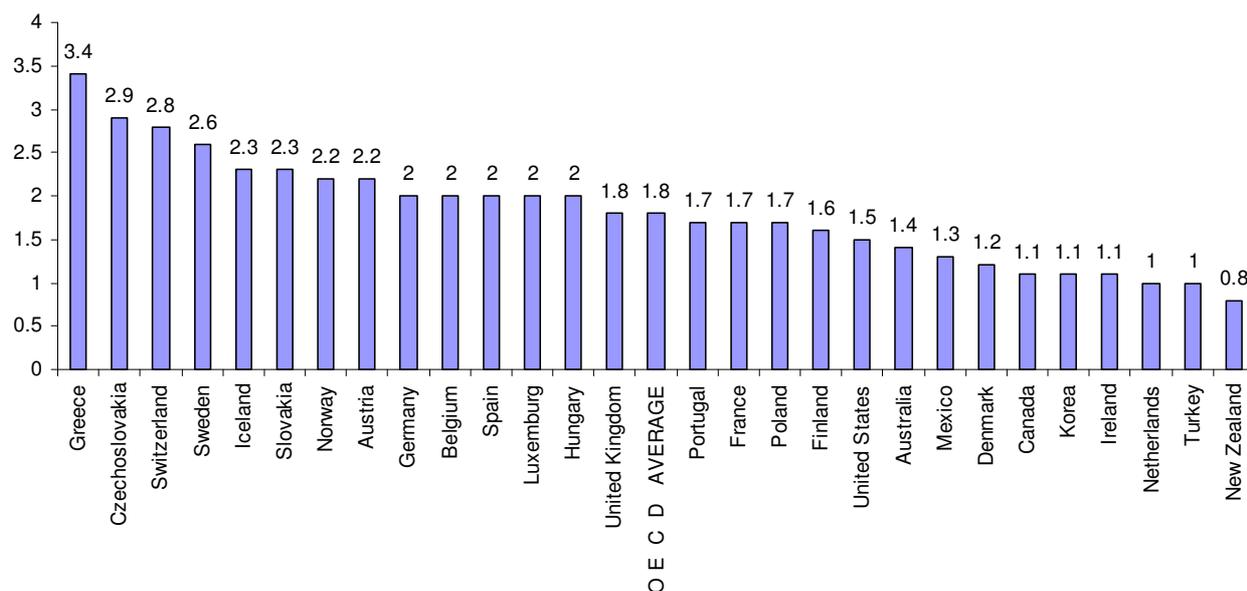
Overview - The New Zealand Specialist Workforce

- 3.1 OECD statistics show that New Zealand is at the bottom of the OECD table in terms of the number of specialists per 1000 population (Figure 1).
- 3.2 New Zealand was short of well over 600 specialists in 2008, according to the available international benchmarks. Nineteen of 26 specialties and sub-specialties for which specific data are available require workforce increases of more than 20% to meet the recommended specialist-to-population ratios. Eight require increases of more than 50%, and four require increases of at least 100%. (Appendix 1).^a
- 3.3 The SMO Commission described the state of our specialist workforce as putting the health system in a “vulnerable situation” due to staff shortages.^b
- 3.4 Shortages are in part due to an inadequate supply of doctors coming through New Zealand medical schools. Perhaps even more importantly, we have the second-highest emigration rate of doctors in the OECD and, to attempt to fill the gaps, the highest dependency on overseas-trained specialists (41% of the workforce).
- 3.5 Increasing international competition for specialists and the relatively high turnover rates of overseas-trained specialists have led to a growth in the number of medical specialties on Immigration New Zealand’s Long-Term Skills Shortage List in recent years – from eight in 2004 to 11 in 2009 (Appendix 1).

^a Ideally, indicators to assess medical workforce adequacy should include regular analysis of a range of factors, including: unfilled positions, unmet need and waiting times in elective surgery, patient access, hours of work, quality and safety measures, referring practitioner assessment of access, consumer assessments of access, and views of practitioners in the workforce under review, as well as specialist-to-population benchmarks (which should be updated regularly to take account of the dynamic nature of health service delivery)

^b The Director-General of Health’s Commission on Competitive and Sustainable Terms and Conditions of Employment for Senior Medical and Dental Officers Employed by District Health Boards.

Figure 1: Practising Specialists per 1000 population in OECD Countries 2007 (or latest year available)^a



3.6 More recent and detailed figures supplied by the Medical Council indicate New Zealand had 0.97 specialists per 1000 population in 2010 (4262 specialists). However, the growth is falling short of need. From approximately 300 specialists entering the workforce each year, the average net growth is only 160 (Table 1), and District Health Board New Zealand's workforce data suggest the growth is occurring mostly in the private sector.

Table 1: Practising medical specialists in New Zealand

	2005	2006	2007	2008	2009	2010
Vocational Reg/APC/NZ address*	3,451	3,536	3,757	3,903	4,060	4,262
New vocational registrations (excluding GPs)	333	276	305	303	296	n/a

Source: MCNZ

* These figures represent doctors on the register with a vocational scope of practice, a current practising certificate and a New Zealand address as at 31 March of that year. It is a count of unique doctors, so does not double-count those with multiple vocational scopes. The figures exclude general practitioners and doctors in accident and medical practices unless they also have a vocational scope that is not one of these scopes (i.e. occupational medicine). The figures include short-term registrants as at 31 March of that year.

These figures will be higher than those published from the annual workforce surveys, which do not take account of survey non-responses.

^a The numbers are based on head counts. Ireland, the Netherlands, New Zealand and Portugal report the numbers of specialists entitled to practise (resulting in an over-estimation). Australia, Spain, Denmark, Finland, Sweden and Greece report 2006 numbers; Slovak Republic reports 2004 numbers. Source: *Health At A Glance*, OECD 2009.

Workforce Supply

DHB Specialist Inflows and Outflows

- 3.7 Data from DHBNZ's Health Workforce Information Programme (HWIP) show the number of specialists working in the public sector dropped from 3188 as at June 2006 to 3113 as at June 2009.^a The numbers fluctuate, but over three years represent a loss of approximately 75 specialists. (Details are provided in Appendix 2)
- 3.8 This suggests that over recent years the large majority of the 300 new specialist registrations per year are being employed, at least in part, by DHBs but resulting in an average net annual loss of DHB specialists. The only alternative explanation is that the large majority of new entrants into the specialist workforce have been employed exclusively in the private sector, which is unlikely since in 2008 only 8% of specialists reported working exclusively in the private sector.²
- 3.9 Given the fluctuations in the HWIP quarterly reports, this business case has assumed DHB-employed specialist workforce outflows equal the inflows.

International Inflows and Outflows

- 3.10 The global competition for specialists is well documented. Current trends indicate New Zealand's position in this contest of recruitment and retention presents no small challenge. With the second-highest emigration rate of doctors in the OECD, and the highest dependency on overseas-trained specialists, New Zealand has in effect become a medical training ground for other countries, especially our nearest neighbour, Australia, which each year attracts an estimated 280 New Zealand doctors (settlers, and permanent and long-term stays), including many specialists.³ (See Appendix 7)

Inflows

- 3.11 While 41% of the New Zealand specialist workforce are international medical graduates (IMGs), in some specialties on the Long-Term Skills Shortage List the IMG proportion is close to 50% and for psychiatry it is approaching 60%. Over the last three years, IMGs have comprised approximately half of new specialist registrations.
- 3.12 Employment of IMGs (SMO and RMO) is essential to the running of our health service, and the international "brain exchange" of doctors facilitates the sharing of knowledge, experience and research, but New Zealand's excessive reliance on IMGs often adds further to the workloads of SMOs in a number of ways.
- 3.13 Retention rates of IMG specialists are poorer than those of New Zealand-trained specialists. While MCNZ data show that around 84% of a cohort of New Zealand doctors with vocational registration are retained nine years-post registration, around only two-thirds of vocationally registered IMGs are retained over the same period. In the most recent figures (2007 & 2008), the number of IMGs lost in the first year following vocational registration was 20% and 16% respectively, compared with an average 8% in the years 2000 to 2006.

The higher turnover of IMGs results in an increasing share of senior medical posts being filled by clinicians on short-term contracts. In smaller hospital boards this can result in a highly diminished critical mass of experienced medical leaders with the capacity to bring cohesiveness to the medical service as a whole in the DHB. The higher share of posts for

^a Provisional figures

doctors-in-training held by IMGs generates a greater supervisory load for senior clinicians, without the longer term benefit to New Zealand of an increase in vocationally-trained specialists who are most likely to stay permanently in New Zealand.

Medical Training Board 2008⁴

- 3.14 The Medical Council has recently introduced a new method of supervision of IMGs involving an accreditation programme requiring service providers to satisfy the MCNZ that appropriate support and supervision is provided to IMGs. While this is a positive measure that may help to improve IMG retention rates, it will also add to SMOs' current supervisory workload.
- 3.15 Our high dependence on IMGs also puts the health system in a vulnerable position in view of the increasing international competition to attract health professionals.

Given the relative small size of its health workforce and its heavy reliance on immigration, a sudden change in the international migration flows, which could result from policy changes in OECD countries beyond the control of New Zealand authorities, could have a dramatic impact on New Zealand.

Zurn, Dumont, OECD 2008⁵

- 3.16 The increasing competition means that attracting the specialists that we need will most likely come at an increasing cost, with increasing difficulties to attract the best skills. However, the practical reality of New Zealand's situation is that we have no option but to continue to depend on a large proportion of overseas-trained specialists, at least in the short to medium term.
- 3.17 At the same time the Medical Training Board (MTB) recommends that in order to ensure New Zealand has a sustainable medical workforce, the proportion of New Zealand-trained doctors practising in New Zealand needs to grow over time.
- 3.18 Increases in the intake to New Zealand medical schools is a positive step forward and will help alleviate pressures on the specialist workforce, in the longer term but, as the MTB noted, improvements in the retention rates of New Zealand-trained doctors are needed, as well as effective policies to attract New Zealanders back from overseas.

Outflows

- 3.19 There are no official statistics kept on the number of specialists emigrating each year. However, an OECD paper conservatively estimates 29% of New Zealand trained doctors are working overseas.⁶
- 3.20 There is a range of "push" and "pull" factors that motivates specialists to leave. Key factors include "onerous" on-call hours, shortages of junior doctors as well as senior staff (resulting in more work for SMOs), lack of administrative support, lack of real non-clinical time, poor relationships with management, unstable staffing with high dependence on locums, lack of time for mentoring young doctors, increasing numbers of staff working part-time putting more pressure on full-timers, as well as remuneration.^a
- 3.21 There is evidence that remuneration is becoming an increasingly important "push" and "pull" factor.

^a Factors identified by delegates at the ASMS Annual Conference in 2008

- 3.22 An unpublished survey⁷ carried out in 2009, followed up a 2002 survey of trainees' career intentions in anaesthesia. The 2009 survey showed that while 80% of the 2002 cohort had intended to eventually work as a specialist in New Zealand, only 64.5% were working in New Zealand seven years later. In 2002, 13% stated Australia as their preferred destination while twice that amount (26%) were working there in 2009.
- 3.23 Significantly, the 2009 survey found that 75% of respondents currently working overseas agreed or strongly agreed that salary was an important influence on choosing their country of residence, whereas respondents working in New Zealand indicated lifestyle and family ties as the main reasons for staying.
- 3.24 The international literature often points to personal and family factors, as well as the importance of pay and conditions, as common reasons for migration or staying put. Generally, the more independent and career-minded the person, the more open they are to moving. But as one Canadian study found:

Despite expressions of discontent with involuntary long hours of work, or inadequate social infrastructure, research capacity or social amenities, discussion invariably settles on relative incomes as the chief determinant of migration..."

The Province of Ontario experienced an average annual out-migration of 81 and an in-migration of 109 physicians over the period. If its fee structure had been 10% higher, the results [of the study] imply that the number of out-migrants would have fallen to 62, and the number of in-migrants would have risen to 134.⁸

Medical Workforce Trends: Australia

- 3.25 Health services in Australia are facing similar pressures to New Zealand's: a growing and ageing population, changing nature of the burden of disease, rising public expectations and medical workforce shortages in many areas resulting in a heavy dependence on international medical graduates (IMGs). Based on the evidence it is therefore anticipated that Australia will continue to compete for New Zealand's doctors. Appendix 8 provides more details on Australian medical workforce trends.

Vacancies

- 3.26 In 2008, DHBNZ's official vacancy rate nationally was approximately 10%. However, data collected by ASMS suggest there are significantly more true vacancies – up to 24%, as opposed to DHB budgeted vacancies. Budget constraints influence the extent of official vacancies as only funded positions are recorded.

Gender and Generational Change

- 3.27 Gender and generational factors will also impact on future specialist workforce requirements. In 2008 women comprised 26% of the specialist workforce, compared with 19% in 2000 and 13% in 1990. Gender statistics for practising registrars indicate the proportion of female specialists will continue to increase in the future. Medical Council data show women work fewer hours than men (41 hours, compared with 47 hours for males, in 2005). Census data show 21% of female doctors work part-time, compared to 6% for males.
- 3.28 However, the Health Workforce Advisory Committee observed that lifestyle and work-life balance aspirations are changing throughout all working populations. "These new aspirations may be more characteristic of generation than gender."⁹

3.29 This is reinforced in a “work-life flexibility” survey of doctors carried out by the Australian Medical Association in 2007, which indicates “attitudes of the medical workforce are changing in line with societal change” and that doctors are placing greater importance to work-life balance¹⁰. Eighty-one percent of survey respondents said they would like greater access to flexible working arrangements, the top three arrangements for specialists being flexible work hours, part-time work, and home-based work. Older generations of doctors were accessing flexible arrangements in greater numbers than their younger colleagues, indicating they were “just as motivated to find a balance between their personal and professional lives”.¹¹

Retirement

3.30 The effect of the ageing specialist workforce is two-fold.

3.31 First, as the SMO Commission¹² noted, there is a sharp drop-off in specialist numbers from age 50 onwards. Within the next five years 21% of the specialist workforce will turn 50, and 17% will turn 55.

3.32 Secondly, Medical Council statistics show the estimated average number of hours worked per week begins to fall as specialists get older. Within the next five years 12% of the specialist workforce will turn 60.

3.33 Says the Commission:

*To some extent it [the drop in numbers from aged 50]may also reflect a loss of SMOs to the system through early retirement or a career change, or they may be leaving New Zealand to practise medicine overseas – a widely held belief across the health sector....*¹³

Workforce Demand

Demographics

3.34 It is widely recognised that a growing and ageing population will require a significantly larger specialist workforce to serve it. Currently about 13% of New Zealanders are aged 65 or over; by 2021 that figure is projected to increase to 17%.

Rising Public Expectations

3.35 In many western countries health services users are becoming more informed and more vocal about the services they expect to receive. In short, future patients will expect their health service to provide:

- (a) a universal and fair service
- (b) safe, high quality treatment
- (c) fast access
- (d) an integrated, joined-up system
- (e) comfortable accommodation
- (f) services designed around individual needs

– “Wanless Report” on the NHS¹⁴

Technological Advances

3.36 The literature indicates advances in technology can potentially reduce demand for services and lower costs or, just as easily, generate increased demand on the health sector and raise costs. Generally to date the latter has occurred in all health systems.

Government Policy Objectives

Senior Medical Officers to Play a Greater Role in Resident Medical Officers' Training

3.37 DHBNZ data show that over recent years the resident doctor workforce has grown far more rapidly than the DHB specialist workforce (Table 2). This has led to a marked increase in SMOs' training and supervision duties at a time when clinical demands have also increased, and actual specialist headcounts have decreased

Table 2: DHB Resident and Senior Doctors: June 2006 and September 2009

	FTEs			Headcounts		
	June 06	Jun 09	Difference	June 06	Jun 09	Difference
House Surgeons	1185.4	1245.6	+60.2	1182	1272	+90
Registrars	2151.2	2765.5	+614.3	2245	2847	+602
Total RMOs	3336.6	4011.1	+674.5	3427	4119	+692
Specialists	2643.8	2651.2	+7.4	3188	3113	-75

Source: Derived from DHBNZ Health Workforce Information Programme, Quarterly Reports (provisional data)

Note: "Specialists" figures exclude Medical Officers of Health

3.38 In addition, the Government's support for the recommendations of the RMO Commission (excluding the single-employer proposal) has further significant implications for the specialist workforce employed by DHBs.¹⁵

3.39 The Commission's findings and recommendations reflect the need for specialists to play a greater role in RMO training and education. However, a paper prepared by the secretariat to the SMO Commission^a and considered by the RMO Commission in its deliberations (and appended to its report) points out:

- The apprenticeship model of learning has many benefits, but implicit in the apprenticeship model is a significant time investment by SMOs to provide doctors in training with quality training and learning experiences.
- The changing health care environment is putting the apprenticeship model under threat.
- Several factors impact adversely on the availability of SMOs to teach resident doctors, including inadequate time for training, growing training demands, and a lack of clearly defined teaching responsibilities and duties in specialists' employment agreements.¹⁶

Inadequate time for training

3.40 The secretariat to the SMO Commission highlighted the competing demands on SMOs' clinical and non-clinical time which limited their opportunities to provide quality training and supervision.

"Feedback from the consultation meetings with SMOs (and RMOs) indicates that a strong commitment to education and training by a DHB can be a significant pull factor for medical recruitment and retention. In practice, however, SMOs often carry heavy clinical and non-clinical workloads associated with meeting hospital's service requirements. SMOs are generally not allocated dedicated time for teaching, supervising and mentoring junior clinical

^a The Commission on Competitive and Sustainable Terms and Conditions of Employment for Senior Medical and Dental Officers Employed by District Health Boards

*staff. This is borne out by the Clinical Training Agency: Summary of Responses to 2006 Training Programme Questionnaire, which found that the most common issue for supervisors was having insufficient time to provide clinical supervision. Both doctors in training and supervisors found that their workloads limited their ability to effectively participate in the training.*¹⁷

- 3.41 The RMO Commission identified specialists' lack of adequate time to enable quality supervision of resident doctors as contributing to job dissatisfaction:

*The requirements of service delivery too frequently take precedence over RMO training. Many RMOs, particularly those in postgraduate year (PGY) 1 and PGY2, are dissatisfied with this situation; not only are they not receiving the teaching to which they are entitled, but the clinical and administrative tasks assigned to them they frequently see as low level and professionally unrewarding.*¹⁸

- 3.42 The Medical Training Board recognised that investment by DHBs in job sizing and increasing non-clinical time for specialists, negotiated as part of the SMOs national collective agreement, had resulted in quality improvements but that implementation of these measures was "variable" and "the impact of this investment in non-clinical activity has not been fully utilised. Part of this investment could be better directed into creating an increased focus on teaching".¹⁹
- 3.43 Increasing heavy clinical demands have meant many SMOs are not able to find the recognised professional minimum standard of time for non-clinical duties.
- 3.44 The MTB points out "there is agreement in the sector that the amount of face-to-face supervision time for many doctors-in-training with their supervisors needs to increase in order to retain effective apprentice learning".²⁰

A growing training workload

- 3.45 Medical Council workforce survey data show resident doctors now constitute 24% of the total medical workforce, when the optimum for a balanced staff mix was considered to be 8% to 12%.²¹ In fact DHBNZ's workforce data (Appendix 2) indicate DHBs now employ more RMOs than SMOs.
- 3.46 While the growth in the number of resident doctors appears a positive sign for New Zealand's future specialist workforce, the poor retention rates – especially for IMGs – indicated in Medical Council workforce data is tending to cancel out much of the potential benefit. This trend appears set to continue. A recently published survey of New Zealand medical students shows that a high number plan to leave the country within three years of graduating. Fifty-six percent of respondents cited financial motivations for going overseas.²² Consequently, New Zealand will continue to rely heavily on IMGs to fill resident doctor positions for the foreseeable future.
- 3.47 The SMO Commission secretariat recognised that while there were increasing expectations for specialists to dedicate more time to their training and supervisory roles, the capacity to fulfil those roles was diminishing.

*"Whilst the Medical Council and the Clinical Training Agency place increasing emphasis on the responsibility of SMOs for the supervision and training of junior staff, there are proportionally fewer of them to undertake these tasks. In addition, SMOs have experienced an upward shift of workload as continuity of care becomes increasingly provided at the consultant level."*²³

- 3.48 In fact that observed “upward shift” of SMOs’ workload will continue as RMOs’ time for training is protected, as recommended by the RMO Commission, so that “resident doctors’ engagement in education and training...determine their role in the workplace rather than the reverse”. The commission acknowledges that “service gaps ...may emerge as RMOs are refocused on training”.
- 3.49 The growth rate in the RMO workforce indicated above is set to continue when the increases in medical school entrants flows on to the medical workforce.
- 3.50 Intakes into medical schools increased in 2004 (from 285 to 325) for the first time since 1982. Intakes rose again, to 365, in 2007. The Government’s plan to increase the number of medical school places by a further 200 over the next five years will mean that between 2004 and 2015 the number of medical school entrants will double, leading to a sharp increase in the number of doctors entering prevocational and vocational training.²⁴

“As medical student graduate and the number of doctors in training increase, the demand on SMOs to provide supervision and training will grow, as will the need to protect time for this purpose.”²⁵

- 3.51 The MTB, acknowledging the investment in medical school intakes, recommended that a corresponding investment is now also needed to ensure there is adequate workforce capacity to do the training. (The plan to increase medical school places by a further 200 represents a government investment estimated at approximately \$300 million a year once it is fully implemented.^a)

DHBs, as the main prevocational training institutions, will require further significant investment in training as the number of doctors to train increases. Part of this investment will need to be an increase in the number of, and support for, those involved in training, most notably senior medical officers (SMOs).²⁶

A lack of clearly defined teaching responsibilities and duties

- 3.52 The SMO Commission secretariat’s paper says more support is needed for specialists undertaking a training role. Greater recognition is needed that quality education and supervision take time. Greater recognition is also needed of the importance of providing opportunities for specialists to gain training skills.

“Good clinical teaching and supervision are central to building a competent medical workforce. SMOs have usually not been trained in how to teach, but are expected to carry out teaching tasks. Historically, there has been little support provided for teaching, but increasingly universities and medical colleges are designing programmes to enhance SMO teaching activities.”²⁷

Development of Clinical Leadership

- 3.53 The Ministerial Review Group (MRG) made a number of recommendations to reinforce the development of clinical leadership, including that:
- (a) Clinical leaders, particularly of those formal national networks established by the Ministry or NHB to meet programmed tasks and defined timeframes, should have a recognised allocation of time for the role and their employer reimbursed to enable back-filling of the position.

^a The cost of training a doctor up to their final year as a registrar is estimated at approximately \$1.5 million per doctor (\$500,000 as an undergraduate and at least \$1 million postgraduate).

- (b) The NHB should develop a cultural change programme aimed at enhancing recognition of and support for health care leaders and the ability of clinicians and managers to form productive partnerships, both within the hospital sector and across sectors.
- (c) DHBs should ensure that a package of resources focusing on leadership skills and qualities is available to support clinicians in leadership positions as part of professional development programmes.
- (d) DHBs should consider including a formal requirement for three to six months within a suitable mentoring partnership for all new appointments to leadership positions.²⁸

3.54 Although the roles, training and performance of clinical leadership and engagement vary between DHBs, as well as the allocated remuneration, there is no doubt that clinical leadership is being viewed as the pivot of the future state of healthcare. For clinical leadership to be employed as recommended by the MRG, local organisational needs, such as additional staff time and additional positions need quantification.

3.55 Nevertheless, the intention is for clinical leadership development not only in the existing models of service within hospitals, but also in new regional and national networks, new regional models of clinical services and new models integrating hospital and community based services. Therefore it is reasonable to assume that formally recognised leadership roles will substantially increase over time.

3.56 To enable effective clinical leadership and engagement to succeed, involvement in leadership activities is required of all individual SMOs. This may involve a broad range of activities, from attending meetings, providing feedback and support to those in formal leadership positions, to fostering team development and a positive working environment.

3.57 As the Chair of Health Workforce New Zealand has stated on a number of occasions, leadership is not discretionary for professionals. Effective and frequent communication, for example, is key to focusing teams on the common goal and to allay unfounded fears or rumours, while care for the team's well-being ensures steps can be taken quickly to deal with problems.²⁹

Improving Quality and Safety

3.58 The Ministerial Review Group (MRG) cited a study which estimated adverse events could cost New Zealand \$870 million per year, of which \$590 million was due to potentially preventable events. While a range of factors contribute to this, there are many examples indicating SMO staffing levels is an important factor.

3.59 For example, an external review of clinical quality at Whanganui Hospital in 2007, prompted by three highly publicised episodes of patient injury and separate public allegations of unsafe clinical practice, reported that all the potential safety issues identified "related to the potential impact of deterioration in SMO staffing levels from the current safe level".³⁰

3.60 The review report went on to say: "Acknowledging the numerous other factors involved, the reviewers concluded that a critical viability issue for Whanganui Hospital is medical specialist retention."

3.61 Staff shortages and heavy workloads meant quality improvement activities such as clinical audit were "not emphasised".

3.62 Whanganui Hospital is no different from many clinical settings where it is difficult to persuade busy SMOs to conduct audit without assigning time and resources. The reviewers felt that for clinical

staff in general, but SMOs particularly, non-clinical time was poorly defined and poorly allocated for the purpose of clinical audit and for the consequent work required to implement the improvement changes that audit reveals.

- 3.63 However, the establishment of an SMO clinical audit coordinator had resulted in clinicians “engaging more in audit activity than previously”.
- 3.64 The undertaking of a large one-year audit that examined the peri-operative phase of total joint replacement is to be commended. The study involved orthopaedic surgeons, anaesthetists and physicians examining transfusion rates and resulted in a change of practice that showed at re-audit 6 months later a significant reduction in cardiac events from 11:115 to 3:165 patients. This audit demonstrates completion of the CQI cycle.
- 3.65 A survey conducted among professionals that sought to canvass practical measures for addressing adverse events in hospitals highlighted, among other things, the importance of clinical audit. But the single proposal judged by survey respondents to have the highest potential effect on reducing adverse events was that the supervision and support of junior doctors be improved.³¹

Developing Innovative Models of Care and a Move to Primary Care

- 3.66 The potential for evidence-based initiatives to improve access and free up time for SMOs to do other work is reason alone for them to be supported and developed. However, the evidence from some studies to date suggests any impact they may have on future demand for specialists may be marginal.

The Specialist Model

- 3.67 Some new models of care in a fully integrated system require increased use of SMOs to achieve maximum benefits. For example, a recent United States study of hospital patients who are cared for by hospitalists^a found the patients had a shorter length of stay – with similar outcomes – as those cared for by family physicians.³² The Californian health maintenance organisation Kaiser Permanente, which employs a relatively high number of specialists, uses far fewer acute hospital bed days compared to other health systems. At Kaiser, “specialists are uncoupled from the hospital and work alongside generalists in multi-specialty medical groups”. They used less than a third of the number of acute bed days than Britain’s NHS.³³

Models of Care Currently Struggling

- 3.68 To achieve greater effectiveness, efficiency and responsiveness, models of care need to be greater than the sum of their parts, and act on a knowledge base of accumulated best evidence that can change quickly and continuously if necessary.³⁴
- 3.69 A prerequisite is to secure the “parts” of the model. Some existing models of care in New Zealand have not lived up to expectation, or their potential, in part because of the lack of specialists and other staff.

^a Physician whose primary professional focus is the general medical care of hospitalised patients. Hospitalists may engage in clinical care, teaching, research or leadership in the field of general hospital medicine – National Association of Inpatient Physicians definition of hospitalist

3.70 The Cancer Control Strategy, for example, incorporates key elements of coordination, collaboration and networking, and patient-centred care provided by multi-disciplinary teams through the “continuum of cancer control”, including consideration of extending roles for some practitioners.³⁵
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3.71 However, a Ministry of Health workforce stocktake noted: “Implementation of the New Zealand Cancer Control Strategy Action Plan 2005–10...cannot succeed without a highly motivated, skilled workforce.”³⁷ The report went on to record a catalogue of workforce shortages, including radiologists, colonoscopists, pathologists, radiation oncologists, medical oncologists, haematologists, medical physicists and palliative medicine specialists. Recruitment and especially retention were cited repeatedly as “key challenges” for these groups.

3.72 Another example is the Ministry of Health Quality Improvement Plan for diabetes and cardiovascular disease (CVD). An Auditor-General’s report on the effectiveness of the “Get Checked” diabetes programme commented that specialist diabetes services feel under pressure.³⁸

The secondary care diabetes specialists commented that if the national referral guidelines were strictly adhered to, they would not have enough resources at the secondary care level to deal with the increased demand. They believed that they only had enough resources to deal with complex, difficult-to-manage cases...Specialist diabetes services will come under more pressure if the numbers of people participating in the programme increase or more people are diagnosed with diabetes.

– Auditor-General 2007

3.73 With regards to cardiovascular disease, Medical Council statistics indicate the number of cardiologists is little more than half the specialist-to-population rate recommended for Australia by the Australian Medical Workforce Advisory Committee (AMWAC).³⁹ A recent national review of cardiac surgery services cites a shortage of anaesthetists and registrars as one of the reasons New Zealand came bottom of a survey of seven comparable countries for heart patients’ access to potentially life-saving surgery.⁴⁰

3.74 An innovative service model adopted by one DHB to reduce waiting times in emergency departments had tragic consequences due in part to a lack of specialists to supervise junior staff.⁴¹

3.75 Current plans to devolve more hospital services to primary care providers are being developed at a time when there are chronic shortages of GPs in many parts of the country. Primary health care does not have sufficient capacity or capability to cater for an ageing population, and the growing expectation to manage more complex patients in the community.⁴²

3.76 Other countries that are exploring new models of integrated and collaborative service provision, such as the United Kingdom, Canada and Australia, have recognised the importance of adequate staffing for progress in such activity. Hence, investigations and trialling of new models are happening alongside a strong commitment to sustainable recruitment and retention strategies. This is particularly so in countries which, like New Zealand, have a larger competitive neighbour.

Developing the Regional Service Models

3.77 To establish regionally focused services, “clustering” of some specialist services may be needed, or networks established. However, specialists will also need to be more available to provide community-based services closer to home.

- 3.78 Increased use of communication technology will undoubtedly reduce the need to travel (be that by patient or clinician). However, the extent to which that may occur is unknown and will vary among specialties.

Government Health Targets

Elective Surgery Rates

- 3.79 The Ministry of Health has advised that some DHBs are faced with frequent surgery capacity restraints “that are often due to shortages of specialist staff”.⁴³ The 2009 Budget included \$70 million for up to 800 additional health professionals over four years to increase services for elective surgery.
- 3.80 Raymont and Simpson (2008) estimated the number of surgeons (in the public and private sectors) needs to increase from 616 in 2005 to 1055 in 2026 to keep abreast of demographic changes and address unmet need. They also estimated that, to replace those that retire, an average of 77 new surgeons are required annually to meet the 2026 target. Annually approximately 37 surgeons graduate from the Royal Australasian College of Surgeons’ surgical training programme in New Zealand.⁴⁴ Medical Council registration data show there were 57 new vocational registrations in all surgical specialties for the year to June 2009.
- 3.81 More recent population projections indicate Raymont and Simpson’s estimates for 2026 should now come forward to 2021. (Their estimates were based on 2001-based medium population projections; 2009-based medium population projections indicate greater population growth.) Increases of a similar scale to that indicated for surgeons will also be needed for anaesthetists. Medical Council data show there were 35 new vocational registrations in anaesthesia in the year to June 2009. Anaesthetists are included on New Zealand’s Long-Term Skills Shortage List, as well as the Australian Critical Skills List.

Emergency Department Pressures

- 3.82 Following the death of a patient attending the Christchurch emergency department in April 2007, an independent review found:

“Individuals such as [Mr A] should expect to receive timely and expert care when attending an Emergency Department. The review panel is of the view that [Mr A] would probably have received similar care in any major ED in the country and that on the evidence presented — the nursing and medical staff did the best they could in offering care to an acceptable standard. What [Mr A] deserved was more timely care, more expert care and a period of observation which may have allowed the true nature of his serious illness to become apparent — this time factor is compromised in many of our Emergency Departments due to inadequate numbers of experienced clinical staff and overwhelming numbers of patients seeking care.”⁴⁵

- 3.83 The review’s recommendations included employment of additional emergency medicine specialists, (now addressed by the DHB).
- 3.84 In a further investigation, the Health and Disability Commissioner reinforced the need for emergency departments to be sufficiently staffed by specialists to enable appropriate levels of supervision of resident doctors. It noted that, “the shortcomings in this case are not confined to Canterbury DHB, and should be viewed in the context of the national and international problem of overcrowding in emergency departments.”⁴⁶

- 3.85 Medical Council data indicates that in 2008 there were 103 practising emergency medicine specialists in New Zealand; the Australasian College for Emergency Medicine estimates New Zealand needs a minimum of 180 specialists to achieve an acceptable standard of care.⁴⁷
- 3.86 Equally important is the specialist staffing needed to avoid in-patient bed blocking and provide a sufficiently resourced model of care (e.g. assessment planning unit) for patients who require admission into the hospital.
- 3.87 There are no studies in New Zealand assessing the extent to which emergency department waiting times are affected by staff shortages in other specialties. However, anecdotal evidence suggests such shortages are limiting the ability of emergency department staff to refer patients for assessment and treatment on to inpatient specialists in a timely manner.

Access for Cancer Patients

- 3.88 In the Canterbury DHB, “FSA referrals are triaged on the basis of the information contained in the referral, and if cancer is suspected the patient will be seen quickly, usually within a month. For many patients, however, cancer cannot be confirmed until diagnostic tests have been completed.” Assuming Canterbury is typical then many patients with cancer would usually start receiving treatment within about 12 weeks from the time of referral.⁴⁸
- 3.89 However, “Canterbury DHB has struggled to start patients on radiation therapy within an acceptable time in recent years due to a number of reasons, including insufficient radiation therapists and radiation oncologists...” The extent to which the DHB had met the targets had “only been achieved as a result of additional shifts by key staff, and will only be sustained for a short period of time”.⁴⁹
- 3.90 The general indications are that in order to achieve and sustain the four-week target, many DHBs will require additional SMOs.
- 3.91 Radiation oncologists are on New Zealand’s ‘Long-Term Skills Shortage List’ and are just one of a range of cancer service specialties listed by the Ministry of Health as being in short supply, including medical physicists, radiologists, colonoscopists, pathologists, medical oncologists, haematologists, and palliative medicine specialists.⁵⁰



4. Future State - 2021

Option 1: The Current Pathway

- 4.1 If the current pathway of recruitment and retention continues, the problems outlined in section 3 will escalate with increasingly negative consequences in the near future. In short:
- 4.1.1 The heavy dependence on IMGs will remain and increase, escalating the high turnover of senior medical staff and increasing the current level of wasteful expenditure by DHBs.
 - 4.1.2 New Zealand's health workforce (and therefore services) will remain vulnerable to the effects of the competitive overseas market and the vulnerability of New Zealand's health system. The impact on provincial DHBs and specialties where staff are already hard to find will be increasingly obvious.
 - 4.1.3 Continued and increasing heavy reliance on locums will be seen, along with the associated increased costs, upholding:
 - lack of continuity of services
 - additional pressures on permanent staff
 - limiting any effects of improving training and supervision, and developing clinical leadership, multidisciplinary teams and clinical networks.
 - 4.1.4 Continued shortages of SMOs will nullify efforts to reduce adverse events. With preventable events estimated to cost \$590 million a year, an opportunity to improve safety and quality while creating savings will be lost. In fact, an increase in adverse events may be seen in some areas.
 - 4.1.5 Some of the Government's key health targets will not be achieved on a sustainable basis as they depend on an adequate supply of specialists across the whole range of specialties, and government objectives will be compromised.
 - 4.1.6 Lack of SMO time outside of clinical duties will prevent the establishment of comprehensive clinical leadership. This will hinder development of multidisciplinary clinical networks, deter reconfiguring services with a more regional focus, inhibit creation of more innovative ways to deliver services, and prevent integration of hospital and community based services. The considerable potential for improved cost-effectiveness and service performance, as indicated in overseas research, will be lost, and the counterfactual of slow, inefficient services will ensue.

- 4.1.7 The proportional imbalance within the medical workforce will continue, with insufficient numbers of SMOs to train and supervise RMOs. This will compound expectations and job stress for SMOs and mean less training for RMOs. Job satisfaction will suffer further and continue to adversely affect recruitment and retention of SMOs and potentially RMOs, resulting in potentially substantial financial losses (see below).
 - 4.1.8 SMOs (and later RMOs) will be lost to overseas competitors.
 - 4.1.9 Increased medical school intakes will have no appreciable impact as graduates will depart the country because of poor training and as they observe senior doctors in New Zealand struggling to meet both clinical and leadership demands.
 - 4.1.10 New Zealand will continue to be the unsolicited training ground for other countries.
 - 4.1.11 Understaffing will mean some services will not be clinically and financially viable, and many others will struggle to meet increased demands efficiently, effectively and safely.
 - 4.1.12 Efforts to develop a generalist specialist workforce, which require an adequate supply of New Zealand trainers and trainees, will be jeopardised.
 - 4.1.13 Efforts to integrate with primary care will not consistently succeed because of a lack of credible senior hospital doctors to collaborate on pathways.
 - 4.1.14 Government initiatives in place to deal with these problems will fail because an adequate credible stable senior doctor workforce is not consistently in place.
 - 4.1.15 Unnecessary extra effort will be required in order to improve services to substitute for an inadequate level of expertise and human capital.
- 4.2 The cost of training a doctor up to their final year as a registrar is estimated at approximately \$1.5 million per doctor (\$500,000 as an undergraduate and at least \$1 million postgraduate). Across the spectrum of undergraduate and postgraduate training, about \$500 million of Government investment is graduating each year. The Government's plan to increase the number of medical school places by a further 200 over the next five years equates to an additional investment of around \$300 million. The loss to New Zealand of a relatively small number of New Zealand-trained RMOs (and SMOs) represents a loss of tens of millions of dollars of Government investment.

Option 2: A Sustainable SMO Workforce

- 4.3 As the MTB put it: “Whether or not the key elements of the New Zealand health service are changed over time, the number of doctors needed for the future is greater than the number needed now.”⁵¹
- 4.4 Australia offers a reasonable benchmark. Its population is of a similar age structure to New Zealand’s (13% of Australians were aged 65 and over in 2007 and this is projected to grow to approximately 19% by 2021). Like New Zealand, it has roughly an equal proportion of GPs to specialists, as well as a similar proportion of nurses to New Zealand on a per population basis.⁵² (To be on a medical workforce par with Australia, New Zealand’s GP workforce will also need to grow at a similar rate to SMOs.)
- 4.5 In 2007, Australian data indicate there were 1.1 practising specialists per 1000 population (compared with New Zealand’s 0.9/1000).⁵³ Recent Australian workforce trends indicate Australia is likely to have approximately 1.4 specialists per 1000 population by 2021. For New Zealand to be on a similar footing we need about 6740 practising specialists in 2021 (i.e. a 52% increase on the current workforce), equating to an average net increase of 232 specialists each year, up from 160 (Table 2). That estimated increase is consistent with Raymond’s and Simpson’s (2008) study of surgery and surgical workforce needs, when updated population projections are applied to the estimates.
- 4.6 Assuming the current proportion of specialists working exclusively in the private sector in New Zealand is to remain as is, the vast bulk of the average annual net growth of 232 specialists needs to occur in the public sector, mostly through improved retention.

Table 3: Estimated Workforce Numbers and Growth Required

Year	Estimated NZ Population	SMOs per 1,000 Population	SMO Headcount (private+public)	Required SMO growth (private+public)	Projected SMO DHB FTEs	Required DHB SMO FTEs Growth	SMOs to be Funded (Included in Growth)
2010/11	4,425,000	1.00	4,422	232	3,576	144	-
2011/12	4,466,200	1.04	4,654	232	3,785	209	65
2012/13	4,507,400	1.08	4,886	232	3,994	209	65
2013/14	4,548,600	1.13	5,118	232	4,203	209	65
2014/15	4,589,800	1.17	5,350	232	4,412	209	65
2015/16	4,631,000	1.21	5,582	232	4,621	209	65
2016/17	4,668,400	1.25	5,814	232	4,830	209	65
2017/18	4,705,800	1.28	6,046	232	5,039	209	65
2018/19	4,743,200	1.32	6,278	232	5,248	209	65
2019/20	4,780,600	1.36	6,510	232	5,457	209	65
2020/21	4,818,000	1.40	6,742	232	5,666	209	65

Notes:

- a. Population estimates are based on Statistics New Zealand data
- b. SMO headcount for 2010/11 is estimated from unpublished data supplied by MCNZ as at March 2010.
- c. The SMO DHB FTEs for 2010/11 is estimated from DHB payroll data for December 2009 (see Appendix 2)
- d. The required DHB SMO FTEs growth for 2010/11 (144) is based on the recent average net headcount growth for the public and private sectors (MCNZ registration data), minus 10% to allow for an estimated number of SMOs who work solely in the private sector. The required growth in future years is based on 90% of the total (private + public) annual headcount projection
- e. The SMOs to be funded assumes DHBs are currently funded for an average national growth of approximately 144 SMOs.
- f. The projections assume the numerical growth of SMOs working solely in the private sector remains constant.

4.7 The future state should encompass the following components (expecting that the majority of RMO graduates will be coming into the workforce from when the student numbers were increased between 2004-07):

- 4.7.1 SMO numbers targeted at 1.4 per 1000 population as projected for Australia in 2021 (the current average for the OECD is 1.8). This target requires a staged increase of around 209 DHB SMOs per annum for the next 10 years. An exponential growth model will be required initially as the impact of initiatives becomes settled. This projection, as a national guide, is indicated in table 3.
- 4.7.2 High SMO:RMO ratios, increasing from current 1:1 to at least 2:1 and possibly 3:1 in some areas and specialties.
- 4.7.3 Consistent job sizing implemented for all DHBs.
- 4.7.4 Decreased reliance on short-term IMGs, and decrease in overall numbers of IMGs.
- 4.7.5 Current average non-clinical time for SMOs increased by 10% nationally.
- 4.7.6 Strong regional services and clinical networks delivered across regions.
- 4.7.7 Excellent recruitment and retention achieved through favourable working conditions, working environments and employment opportunities.

- 4.7.8 State of optimal time and opportunity achieved to deliver clinical time, quality improvement, teaching and training, research and clinical leadership.
- 4.7.9 Reporting of all errors and adverse events. Culture of system approach to error management.⁵⁴
- 4.7.10 Best patient outcomes.
- 4.7.11 Government objectives achieved and continuous striving for more ambitious government targets.

4.8 The above components will be realised in a sustainable way. The benefits of each are summarised:

Clinical leadership

- Stronger leadership by SMOs will lower rates of infection in hospitals, lower readmission rates, improve patient satisfaction, and improve productivity and financial margins.⁵⁵
- Strong clinical leadership will enable more rapid and effective progression of innovative service changes, including integration of primary and secondary services, regional and national clinical networks and more regionally focused service provision

“...where change is led by clinicians and based on evidence of improved quality of care, staff are energised by it and patients and the public more likely support it.”⁵⁶

- Clinical leadership will also help retain SMOs in the workforce.^{57 58}

Integrated and Collaborative Models of Care

4.9 Benefits include:

- Improved coordination of care with a more seamless patient journey across community, primary, and hospital sectors
- Care “closer to home” and at reduced cost
- Having the right services in the right place
- Improved patient safety and service quality
- Reduced risk to services that are clinically and financially vulnerable
- Greater health equity nationwide.

4.10 SMOs with more time to focus more on the work that only they can do while supporting others to deliver more general services.^{59 60 61 62}

Increased SMOs Role in the Training of RMOs

4.11 Benefits include:

- Improved quality of training, with protected time for RMOs and SMOs for training.
- Improved safety of services
- Improved morale and job satisfaction among RMOs
- Improved recruitment and retention of RMOs and SMOs

- Improved job satisfaction for SMOs⁶³
- Reduced reliance on IMGs and locums resulting from improved recruitment and retention.

We need a system in which doctors-in-training want to stay in New Zealand to train and senior doctors want to stay in New Zealand to teach them.

– Medical Training Board⁶⁴

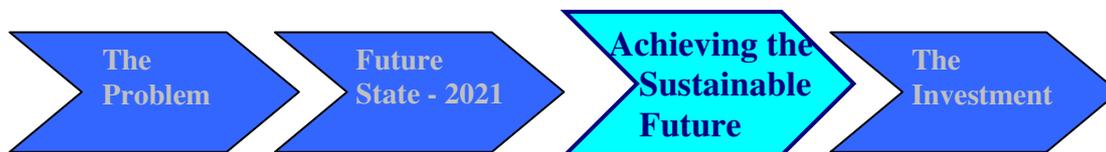
Health Targets Met and Quality and Safety Improved

4.12 Benefits include:

- Improved quality of care and treatment
- Improved health outcomes for patients
- Improved patient satisfaction
- Improved productivity
- Fewer adverse events
- Improved hospital performance
- Reduced average length of stay in hospital
- Financial savings
- Less staff stress and sick leave
- Improved staff retention

Financial and economic benefits

4.13 Achievement of the above objectives, on a sustainable basis, will also realise substantial financial and economic benefits for the broader economy, as well as for the health sector. A more healthy population is more employed, more productive, and contributes more to the wealth of a nation.



5. Achieving the sustainable future

- 5.1 Achieving the desired sustainable future state requires financial investment in the SMO workforce. There also needs to also be an investment in time, effort and change to processes. Crucially, there needs to be improvements in the working culture of the organisation, inclusive of every level.
- 5.2 This section emphasises the importance of the clinical leader role, and specifically the SMO leader role, in the required changes and innovation through their vision, their relationships and networks, their ability to facilitate a supportive environment within their working teams, including encouraging staff engagement, and their ability to read and interpret the external environment. Not least, the establishment of strong staff support systems, cultures and environments will enable greater expansion of the quality agenda.
- 5.3 To achieve an effective, efficient and sustainable health system, we must also secure a sustainable SMO workforce. There are two over-riding components to this security:
- Effective SMO recruitment and retention measures, including more competitive salaries and working conditions.
 - Achievement of the Government’s key policy objectives, including development of new innovative models of service suited to New Zealand conditions, and greater involvement of SMOs in the training and supervision of RMOs, as well as strong clinical leadership.

Recruitment and Retention

- 5.4 New Zealand specialists have indicated a range of factors that influence a specialist’s decision to leave. A dual survey of Canadian physicians (doctors) practising in Canada and the United States indicated a similar range of factors motivated physicians to migrate or to remain in the country, including clinical autonomy, remuneration, the general working environment and availability of services and facilities.

Many personal and family factors (e.g. climate and location of relatives) are difficult or impossible to change, whereas most professional factors (e.g. Government involvement, level of remuneration and availability of medical services and facilities) are theoretically more amenable to change (McKendry et al 1996).

- 5.5 When SMOs leave the employment of their DHB in mid-career there is usually a mix of “push” and “pull” factors.
- 5.6 The DHBs and ASMS have been addressing many of the push factors in the parameters of the current MECA. A key effort has been the promotion of enhanced clinical engagement and leadership through implementation of the Time for Quality Agreement along with mechanisms such as the establishment of Joint Consultation Committees (JCCs) and the National Consultation Committee (NCC).

- 5.7 These activities complement the Government’s policies to promote clinical engagement and clinical leadership, the many potential benefits of which include improved recruitment and retention.
- 5.8 Individual DHBs and the ASMS also periodically engage over job sizing reviews. These are critical to determining the appropriate average hours of work of senior medical officers (clinical, non-clinical, after-hours call duties, and other activities), with consequential implications for remuneration.
- 5.9 In addition, internationally competitive pay and conditions are needed to improve retention and recruitment, and to attract more New Zealand doctors back from overseas. This argument is repeatedly made in various New Zealand reports, including those of the Health Workforce Advisory Committee and several published by the Ministry of Health.^{65 6667}
- 5.10 A number of countries are already taking measures to lure back their doctors that had settled abroad. In Canada, for example, increases in payments to Canadian physicians over the past decade (while American physician salaries have declined) correlate to reductions in doctors leaving Canada and since 2004 more doctors have been returning to Canada than leaving.^{68 69 70 71}
- 5.11 The task of attracting our doctors back to New Zealand is becoming increasingly important. Improving retention, however, will have a potentially greater impact, since the available data indicate a virtual “revolving-door” element to the DHB specialist workforce.

Government Objectives

Clinical Leadership

- 5.12 MRG recommendations to reinforce the development of clinical leadership, include that:
- (a) Clinical leaders have a recognised allocation of time for the role
 - (b) A programme of cultural change is developed to enhance clinical leadership
 - (c) Resources are available to develop leadership skills as part of professional development programmes.
- 5.13 With these elements established there will be noticeable improvements to clinical indicators as clinical leadership changes the traditional model of operating. Clinical leadership will bring the spectrum of care into an integrated model of working, and will reward those who participate in it, considering the perceived barriers.
- 5.14 With the widely acknowledged increase in health service user expectations, considerable savings can be realised by simply having SMOs involved in key clinical decisions, such as ‘end of life’ decisions, ensuring that patients and their families are provided full and appropriate information based on experience and clinical knowledge.

During the writing of this business case an illustrative example of the enormous financial value of direct SMO involvement in decision-making around ‘end of life’ care showed that using experience and wisdom to guide family choices can lead to both clinically and socially appropriate decisions, and financial savings exceeding one million dollars in an individual case. A woman presented in labour at an extremely early gestation, with the sac and baby’s legs already out of the womb. Junior staff were proceeding with attempts to transfer to a tertiary unit with expectations that all efforts would be made to resuscitate and keep the baby alive. If that transfer, resuscitation, and intensive care had been successful the NICU costs

would have exceeded \$1 million. If the baby survived, the very high chances of severe disability would have led to lifetime support costs far exceeding those of NICU care. An experienced SMO discussed the chances of survival, and of disability, with the family who chose to allow nature to take its course and spent the moments after the birth with their tiny baby in a calm and caring environment, grieving appropriately without false expectations of medical miracles.

- 5.15 The concept that “everyone’s a leader” becomes equally significant, such that the entire clinical team of staff is actively engaged with the task of improving patient safety and outcomes. Clinical leadership will enable this engagement and facilitate high morale in a collaborative team environment.
- 5.16 Where particular actions are identified as achieving positive clinical indicators, these should be addressed with haste. Clinical leadership will see the necessary culture change implemented to facilitate these outcomes.

Requirements for progress

- 5.17 In a financially and resource strapped system, the risk of making short-term decisions with long-term detrimental clinical and financial consequences is high. To prevent this and to ensure robust quality decision-making, there needs to be extensive involvement and engagement of specialists.

...The present environment means ongoing investment at previous levels cannot be expected, and clinical leaders are going to be involved in prioritisation decisions from the beginning

. – Ministerial Review Group⁷²

- 5.18 Under such circumstances both clinical leaders in formal leadership positions and actively engaged SMOs will need to have confidence that the decisions they advocate will lead to better services. They will need to be confident in the evidence supporting their decisions and, while recognising resources are limited, they will need to be confident there are sufficient resources available, including specialist staff, to realistically achieve the task in hand.
- 5.19 Their decisions will also need to be professionally acceptable by at least the majority of their colleagues. The MRG recognised that peer support of leaders is vital to successful clinical leadership. Indeed, active member participation is essential to the success of a team and every bit as important as being a good leader.

...Those in the front-line are those with most experience and understanding of the needs of the patient and must be able to influence leaders’ thinking about the direction of services and of the organisation as a whole. Participants’ relationships with their respective leaders are therefore crucial and both must actively maintain open, courageous, honest, and authentic communication.

– Ministerial Review group⁷³

- 5.20 Encouraging challenges and a questioning culture in the clinical team will see a better outcome in patient care and staff morale.

- 5.21 The Time for Quality Agreement sets out the parameters of the partnership between managers and SMOs. The latter are expected to provide the leadership in service design, configuration and best practice service delivery driven by the parties' commitment to good quality outcomes for patients.
- 5.22 In practice this will mean:
- (a) culture shifts such that the power distance⁷⁴ between clinical team members as perceived by staff themselves should be less than currently reported;
 - (b) a considerable increase in the prevention of errors; and
 - (c) a greater and more willing adoption of techniques that have worked in other high-risk organisations, including increased professional atmosphere and communication.⁷⁵

Collaborative, Integrated and Regional Service Models

- 5.23 There is a wealth of research locally and overseas supporting the promotion of clinical networking and greater emphasis on multidisciplinary teams.
- 5.24 A "horizon scan" produced for the draft Central Region Clinical Services Plan (2008) suggested that "specialists focus on doing the work that only they can do and [support] others to deliver the more general services".⁷⁶
- 5.25 The document provides an example of a British case study where a GP managed more urology patients with support from hospital services, including the use of telemedicine to send ultrasounds for radiology reporting. The study reduced costs, and reduced referral rates to specialists, with no changes in patient outcomes.
- 5.26 As secondary and primary services become better integrated, with services organised around the individual patient's needs, some "shared care" arrangements will enable GPs to take less complex work that would normally be the responsibility of an SMO. At the same time, SMOs working outside the hospital with GPs and other clinicians will reduce the demand on hospital services.
- 5.27 At the Californian health maintenance organisation Kaiser Permanente, "specialists are uncoupled from the hospital and work alongside generalists in multi-specialty medical groups". As a result they use less than a third of the number of acute bed days than Britain's NHS.⁷⁷
- 5.28 Increased collaboration between specialists through clinical networks will result in reduced variation in clinical practice between DHBs and other health providers. Currently, "despite the availability of information about important, evidence-based advances in clinical care, vast, inappropriate variations in "standard practice" continue"⁷⁸. This shortcoming of clinical care will be addressed.
- 5.29 The highly successful clinical network model in New South Wales, promoted in the Government's policy, enables clinical specialties to be linked across hospitals to form a single service for a region.⁷⁹

The networking of services will mean that no matter which hospital a patient attends initially, that patient should now have access to the skills and expertise of specialist practitioners across the whole network of health facilities, rather than solely at the presenting hospital. Hospital transfers will be facilitated if required. Improved communication and coordination of resources across the hospital system will ensure that patients receive better and safer care, which will result in better outcomes.

– NSW Health 2004⁸⁰

- 5.30 This clinically led model, which involves doctors, nurses, allied health professionals, scientists, managers and consumers, has achieved numerous successes, while it continues to develop.

Quality Training and Supervision

- 5.31 Implementation of the RMO Commission's recommendations will see the training role formally assigned to SMOs and the training component of their role factored into staffing requirements. This will also apply to experienced RMOs filling registrar positions who contribute to the training of more junior doctors. RMOs will have protected time available for training.
- 5.32 All RMOs will be valued and supported and will be treated as an in-training workforce with an operational service component.
- 5.33 The apprenticeship relationship between a doctor-in-training and an SMO or team will be the context for a learning programme that incorporates scheduled and on-the-job teaching, performance review and assessment. Clinical placements will be of high quality, with a focus on exposing doctors-in-training to a wide variety of clinical practice and settings. The apprenticeship relationship will be of sufficient duration for meaningful assessment of competence to take place. Further, trainee support, mentoring and career navigation will be discussed, agreed and documented between the parties.
- 5.34 To ensure delivery and coordination at a local level, each training institution will have at least one educational supervisor responsible for ensuring doctors-in-training had induction and ongoing formal education and training opportunities, and will have the day-to-day responsibility for ensuring the agreed common outcomes required are delivered. Educational supervisors will also coordinate training in their institution, and may also coordinate training and clinical placements in other services and other settings.
- 5.35 Each training institution will continue to have a clinical supervisor for each doctor-in-training but with greater support for the trainer.
- 5.36 The system of training will have as its main driver the completion of a vocational training programme in the minimum reasonable time, but taking into account the desire for some doctors to have some flexibility to suit their circumstances.
- 5.37 In order for the strengthened teaching and learning roles to stand alongside the service delivery functions of DHBs, SMOs will lead innovation in use of resources and service design to ensure that patient access is maintained or improved. Flexible solutions at each DHB will be a key to strengthening the training environment.
- 5.38 Greater involvement of SMOs in the training and supervision of RMOs has many benefits, including recruitment and retention of SMOs as well as RMOs, and improvement in the quality of New Zealand's RMOs and future SMOs, which in turn will have a marked impact on reduction of adverse events.

Improved Quality and Safety

- 5.39 Studies have shown the real developments possible with quality processes, and the concrete savings that can be achieved: for example, the implementation of the CLAB (Central Line

Associated Bacteraemia) bundle which was embraced at one large DHB after tangible clinical outcomes were demonstrated led to financial savings documented in the ICU and CCC of \$260,000 in 2008 alone.⁸¹

- 5.40 Given that quality measures are an integral part of the model of the future state of healthcare, clinical leadership will be the means of achieving this model. Clinical leadership is necessary to continue the work begun by quality and safety champions, as well as ownership and involvement of the problems by the clinical teams. Where whole team and individual behaviours have to change for significant gains in quality and cost, the task of clinical leadership becomes that much more crucial.
- 5.41 Where particular clinical indicators have been identified as measurable and achievable for better patient outcomes, strong clinical leadership will ensure that these are addressed with sufficient haste. Specifically where noticeable improvements have been advocated and actively promoted throughout healthcare as best practice, clinical leadership will see the necessary culture change implemented to facilitate these outcomes.
- 5.42 SMOs greater role in the training and supervision of junior doctors will also improve the quality and safety of our health services. As one Australian survey of quality and safety practitioners found, "The single proposal judged by survey respondents to have the highest potential effect on reducing adverse events was that the supervision and support of junior doctors be improved."⁸²

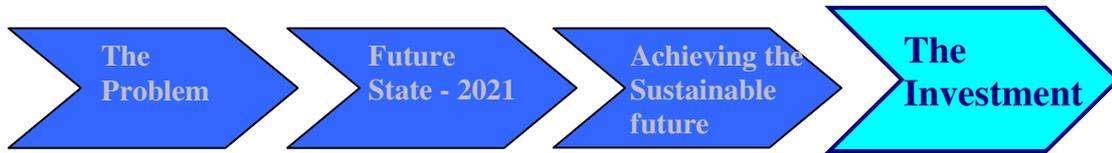
Sustainable Achievement of Government Health Targets

- 5.43 Reducing emergency department waiting times on a sustainable basis will be a key measure of the effectiveness and efficiency of the hospital system.
- 5.44 A United Kingdom literature review quoted in a New Zealand report to the Minister on the quality of emergency departments in 2008⁸³ found that of the many specific interventions that may improve the functioning of an emergency department, among the most significant was the finding that:
- ...senior staff may reduce admissions and delays, especially where they have the right to admit patients to wards. Studies suggest that the earlier a patient is seen by a senior person, the shorter their stay in the emergency department.*⁸⁴
- 5.45 Some overseas emergency services are operating on a "greet and treat" basis – instead of triaging. This model has been developed and implemented as part of the health reforms in the United Kingdom and has been credited with dramatic reductions in waiting times.
- 5.46 A British study has acknowledged that increased emergency department staffing is "likely to yield beneficial results where the purpose of the extra staff is very tightly focused, for example where a particular problem or bottleneck has been identified".⁸⁵
- 5.47 That is consistent with proposals recommended in a recent paper by Professor Mike Ardagh, who suggests among other measures, that the tightest bottlenecks must be identified first and eliminated and that the potential solutions should "consider the people (staff, numbers and roles), the plant (space, beds and equipment), and the processes (ways of getting things done)."⁸⁶
- 5.48 Reducing waiting times for elective surgery and cancer treatment services will benefit from a similar approach.

5.49 The combination of strong clinical leadership and adequate SMO staffing will not only ensure current government health target are met on a sustainable basis but will enable more ambitious targets to be set.

Initial Investment

5.50 Achievement of all of the above will realise some health and financial benefits in the short term; but the most substantial benefits will accrue in the medium and longer terms. In order to realise those longer term benefits, and to reduce the costs of current inefficiencies described in this document, an upfront financial investment is required, as outlined in the following section.



6. The Investment

- 6.1 Securing a sustainable SMO workforce will require an initial investment over a three-year period commencing 2011-12 to be approved by the Government.
- 6.2 This will require \$40 million in 2011-12, \$80 million in 2012-13 and \$80 million in 2013-14 accumulative (ie, \$360 million over the three year period). The returns on the investment discussed in the Business Case (including the DHB specific activities immediately below) will begin to accrue in the short term as the SMO workforce capacity (retention and recruitment) is strengthened but substantive returns are expected to commence during the three year period, continuing and expanding beyond it.

DHB Specific Activity

- 6.3 The achievement of a sustainable workforce in the long term is heavily dependent on DHBs in conjunction with the senior medical and dental workforce implementing a range of quality and productivity initiatives. As DHBs make advancements in these initiatives the return to a sustainable SMO workforce and overall improvement in patient safety and care will be manifest. The process requires a collaborative approach between SMOs and DHBs. Both the DHBs and ASMS support the process for delivering the gains.
- 6.4 The process is outlined below. It is recognised that DHBs have initiated and in some instances completed some of these initiatives, which are illustrative of a menu of options and do not preclude any DHB in conjunction with the SMO workforce developing other initiatives.
- 6.5 The process is designed to be transparent and measurable. Gains made by DHBs will in part be returned nationally to improving SMO remuneration and conditions and also utilized long term to improve DHB capacity to deliver ongoing improvements.
- 6.6 The process to be followed by individual DHBs is:
- Acceptance of the national investment
 - Calculation of the implications for the individual DHB
 - Identification of quality productivity and efficiency initiatives
 - Establishment of work plans
 - Publishing of work plans
 - Monitoring of targets.

Implementation and Monitoring

- 6.7 It is intended that the process will not require the establishment of any new forums or bodies, rather a commitment from SMOs to work collaboratively with the DHB to implement any improvement initiatives. DHBs and SMOs will identify a list of projects to undertake. Existing ASMS/DHB Joint Consultative Committees and a programme of engagement workshops (current in most DHBs) will be used to agree process and the range of initiatives specific to each DHB.
- 6.8 A work plan will then be developed and such a work plan could incorporate other clinical groups as appropriate whilst being led by an SMO. The work plan will have clear review points of targeted results. The work plan will be submitted to the Quality and Safety Commission and a report against quarterly targets provided through public documents (eg, DHB websites, District Annual Plans, and regional DHB planning).
- 6.9 While each DHB work **plan will be different, and savings** will differ in quantum and timing, it is important for national recruitment and retention of SMOs that a nationally consistent MECA outlines attractive remuneration and conditions of employment. The reinvestment load will therefore vary between DHBs.

Improved SMO Recruitment and Retention

- 6.10 DHB's spent in excess of \$6 million on SMO recruitment and relocation during the 2009/10 financial year. By improving SMO retention, this level of annual expenditure can be significantly reduced.

Reduced SMO Locum Cost Expenditure

- 6.11 New Zealand DHBs spent in excess of \$50 million on SMO locum costs in 2009/10, mainly being used to cover vacancies, but also sickness and sabbaticals. With a fully staffed SMO workforce, locum expenditure could be significantly reduced by up to 50%.

Quality Improvement Initiatives

- 6.12 Clinical leadership by SMOs is the critical ingredient to quality improvement both through supervision of RMOs and by senior doctors acting as quality champions(see p20 and p35-36). McKinsey research shows that leadership by senior doctors is correlated with lower rates of infection and readmission, more satisfied patients, more satisfied staff and higher financial margins.⁸⁷
- 6.13 Current clinical pressures on SMOs in New Zealand DHBs make progress on the quality front uneven and unsustainable.
- 6.14 *"In medical care error rates are too high, waste is too pervasive, technically correct clinical services are too often withheld, and technically incorrect procedures are too often used.88"* A retrospective two-stage review of 6579 patient records from a cross-section of 13 New Zealand hospitals in 1998⁸⁹ found 850 (12.9%) adverse events (AEs). Of these 538 (63% of adverse events, 8.2% of all admissions) were deemed preventable by the reviewers. Note that preventability is not considered in IHI Global Trigger Tool methodology, as many events may well become preventable with future

knowledge. CLAB is one such example, it would have been considered a “not preventable AE” in at the time of the study but now is demonstrably a preventable event.

6.15 Adverse events are estimated to cost the medical system \$NZ 870 million, of which \$NZ 590 million is treating preventable events (Brown et al 2002).⁹⁰. Only 20% of these were outside hospital. This paper suggested that up to 30% of public hospital expenditure went toward treating an adverse event; 20% towards preventable adverse events occurring in hospital. The majority of these costs are from subsequent admissions, not incurred in the original admission, but the average cost per adverse event was \$10,600.

6.16 The MRG Report,⁹¹ estimated that in 2009, if the cost of preventable adverse events in hospitals was 20% of public hospital expenditure, potential savings in hospital costs alone were up to \$800 million.

6.17 The major categories of harm identified by the patient safety programme at Middlemore Hospital are:

6.17.1 Adverse Drug Events

Assuming preventability at 60%, CMDHB data would suggest a rate of 25 patients harmed per 100 admissions, or 27,500 per annum. This is consistent with work in Canterbury and Capital & Coast and predicts a national rate of 275,000 ADEs per annum.

Using the average figure from the Brown paper, adjusted to 2009 dollars, of \$13,000, the total cost to the New Zealand health service is \$3.5 billion, of which approximately 60% is preventable (\$2.1 billion) with 80% occurring in hospital (costing \$1.7 billion)^a

6.17.2 Falls

Based on CMDHB incidence, annual falls with harm cost CMDHB \$2,300. Major falls have been costed at \$33,000. National DHB cost of falls would therefore be \$12 million^b

6.17.3 Pressure Injuries

Pressure injuries (PIs) are significantly under-reported. CMDHB data suggest only 1 in 5 PIs are recorded as incidents. Using costing data from a large United Kingdom study indicates a New Zealand figure of \$12 million for hospital acquired PIs^c

6.17.4 Central Line Associated Bacteraemia (CLAB)

The CLAB baseline at CMDHB was 67 per annum, suggesting a national rate of 600. ADHB have calculated the cost of a single CLAB at \$20,000, giving a total New Zealand cost of \$12 million.^d

^aThis is a figure based on several assumptions; We have not been able to cost ADEs so have used the Brown figure. It is possible that ADEs are less expensive than other adverse events; we have no data on this at present..60% preventability is the Davis figure; we do not have one for ADEs alone

^b All falls are not currently preventable; the majority of harm should be.A UK study (verbally reported) has indicated that even non-harm falls increase LOS by up to 3 days. This is not included.

^c This is very conservative figure as it is based on recorded incidents. It also does not include the much higher incidence of community acquired PIs, which are also preventable and are occurring in aged care facilities funded by the DHB.

^d This assumes all CLAB, including those in Burns and Renal, are preventable. The majority are, and all are in ICU.

6.17.5 Surgical Site Infections (SSI)

Health Round Table figures suggest a conservative estimate of SSI of 6,000 per annum, using the Brown figures indicates a total New Zealand cost of \$78 million.

6.17.6 Other Hospital Acquired Infections (ESBL, MRSA, Catheter related UTI)

International data suggests significant savings, though there is no New Zealand data.

6.17.7 Patient Identification Errors

Patient identification errors covered a wide range of situations, from wrong blood errors to performing wrong procedures. CMDHB review found 45 errors in a six-month period, equating to 900 per annum across New Zealand. Of the 45 found, 16 had harm, equating to 320 patients harmed each year in New Zealand, at a cost of \$4 million.³⁶

6.17.8 Venous Thrombosis Embolism (VTE)

CMDHB identified 270 patients admitted with VTE, 108 of whom were classified as hospital related. This would equate to 1,000 across New Zealand, at a cost of \$13 million.³⁷

Together these figures indicate approximately 30% of hospital expenditure relates to adverse events. The evidence suggests that ADEs are the most significant problem to be addressed.

Integration of Primary and Secondary Care and Improving the Patient Journey

6.18 At Canterbury DHB an initiative centred on clinical leadership as a solution to primary secondary integration and a focus on the patient experience has made substantial savings while improving patient care . To date, 235 clinical pathways have been identified between primary and secondary care and a number of GP liaison officers positions have been established. On the secondary side SMOs have been in the driving seat in partnership with GPs (GP liaison officers are also SMOs). This has resulted in improved productivity over the whole system and a better response to patient need.

6.19 SMO-led initiatives within the hospital based on 'lean thinking' principles have led to improvements within the hospital alongside increased clinical complexity. Canterbury DHB has identified \$30 million savings annually which they attribute to this initiative.

6.20 If this initiative was replicated nationally it would result in savings of \$300 million per annum.

Reducing Length of Stay (LOS)

6.21 If all DHBs reduced their average length of stay to the national average, DHBs would potentially save 139,500 bed days annually. Investment in the SMO workforce to allow for clinical leadership in reducing length of stay (timing of ward rounds and discharge, reducing access block, improving waiting times in emergency departments, improved training and supervision and improving the safety and quality of care) is a crucial ingredient.

- 6.22 DHBs belong to the Health Round Table which benchmarks and shares information between its members. Using this data would enable DHBs to understand the difference between themselves and other DHBs, further encouraging comparability in how they could reduce length of stay.
- 6.23 If all hospitals were able to meet the current average LOS, this would effectively save 382 beds, effectively saving the costs of building an entire new hospital along with the associated ongoing capital charges and depreciation.

Diagnostic Tests Reductions

- 6.24 SMOs generally request fewer diagnostic tests than RMOs. With improved clinical leadership and supervision of RMOs, requesting patterns of diagnostic tests could easily be reduced by 5% – 10%. Expected savings of \$5 million to \$10 million on variable costs could easily be achieved. More concerted efforts could radically improve on this saving without compromise to patient safety.

Improving Operating Theatre Capacity Management for Elective Surgery (increased productivity)

- 6.25 Over 80% of hospital operating costs are fixed, including the cost of buildings, equipment, overheads and staffing costs. As capacity increases utilising existing resources, considerable savings can be made as additional activity costs the hospital less to provide. The fixed costs largely remain unchanged while the patient numbers increase.
- 6.26 Clinical leadership and an adequate supply of surgeons, anaesthetists and intensivists will allow innovative and efficient use of theatres. If DHBs improved the use of theatre capacity on weekends and after hours to undertake additional elective surgery, per patient costs could be reduced significantly. Although some of the financial benefits would be used to pay clinical staff for working weekends and/or after hours, the potential savings include delaying or avoiding capital expansion.
- 6.27 An added benefit to some DHBs would be achieving required elective surgery throughput within their existing capacity.

Improved Pass Rate for Registrars

- 6.28 Investing more SMO time in close supervision and training of registrars will improve RMO chances of passing college exams at the first attempt. For each registrar who passes their specialist college examination at the first attempt, rather than having to sit again, a year is saved on their path to becoming vocationally registered. This saved year not only provides an SMO a year earlier to the health system, it also saves the system the costs of that year working as an RMO and associated exam and study costs.
- 6.29 Example: Approximately 200 physicians and paediatricians (RACP) in training sit FRACP exam each year. Current first-time pass rate is 61%, with final pass rate 79%. If the difference of 18% passed first attempt, potential savings would accrue from approximately 30-35 senior registrar annual salaries, plus reimbursement of exam fees, plus six weeks' study leave, plus materials and exam preparation courses. Approximately \$150, 000 per RMO equates to \$4.5 - 5 million annually. This does not take account of potential for overall enhanced pass rates. The saving can be extrapolated for other specialty colleges, though not all, eg orthopaedics (this specialty has a highly

developed training schedule with expectation of significant private practice income at completion, and high pass rates).

Proposed Activities to Fund Extra Expenditure

Improvement Initiative	Improve quality of care	Better patient outcome	Reduced Health care costs	Reduce LOS costs/ Improve capacity	Improve productivity	Contribute to the health of population	Productivity Opportunity for NZ DHB's	Target Reduction/ Improvement
Improved Theatre Utilisation	✓	✓	✓	✓	✓	✓	\$7m - \$10m	
Improved SMO Recruitment & Relocation	✓	✓	✓	✓	✓	✓	\$3.9m - \$6.5m	60% - 100%
Reducing LOS (to the National Average)	✓	✓	✓	✓	✓	✓	\$20m - \$30m	
Reduce SMO Locum Costs	✓	✓	✓	✓	✓	✓	\$20m - \$25m	40%-50%
Diagnostic Tests	✓	✓	✓	✓	✓	✓	\$5m - \$10.2m	5% - 10%
Adverse Drug Events	✓	✓	✓	✓	✓	✓	Specific data not available	
Reduce Falls	✓	✓	✓	✓	✓	✓	\$10m - \$12m	
Reduce Pressure Injuries	✓	✓	✓	✓	✓	✓	\$10m - \$12m	
Reduce CLAB	✓	✓	✓	✓	✓	✓	\$10m - \$12m	
Surgical Site Infections	✓	✓	✓	✓	✓	✓	\$50m - \$78m	
Other Hospital Acquired Infections	✓	✓	✓	✓	✓	✓	No data available	
Identification Errors	✓	✓	✓	✓	✓	✓	\$2m - \$4m	
VTE	✓	✓	✓	✓	✓	✓	\$10 - \$13m	
Canterbury initiative	✓	✓	✓	✓	✓	✓	\$300m	
Improved Pass Rates for Registrars			✓	✓			\$4.5 - 5 million annually	

Note that these figures include extrapolations from local and regional data

7. Critical success factors

- 7.1 The following are the critical success factors for this business case:
- 7.2 Recruitment and retention improves to the extent that SMOs have sufficient time for comprehensive clinical leadership, continuing education, and to fulfil their clinical, training and supervisory roles.
- 7.3 Willingness of SMOs and managers to work effectively in partnership to implement service development and change as and when required.

Appendix 1: Comparisons with Australia

Table 1: New Zealand specialist workforce requirements compared with Australia

Specialty	New Zealand 2008 ^a				Australia 2007 ^b		No. required to equal Australia ^c
	No. (active)	No/pop.	Recommended benchmark	Deficit/surplus	No. (active)	No/pop.	
Not recorded	8		-	-	-	-	
Other	41	1:104,112	-		275	1:76,149	15
Anaesthesia	488	1:8,747	1:8,500 ^d	- 14	2,924	1:7,188	106
Basic med science	10	1:426,860	-		n/a		n/a
Breast medicine	2	1:2,134,300	-		n/a		n/a
Dermatology	50	1:85,372	< 1:66,500 ^e	-14	401	1:52,412	31
Emergency med	103	1:41,443	(f)	-77	895	1:23,483	79
Musculo-skeletal	17	1:251,094	-		n/a		n/a
Obste & gynae	196	1:8,893	1:10/15,000 ^g	shortage	1,332	1:6463	74
Occupational med	47	1:90,821	-		191	1:110,038	-8
Ophthalmology	109	1:39,161	1:22,700 to 1:26,000 ^h	-66	843	1:24,931	62
Pathology	167	1:25,560	(i)	shortage	1,115	1:18,850	59
Intensive care	42	1:101,633	(j)	shortage	385	1:54,590	36
Internal medicine	644	1:6,628	(k)	-230(+)	5,196	1:4,046	411
Paediatrics	218	1:5,566	1:5,400 ^l	-7	1,105	1:4,990	25
Palliative medicine	25	1:170,744	1:100,000 ^m	-18	178	1:118,074	11
Psychiatry	420	1:10,163	1:10,000 ⁿ	-7	2,745	1:7657	137
Public health medicine	130	1:32,835	(o)		140	1:150,123	-102
Radiology	272	1:15,693	1:10,000 ^p	shortage	1,462	1:14,376	25
Radiation oncology	34	1:125,547	1:100,000 ^q	-9	234	1:89,817	14
Rehabilitation medicine	8	1:533,575	1:100,000 ^r	-35	268	1:78,422	46
Sports medicine	17	1:251,094	-		n/a	-	n/a
Sexual health	12	1:355,716	1:100,000 ^s	-31	n/a	-	n/a
Surgery: cardio	21	1:203,266	1:150,000 ^t	-7	177	1:118,741	15
Surgery: general	168	1:25,408	1:18,600 ^u	-61	1,168	1:17,994	69
Surgery: neuro	17	1:251,094	1:180,000 ^t	-7	165	1:127,377	17
Surgery: orthop	196	1:21,778	1:22,200 ^v	+4	953	1:22,054	-2
Surgery: other	40	1:106,715	-		179	1:117,415	-4
Surgery: ORL	83	1:51,429	1:50,000 ^t	-2	393	1:53,479	-3
Surgery: paed	14	1:304,900	1:250,000 ^t	-3	82	1:256,307	3
Surgery: plastic	48	1:88,929	1:100,000 ^t	+5	345	1:60,919	22
Surgery: urology	49	1:87,114	1:50,000 ^t	-36	296	1:71,004	11
Surgery: vasc.	17	1:251,094	1:108,000 ^w	-23	195	1:107,780	23
<i>Surgery: subtotal</i>	<i>[653]</i>	<i>1:6,537</i>	-	<i>[-130]</i>	<i>[3,953]</i>	<i>1:5,317</i>	<i>[151]</i>
TOTAL	3,713	1:1,150	-	-638(+)	23,642	1:889	1,100^x
Estimated Comparison for 2008^y	3,713	1:1,150	-	-	24,600	1:854	1,300

Table 1: Sources & Notes

- a) Numbers of active specialists: National Health Information Service 2010 (from unpublished Medical Council of New Zealand Workforce Survey data, 2008). Specialists per population: calculated from Statistics NZ population data. Deficit/surplus was estimated from benchmarks listed below.
- b) Number of active specialists: Australian Institute of Health & Welfare, *Australian Medical Labour Force Survey 2007*. These statistics are acknowledged by the AIHW as an “undercount”, due to the way some of the data were collected (see *Medical Labour Force 2007*, National Health Labour Force Series No 44. AIHW 2009). Specialists per population: calculated from the Australian Bureau of Statistics data.
- c) The number of specialists required in New Zealand to equal the number of specialists in Australia on a specialist-per-population basis.
- d) Baker AB 1997. Anaesthesia Workforce in Australia and NZ, *Anaesthesia and Intensive Care* 1997. Feb; 25(1):60-7. University of Sydney, Australia.
- e) Australian Medical Workforce Advisory Committee (AMWAC) considered a ratio of 1:66,500 inadequate (AMWAC Report 1998.1). Note: All AMWAC reports are available at www.nhwt.gov.au/publications.asp.
- f) New Zealand Faculty, Australasian College for Emergency Medicine. *Workforce Document*, April 2003 (unpublished). Recommended a minimum of 180 specialists through to 2007.
- g) AMWAC Report 2004.2. AND RANZCOG (2008). *A Statistical Analysis of the Fellow and Trainee Workforce for the Royal Australian and New Zealand College of Obstetricians and Gynaecologists*. Population based on females 15 years and over.
- h) AMWAC Report 1996.6. *The Ophthalmology Workforce in Australia*.
- i) NZ Committee of Pathologists, *Workforce Analysis: Pathologists in New Zealand 2007*. Royal College of Pathologists of Australia 2007. Note: The RCPA estimated a total of 210 (148.3 FTE) pathologists in 2007, including specialists practising in clinical haematology and clinical immunology.
- j) AMWAC Report 1999.1, *Intensive Care Workforce in Australia*. AMWAC considered a ratio of 1:46,600 inadequate. AND: Drennan K et al, *Intensive Care Resources and Activity: Australia and New Zealand 2006/07*, Australian and New Zealand Intensive Care Society 2009. (The latter reported 59 intensive care specialists in NZ as at 30 June 2007.)
- k) ASMS 2010. See Appendix 2, Internal Medicine Specialists – New Zealand & Australia.
- l) AMWAC Report 1999.6. *The Consultant Paediatric Workforce in Australia*. Population calculations based on 0-18-year-olds.
- m) Australian and New Zealand Society of Palliative Medicine (2009). Position Statement: Benchmark Number of Specialists in Palliative Medicine.
- n) World Health Organisation.
- o) Clinical Training Agency (2001). *The Health Workforce: A Training Programme Analysis*. Ministry of Health 2001. The CTA noted in 2001 that the strengthening focus on preventative measures would most likely require an increase in public health physicians.
- p) Shortage indicated in: Ministry of Health 2007, *Cancer Control Workforce Stocktake and Needs Assessment*, Wellington. Ministry of Health. AND: Royal Australian and New Zealand College of Radiologists (2007). *Results of 2006 Royal Australian and New Zealand College of Radiologists Workforce Surveys*. Available at: www.ranzcr.ed.au. AND Y Nakajima et al 2008. *Radiologist Supply and Workload: International Comparison, Japanese Journal of Radiology* Vol 26 No 8 2008. Average of 26 OECD countries in 2004 was one radiologist per 10,000 population.
- q) Morgan G et al 2000. Projected requirement for radiation oncologists and trainees in Australia and NZ to 2007. *Australasian Radiology*. 2000 Feb; 44(1): 88-97. Shortage also indicated in Ministry of Health (2007).
- r) AMWAC Report 1997.3.
- s) Auckland District Health Board. 2007. *Career Med: Specialties List*.
- t) For six surgical specialties as indicated: Royal College of Surgeons of England, 2005. *Developing a Modern Surgical Workforce*, January 2005. Available at: www.rcseng.ac.uk/publications/docs/modern_surgical_workforce.html.
- u) In the United States 1:13,300 is considered an adequate benchmark: J. McGuire, *Research News*, Ohio State University 12 January 2008. AMWAC Report 1997.2 suggests 1:18,600 as an adequate ratio. The Royal College of Surgeons (2005) recommends 1:25,000 as a target.
- v) British Orthopaedic Association (2008). Manpower Census December 2008. The BOA has recommended that the 1: 25,000 ratio be revised to 1:15,000 by 2020, with an interim target of 1:20,000 by 2015.
- w) In the United States a ratio of approximately 1:108,000 is suggested as adequate. S Bhagwan et al, *Predicted shortage of vascular surgeons in the United States: Population and workload analysis, Journal of Vascular Surgery* Vol 50 Issue 4, Oct 2004.
- x) For New Zealand to have a total specialist-per-population ratio of 1:889 (Australia's total in 2007), New Zealand would have needed a little over 4800 specialists in 2008 (ie an additional 1100 specialists approximately).
- y) Australia's estimated specialist workforce in 2008, assuming a 4% increase on 2007 (based on recent growth trends), would give it one specialist per 854 population. New Zealand would need approximately 5000 specialists (an additional 1300) to reach a similar specialist-to-population ratio.

Table 2 - Internal Medicine Specialists – New Zealand & Australia

Sub-Specialty	New Zealand 2008 ^a				Australia 2007 ^b		No. required to equal Australia ^c
	No. (active)	No. per population	Deficit/surplus	Recommended benchmark	No. (active)	No. per population	
General	173	1:24,674	-83	1:16,700 ^d	595	1:35,323	-52
Cardiology	97	1:44,006	-45	1:30,000 ^e	804	1:26,141	+66
Diabetology	4	1:1,067,150			-	-	-
Endocrinology	26	1:164,177			386	1:54,448	+52
Gastroenterol	53	1:80,540	-12	1:66,000 ^f	591	1:35,562	+67
Geriatric medicine	52	1:10,342 (over 65s)	-82	1:4,000 (over 65) 1:10,000 (over 75) ^g	341	1:8,012	+15
Haematology	25	1:170,744	-0	Est. 25 FTEs ^h	240	1:87,571	+24
Immunology	6	1:711,433			119	1:176,613	+18
Infectious diseases	13	1:328,354			194	1:108,335	+26
Medicine genetics	3	1:1,422,867			85	1:247,259	+14
Medicine oncology	35	1:121,960	-8	1:100,000 ⁱ	312	1:67,362	+28
Clinical pharmacology	4	1:1,067,150			21	1:1,000,809	+0
Nephrology	35	1:121,960			-	-	-
Neurology	37	1:115,368			408	1:51,512	+46
Nuclear medicine	4	1:1,067,150			166	1:126,608	+30
Thoracic medicine	-				167	1:125,850	-
Respiratory medicine	45	1:94,858			229	1:91,777	+2
Rheumatology	32	1:133,394			252	1:83,401	+19
Renal medicine	-				285	1:73,744	-
Total	644	1:6628	-230		5196	1:4046	+411

Note: Excludes Intensive Care (Internal Medicine) and Paediatric Medicine, which are included in the main list of specialties

^a Numbers of active specialists: National Health Information Service 2010 (from unpublished Medical Council of New Zealand Workforce Survey data, 2008). Specialists per population: calculated from Statistics NZ population data. Deficit/surplus was estimated from benchmarks listed below.

^b No. of specialists: Australian Medical Labour Force Survey 2007. Specialists per population: calculated from the Australian Bureau of Statistics data.

^c The number of specialists required in New Zealand to equal the number of specialists in Australia on a specialist-per-population basis.

^d Source: Internal Medicine Society of Australia and New Zealand (2005). *General Physician Numbers* (New Zealand: A discussion paper.) Available: at www.imsanz.org.au. The paper recommended between 5FTE and 7FTE per 100,000 population in the medium term. The figure in the table is based on 6FTE per 100,000.

^e Australian Medical Advisory Committee Report 1999.5. (AMWAC considered 1:30,180 adequate)

^f AMWAC Report 2000.4, quoting Royal College of Physicians of London, Gastroenterology Committee 1999

^g AMWAC Report 1997.5, quoting British Geriatric Society

^h Ministry of Health (2007). *Cancer Control Workforce Stocktake and Needs Assessment*. Benchmark 1.6 medical oncology and haematology specialists per 100,000 population (assuming 1.0-1.1 FTE medical oncology and 0.5-0.6 FTE haematology per 100,000)

ⁱ *ibid*

Table 3: New Zealand and Australian skills shortage lists, November 2009

NZ Long-Term Skills Shortage List (Medical Specialists)	Australian Critical Skills List (Medical Specialists)
Anaesthetists	Anaesthetists
Intensive Care Specialists.....	Emergency Medicine Specialists
General Surgeons.....	Obstetricians & Gynaecologists
Obstetricians & Gynaecologists*.....	Ophthalmologists
Oncologists (Radiation).....	Paediatricians
Oncologists (medical)*.....	Pathologists
Pathologists	Psychiatrists
Physician (Palliative Care)*.....	Radiologists
Psychiatrists.....	Specialist Physicians
Radiologists	Specialists (not elsewhere categorised)
Renal Medicine Specialists.....	Surgeons
* Added to the list since 2004	
<p><i>The Long-Term Skills Shortage List identifies those occupations where there is an absolute (sustained and ongoing) shortage of skilled workers both globally and throughout New Zealand.</i> – Immigration New Zealand</p>	<p><i>A list of occupations in high demand in Australia</i> – Australian Immigration Department</p>

Appendix 2: New Zealand Medical Workforce Data

Health Workforce Information Programme Data, DHBNZ

	Clinical Director		SMOs		RMOs (House Officers)		Registrars	
	Hdcnt	FTE	Hdcnt	FTE	Hdcnt	FTE	Hdcnt	FTE
30/06/2006	93	82.17	3,095	2,561.60	1,182	1,185.37	2,245	2,151.15
30/09/2006	102	90.03	3,205	2,662.07	1,130	1,129.92	1,879	1,796.52
31/12/2006	102	90.21	3,255	2,712.94	1,443	1,437.65	2,694	2,603.45
31/03/2007	98	88.12	3,295	2,759.96	1,227	1,212.39	2,135	2,046.81
30/06/2007	93	83.26	3,073	2,556.28	1,090	1,074.64	2,367	2,266.86
30/09/2007	94	83.89	3,095	2,599.12	1,118	1,109.35	2,142	2,049.34
31/12/2007	94	84.12	3,198	2,695.95	1,309	1,303.85	2,761	2,665.74
31/03/2008	101	85.44	3,149	2,709.80	1,132	1,121.92	2,177	2,089.25
30/06/2008	94	79.96	3,169	2,659.50	1,031	1,023.53	2,219	2,132.58
30/09/2008	100	89.85	3,246	2,715.95	1,180	1,173.76	2,188	2,100.67
31/12/2008	93	84.77	2,993	2,512.69	1,353	1,339.41	3,037	2,892.84
31/03/2009	84	64.54	3,020	2,480.24	1,210	1,090.97	2,585	2,342.07
30/06/2009	79	72.30	3,034	2,578.92	1,272	1,245.57	2,847	2,765.48
30/09/2009	79	72.23	3,424	2,877.60	1,392	1,363.93	2,363	2,272.56
31/12/2009	59	56.51	3,134	2,614.68	1,594	1,571.71	3,234	3,149.29
31/03/2010	65	61.98	3,269	2,744.71	1,526	1,497.80	2,738	2,644.2

Data provided from DHB payrolls are substantially different from the HWIP data shown in the table. Payroll data shows: As at 31 December 2009, there were 4224 (3431.62 FTE) SMOs (including non-permanent). More recent data provided by DHBs on vacancy rates states there were 2843.5 FTE SMOs permanently employed in DHBs.

As at 30 April 2010 there were 1188 (1148.2 FTE) House Officers, and 2034 (1942.3 FTE) Registrars (excluding casuals)

For the purposes of this paper, the HWIP data has been used to indicate trends. Clinical Directors are assumed to be SMOs.

The reason for the differences between HWIP and payroll data could not be determined in the timeframe for compiling this business case.

Medical Council of New Zealand Data

	2005	2006	2007	2008	2009	% Difference 05-09
House officers	811	911	841	891	970	+19.6%
Registrars	1,365	1,504	1,529	1,653	1,689	+23.7%
Total RMOs	2,176	2,415	2,370	2,544	2,659	+22.2%
Specialists	2,940	3,175	3,359	3,713	3,879	+31.9%

Source: MCNZ Annual Workforce Survey

Medical Council registration data

	2005	2006	2007	2008	2009	% Difference 05-09
Specialists	3,451	3,536	3,757	3,903	4,060	+17.6

Source: MCNZ unpublished data

The above figures represent total doctors (private and public) on the register with a vocational scope of practice, a current practising certificate and a New Zealand address as at 31 March of that year. It is a count of unique doctors, so does not double-count those with multiple vocational scopes. The figures exclude general practitioners and doctors in accident and medical practices unless they also have a vocational scope that is not one of these scopes (i.e. occupational medicine). The figures include short-term registrants as at 31 March of that year.

These figures will be higher than those published from the annual workforce surveys, which do not take account of survey non-responses.

Comparison between HWIP and MCNZ Data

MCNZ's lower figures may reflect non-responses to the annual survey, although for registrars the gap is larger than would be expected.

MCNZ's figures include short-term registrants, as well as specialists working solely in the private sector. HWIP's figures exclude specialists employed short-term. HWIP's figures fluctuate, with no discernible trend, whereas MCNZ's figures indicate a steady increase. This may be due to more specialists working solely in the private sector, and/or an increase in the use of locums, which are not included in HWIP's data.

Appendix 3: RMO Commission recommendations

The RMO Commission recommends that:

1. The status quo is rejected and immediate steps are taken to effect essential changes following best practice principles in change management
2. A New Zealand health system ethos is developed and articulated that outlines the rights, responsibilities and privileges of those working within the system.
3. Leadership of and accountability for RMO training is assigned. The RMO Commission supports the directions of the Medical Training Board and the Clinical Training Agency review group for a new national training body. We recommend such a training body:
 - takes responsibility for health workforce planning in response to service configuration and models of care and, in turn, to national, regional and district service plans
 - ensures training time is protected in RMO job descriptions
 - increases RMO training opportunities in the primary health care sector
 - ensures locum positions do not count towards training requirements.
4. A stand-alone national employer for RMOs is established, supported by regional or local RMO units. We recommend such an employer:
 - ensures a national review of RMO numbers
 - collects robust data to ensure RMOs can be tracked through their careers
 - increases emphasis on pastoral care and career planning.
5. A new national collective employment agreement focused on pay and conditions is negotiated. The negotiation process should take account of financial incentives.
6. DHBs are held formally accountable for training of RMOs and for ensuring protected time for SMOs to do the training.

Appendix 4: SMO Commission recommendations

Recommendation 1: DHBs and the Ministry of Health value the SMO contribution, and jointly develop effective clinical leadership and participation through strong clinician–management partnerships. This will get the best value out of public health spending.

Recommendation 2: The Government amend DHB mandates to drive critical health system goals, such as workforce and clinical services planning, through shared accountability.

Recommendation 3: The Ministry of Health accelerate the development of a clear process for regional and national service planning, to enable aligned SMO workforce planning.

Recommendation 4: The Ministry of Health require the Medical Training Board (or any successor) to review and recommend medical student intakes at three-yearly intervals to align intakes with future service needs.

Recommendation 5: The Government consider the recommendations of the Medical Training Board report and Commission on the Resident Medical Officer Workforce, and agree to the rapid implementation of coordinated initiatives that will significantly strengthen medical training.

Recommendation 6: The Ministry of Health lead a sector-wide process to identify core SMO workforce management information and establish systematic ways of collecting, analysing and reporting that information to provide a common understanding of SMO workforce issues.

Recommendation 7: DHBs and the Association of Salaried Medical Specialists develop an interest-based bargaining model that is supported by reliable and accurate base information and analysis led by experienced and senior representatives with delegated authority to reach agreement (subject to ratification). This will ensure negotiation is underpinned by expertise that is commensurate with the significance of SMOs to the health system.

Recommendation 8: DHB boards initiate and monitor an ongoing programme of SMO leadership development and report progress through their accountability documents. This will enable them to realise the contribution of potential SMO leaders.

Recommendation 9: DHBs, the Ministry of Health and professional colleges work collectively to use emerging national and regional service planning processes to determine the numbers and mix of general specialty and subspecialty training positions needed to match future service needs.

Recommendation 10: The Medical Council of New Zealand and professional colleges adapt their processes to provide the necessary support, responsiveness and facilitation to IMGs seeking vocational registration. This will ensure the wider public interest of appropriate SMO deployment across the New Zealand health system is met. If necessary, the Minister of Health may need to review the mandate of the Medical Council of New Zealand to enable this to be achieved.

Recommendation 11: DHBs establish regionally co-ordinated recruitment functions that complement regional and national service planning, retaining the benefits of local strategies. This is a critical component of a national recruitment strategy.

Recommendation 12: DHBs review current arrangements and take necessary actions to improve space, tools and support for SMOs, recognising the importance of these factors to SMO retention.

Recommendation 13: DHBs, the Association of Salaried Medical Specialists and the Ministry of Health strengthen existing bipartite and tripartite processes to nurture an informed dialogue at all levels. This will contribute to a sustainable level of SMO staffing that is aligned to service needs.

Appendix 5: Ministerial Review Group Recommendations

Primary and Secondary Care Services

MRG Recommendations for integration of primary and secondary care services.

- Workforce: The effectiveness and capacity of the health workforce is maximised through multi-disciplinary team work,
- Integrating specialist services: Specialist services see one of their primary roles as supporting primary care teams and view these teams as key customers, while assisting them to manage their patients within the community,
- Integrated clinical networks: These networks include SMOs, managers and consumers and are chaired by acknowledged clinical leaders to provide a basis for service analysis and redesigning models of care.⁹²

Clinical Leadership

The Ministerial Review Group (MRG) made a number of recommendations to reinforce the development of clinical leadership, including that:

- (a) Clinical leaders, particularly of those formal national networks established by the Ministry or NHB to meet programmed tasks and defined timeframes, should have a recognised allocation of time for the role and their employer reimbursed to enable back-filling of the position.
- (b) The NHB should develop a cultural change programme aimed at enhancing recognition of and support for health care leaders and the ability of clinicians and managers to form productive partnerships, both within the hospital sector and across sectors.
- (c) DHBs should ensure that a package of resources focusing on leadership skills and qualities is available to support clinicians in leadership positions as part of professional development programmes.
- (d) DHBs should consider including a formal requirement for three to six months within a suitable mentoring partnership for all new appointments to leadership positions.

Appendix 6: In Good Hands Summary

In Good Hands states that, at a minimum, DHBs must:

1. Report on clinical outcomes and clinical effectiveness, in a nationally consistent manner.
2. Ensure that quality and safety are at the top of every agenda of every Board meeting and Board report.
3. Assess their own and Chief Executive performance on measures that include clinical outcomes and the establishment of clinical governance.
4. Report on clinical leadership and clinical governance through their District Annual Plans and scorecard reports to the Ministry.
5. Demonstrate clinician involvement at all levels of the organisation including the Executive Management team.*
6. Demonstrate devolvement of decision making and responsibility to the most appropriate clinical unit or team.*
7. Identify actual and potential clinical leaders, and foster and support the development of clinical leadership at all levels.
8. Coordinate funding, access to internal and external training, and support for coaching and mentoring of leadership at all levels.

**The mechanisms for reporting on 5 and 6 must include clinicians themselves. An example is existing Joint Consultative Committees.*

Appendix 7: Migration of New Zealand doctors to Australia

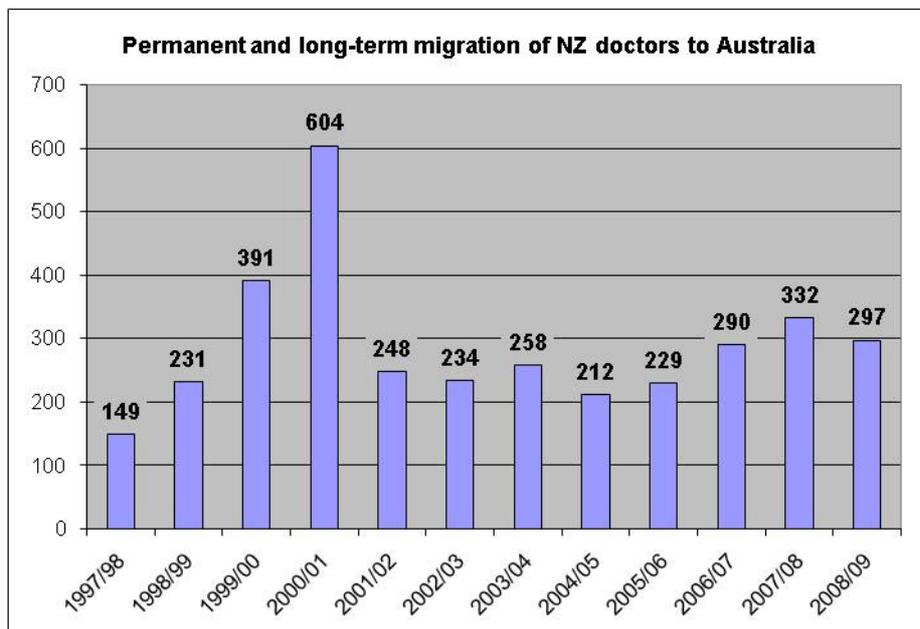
Report provided by DHBNZ

Note on Migration of NZ Doctors to Australia

The Ministry of Health has provided an update of Australian data on the number of New Zealand doctors moving to Australia on a permanent or long-term basis in the 2008/09 year.

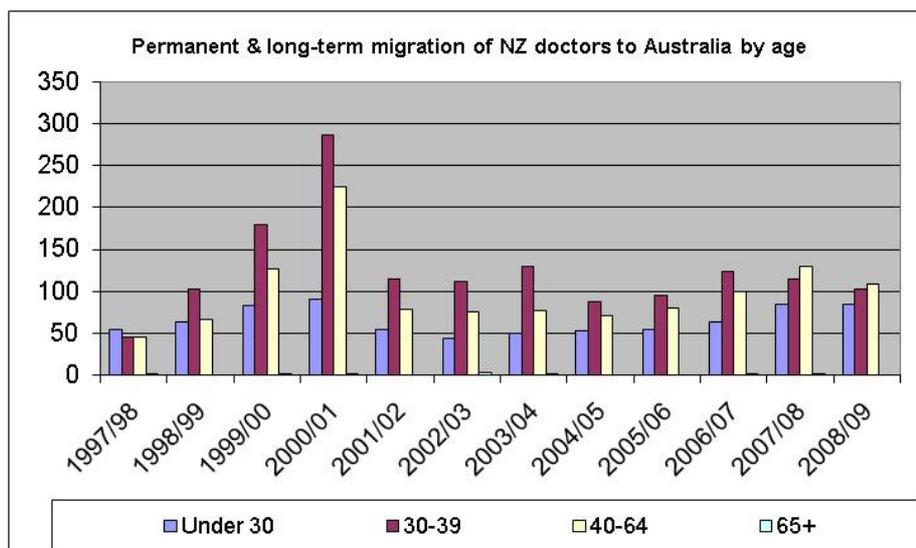
The Australian Department of Immigration and Citizenship (DIAC) collects data on individuals entering Australia based on completed passenger arrival cards. New Zealand is defined by country of citizenship. The year is the 1 July to 30 June fiscal year.

The data for 2008/09 show that 297 New Zealand doctors moved to Australia on a permanent or long-term basis. The latest figures reflect a 10% drop in the number of NZ doctors moving to Australia compared to the previous year (2007/08).



Source: Australian Department of Immigration and Citizenship, unpublished data

A breakdown of this data by age has also been provided which gives an impression of the relative split between senior and junior medical practitioners.



Source: Australian Department of Immigration and Citizenship, unpublished data

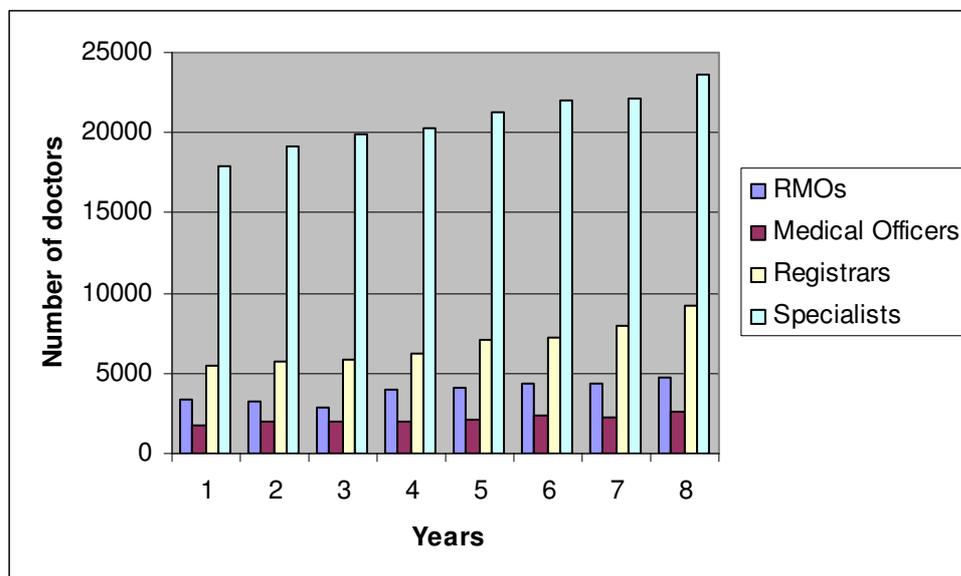
Notes

1. This data was reported in a recent OECD Health working paper by Pascal Zurn and Jean-Christophe Dumont (Health Workforce and International Migration: Can New Zealand Compete?). That paper double-counted some data so their figures for the years 1998-2006 are higher than those directly sourced from DIAC.
2. The definition of New Zealand by country of citizenship includes foreign-born (and therefore potentially foreign-trained) doctors who become New Zealand citizens and subsequently emigrate to Australia. The data provided do not distinguish these doctors. However, other reported data show foreign-born New Zealand citizen doctors have made up a sizeable proportion of migrating doctors: 85% in 2000/01, and 81% in 1999/00, the peak years in trans-Tasman movement of doctors.
3. The 1999/00 and 2000/01 peaks in migration have been attributed to changes in Australian immigration and welfare policies, as well as changes to eligibility for billing under the Medicare scheme (see Birrell, R.J. (2004) "Australian Policy on Overseas-Trained Doctors". Medical Journal of Australia, vol. 181, no. 11/12 (December 2004), pp. 635-639).
4. Until a very recent change, the New Zealand data on permanent or long-term departures of New Zealanders to Australia did not disaggregate occupational classifications to a sufficient level to identify medical practitioners from the broader classification of health professionals other than nursing and midwifery professionals.

Appendix 8: Australian Medical Workforce trends 2000 to 2007

Figure 1 and Table 1 show the general trends for practising doctors from 2000 to 2007. Over that period, house surgeons/interns increased by 43%; registrars increased by 68%, with the biggest jump in the last year; medical officers increased by 48%; and specialists increased by 32%.^a

Figure 1: Australian Medical Workforce Trends 2000 to 2007



Source: AIHW

Table 1 Australian Workforce Trends for Practising Doctors, 2000-2007

	2000	2001	2002	2003	2004	2005	2006	2007
RMOs	3,345	3,189	2,815	3,968	4,052	4,321	4,403	4,774
MOs	1,777	1,980	2,030	1,947	2,149	2,310	2,188	2,638
Registrars	5,458	5,758	5,827	6,244	7,093	7,268	7,918	9,177
Specialists	17,866	19,125	19,853	20,288	21,220	21,953	22,154	23,642
Specialists in Clinical Practice*	16,008	17,124	17,762	18,093	19,043	19,943	20,254	21,702
Specialists in Acute Hospitals*	6,440	7,052	7,337	7,591	8,371	8,926	8,950	9,607
% of Clinical Specialists	40%	41%	41%	42%	44%	45%	44%	44%

*Specialists who spend most of their time as clinicians. ** It is assumed most if not all of these are "staff specialists". Visiting medical officers (VMOs) from the private sector complement the public hospital specialist workforce. VMO figures are not available. Source: AIHW

From 2000 and 2007, between 40% and 44% of specialists in clinical practice worked in public hospitals as their main work setting, where most of the training is carried out (around 42% worked in private rooms).

A variety of conditions are now managed predominantly in the private sector and are not accessible to specialist trainees who are primarily working only in the public sector, this includes aspects of ophthalmology, dermatology, radiology and pathology. There is also a reliance on pro bono provision by

^a AIHW statistics categorise doctors as RMOS & Interns (New Zealand: House Officers/Interns), Career Medical Officers and Other Medical Officers (combined in the above charts), Trainee Specialists (New Zealand: Registrars), and Specialists.

senior clinicians for aspects of clinical training, which could often mean that the priority for provision of clinical training is not given due precedence.^a

Table 2 shows the ratio of staff specialists per registrars in public hospitals. New Zealand's ratio of specialists to registrars in DHBs in 2007 was 2.2.

Table 2: Ratio of Specialists to Registrars in Acute Hospitals, 2000-2007

	2000	2001	2002	2003	2004	2005	2006	2007
Registrars	4,610	4,824	4,995	5,290	6,117	6,280	6,597	7,375
Specialists	6,440	7,052	7,337	7,591	8,371	8,926	8,950	9,607
Ratio	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.3

Source: AIHW

Specialists

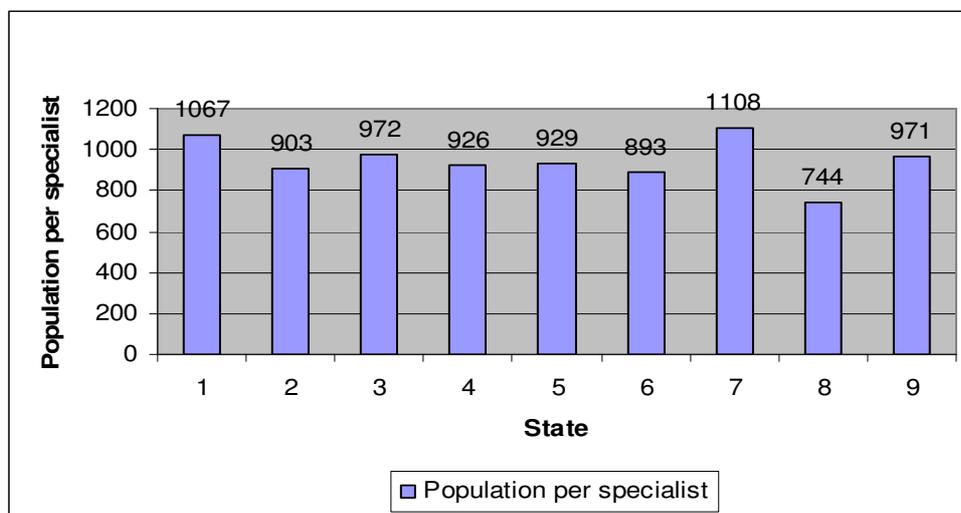
Latest international comparisons

OECD figures show Australia had 1.35 specialists per 1000 population in 2006, compared with New Zealand's 0.79 in 2007. On this measure, Australia was placed 20th out of 28 OECD countries. However, while the New Zealand figure is consistent with local data, the Australian figure is high compared to official Australian statistics. In 2007, Australian data indicate there were 1.12 specialists employed per 1000 population. This would put Australia 23rd (equal with South Korea) on the 2007 OECD list.^b

Comparisons between states

Figure 2 shows the population per specialist across Australian states in 2007. The AIHW advises that figures for specialists in New South Wales, Queensland and Tasmania are likely to be under-estimates.

Figure 2: Population per specialist, 2007



Source: AIHW

^a Health Workforce in Australia and Factors for Current Shortages. National Health Workforce Taskforce. April 2009

^b Australian Institute of Health and Welfare (AIHW) data and Australian Bureau of Statistics population data for 2007 indicate 1.12 employed specialists per 1000 population in total, and 1.03 per 1000 population specialists whose main type of work was clinical practice. The latter figure is used in an AIHW report, Medical Labour Force 2007: National Health Labour Force Series No. 44, published in 2009. Published OECD data show Canada, Ireland and Korea having 1.1 practising specialists per 1000 population in 2007. More detailed figures show Canada with 1.13, Korea with 1.12 and Ireland with 1.06.

Table 3: Australian Critical Skills Shortage List, November 2009

Australian Critical Skills List (Medical Specialists)
Anaesthetists
Emergency Medicine Specialists
Obstetricians & Gynaecologists
Psychiatrists
Specialist Physicians
Surgeons
Ophthalmologists
Paediatricians
Pathologists
Radiologists
Specialists (not elsewhere categorised)

A list of occupations in high demand in Australia – Australian Immigration Department

The Australian Critical Skills Shortage List for medical specialists (Table 3) illustrates the current range of shortages. A number of the specialties included are similar to those in New Zealand's Long-Term Skills Shortage List (ie anaesthetists, obstetricians & gynaecologists, psychiatrists, radiologists and pathologists).

ACT has its own "Skills in Demand" list, which includes all specialties in Table 3 plus dermatologists and dental specialists.

Reports in from the medical colleges, and academic and media reports, provide further evidence of shortages.

For example, a 2008 study jointly commissioned by the Australian and New Zealand College of Anaesthetists and the Australian Society of Anaesthetists projected a significant and growing shortage of anaesthetists in Australia over the next two decades unless the government addressed the situation. The study indicated a small shortage (four FTE anaesthetists) in 2008 to a shortfall of 2287 practitioners in 2020. The results also confirmed a significant maldistribution of anaesthetists between urban and rural areas.^a

In March 2006 the Royal Australasian College of Surgeons (RACS) released the results of a survey of Australian surgeons' retirement intentions, which had an 80% response rate. It showed:

- 42% of the Australian surgical workforce was over 55 and was set to retire within the next 15 years, "just as we start to experience the biggest ever demand for surgical services".
- One quarter of the surgical workforce intended to retire from emergency practice and operating within five years.
- Surgeons intended to commence retirement 10 years earlier than they had previously.

^a Access Economics. Supply and Demand for Anaesthesia. Australian and new Zealand College of Anaesthetists and the Australian Society of Anaesthetists, 2008.

- One third of the current surgical workforce expected to retire in the next five years from emergency on call work.

RACS warned of the deficit of experienced surgeons in Australia who would be available to teach the trainees in surgery.^a

A study published in 2007 noted that psychiatrists were “in short supply across Australia”. It estimated 830 young psychiatrists could be expected to enter the workforce over the 10 years from 2005. The net gain of 247 psychiatrists “may go some way towards easing the strain on the profession, [but] current shortages may not be entirely overcome, particularly in the context of population growth, increasing demand and rising proportions of females (who work fewer hours) in the younger age groups.”^b

Special Commission of Inquiry

A Special Commission of Inquiry concerning acute care services in New South Wales public hospitals revealed a range of factors that were posing challenges for services to operate efficiently and effectively. An underlying issue had been the increasing demand for services stretching the capacity of services to respond. They are issues familiar to many in New Zealand.^c

However, a shining light from the inquiry was the commissioner’s assessment of clinician-led models of care, which he described as “world class, because of the thinking, learning and experience of clinicians in the team”. Referring in particular to the Greater Metropolitan Clinical Taskforce (GMCT), he said:

“The outstanding feature of the GMCT was that its programmes and models of care were designed, tested and promoted by clinicians who had the requisite speciality and experience.”^d

Future Demand and Supply Issues for Medical Specialists

Increasing medical school intakes

Medical school intakes saw modest increases each year from 2000 to 2006. The increases then became more dramatic in 2007 and 2008 (490 new students in 2007 and almost as many again in 2008, excluding international fee-paying students) following the Federal Government’s announcement, in 2006, of new funding to boost medical school intakes and a communiqué from the Council of Australian Governments (COAG) setting out a health workforce strategy. As a result, the number of domestic medical graduates expected to enter the Australian medical workforce each year is projected to rise from 2224 graduates in 2010 to 2,945 graduates in 2012 and over 3,100 by 2014.^{e, f}

However, the influx of new graduates has put the clinical training system under stress. Among other things, there is a lack of supervisors to do the training. The Government has responded by increasing funding to increase the training capacity. In December 2008 the Government provided funding for 73 additional specialist training places in the private sector. From 2011, the Government is pumping in further funding to train more specialist, which “will more than double the current number of specialist training rotations in the community and private sector from 360 to 900 by 2014”. The Government says this will contribute to delivering “the equivalent of 680 specialists into the health system by 2020”.^g (The

^a RACS 2006. “Critical Shortage”, media release, 21 March 2006 (updated November 2007).

^b S Fletcher, D Schofield. “The Impact of Generational Change and Retirement in Psychiatry to 2025”. BMC Health Services Research, published online 4 September 2007.

^c Peter Garling SC, Final Report of the Special Commission of Inquiry: Acute Care Services in NSW Public Hospitals, 27 November 2008

^d Peter Garling SC. Guest Editorial. Clinician Connect, NSW Agency for Clinical Innovation, Vol 1 Issue 1, May 2010.

^e Health Workforce in Australia and Factors for Current Shortages. National Health Workforce Taskforce. April 2009

^f Medical Deans of Australia and New Zealand, media release, 30 October 2009.

^g A National Health and Hospitals Network: Further Investments in Australia’s Health. Australian Government, 2010.

private sector in Australia, due to its much larger critical mass, has far greater capacity to train RMOs compared with the private sector in New Zealand).

However, the Prime Minister acknowledged that the Australian Health Workforce Advisory Committee and the medical colleges had estimated a shortfall of 1280 specialists by 2020. The Government recently announced: "The remainder of the projected shortfall will continue to be delivered through the public hospitals system" but, as yet, no new extra funding has been announced for this.^a

As one commentator put it:

This most recent response by government to increase the number of medical graduates produced by Australia potentially creates its own inherent difficulties and may result in Australia's continued reliance on actively encouraging medical migration. First, there is a lack of medical educators and supervisors within Australia. This is a direct symptom of the general numerical deficit in medical professionals where the need to fulfil service delivery demand results in less time available to fill medical education roles. Therefore in order to satisfy the demand for medical educators a program of active recruitment of overseas-trained medical academics may have to be pursued in the coming years. Thus it could be argued that rather than an increase in medical school graduate numbers acting to curtail the demand for medical migration, it may in fact increase the need for active recruitment of overseas-trained doctors.^b

Reliance on IMGs

Australia, like New Zealand, has relied heavily on IMGs to address workforce shortages.

An estimate of the current stock of international medical graduates suggests that approximately 20%-25%... of the practising doctors in Australia in 2005 obtained their degrees overseas. The most common qualification countries were New Zealand, UK/Ireland and South Africa.^c

Australian Department of Immigration and Citizenship (DIAC) data for 2008/09 show that 297 New Zealand doctors moved to Australia on a permanent or long-term basis.^d (See Appendix 5.)

While the latest figures reflect a 10% drop in the number of New Zealand doctors moving to Australia compared to the previous year (2007/08), the level remains higher than the six earlier years and is unsustainable. Furthermore, the 10% drop may not necessarily reflect a 10% drop in specialist leavers, nor indicate a trend.

A breakdown of the data by age shows the largest group of leavers were aged 40 to 64, the second-largest group were 30-39 and the remainder were under 30. Considering the age characteristics of the New Zealand medical workforce, it is possible that of the 297 leavers, between 100 and 135 may have been specialists.^e

^a Government media release, 15 March 2010. See Appendix 1.

^b Saxon Smith. "The global workforce shortages and the migration of medical professions: the Australian policy response." Aust New Zealand Health Policy. 2008; 5:7.

^c *Health Workforce in Australia and Factors for Current Shortages*. National Health Workforce Taskforce. April 2009

^d Note on Migration of NZ Doctors to Australia, supplied by DHBNZ, April 2010. See Appendix 2.

^e This assumes few GPs migrated to Australia, owing to the "10-year moratorium" law (which was amended, lifting the restrictions, this year). MCNZ data show that of the combined RMO-specialist workforce in New Zealand, 34% in the 30-40 age group are specialists and 92% of the 40+ group are specialists. There are virtually no specialists under the age of 30. Therefore, of the 297 doctors that migrated to Australia, it may be reasonably assumed that (a) None of the under 30s are specialists, half of the 30-39 group are specialists and half of the 40+ groups are specialists, the rest being GPs = approx 100 specialists, or (b) None of the under 30s are specialists, half of the 30-39 group are specialists and two-thirds of the 40+ groups are specialists, the rest being

In 2008/09 MCNZ registration figures show there were 296 new vocational registrations (excluding GPs and Accident and Medical Practitioners) in New Zealand. The migration figures therefore suggest we may have lost - to Australia alone - the equivalent of between 34% and 46% of our new intake into the specialist workforce that year.

Practice restrictions waived for New Zealand doctors

From this year New Zealand specialists and GPs will have greater incentive to shift to Australia as a result of a new Australian law waiving previous restrictions on where they could practise.^a

Up until 1 April 2010 the law dictated that New Zealand doctors would need to be medically registered in Australia for 10 years before becoming eligible to offer non-hospital services funded by Medicare, unless they were willing to work in Australia's rural areas experiencing a shortage of GPs and specialists. Over half of Australia's specialist workforce work in "non-hospital" settings, including private rooms, non-residential health facilities, community health centres, educational facilities and government agencies. Many provide services funded by Medicare, as well as privately funded services.

It may be that the effects of this change impact mostly on the GP workforce (which will in turn increase pressure on the specialist workforce). The extent to which this may directly affect the New Zealand specialist workforce is uncertain at this stage.

New government investments

Aside from the continuing need to address current specialist shortfalls in Australia, and the increasing need to recruit more specialists to fulfil training demands, further demand for specialists is likely to result from recent Australian government announcements (including extra funding) to improve services in a range of areas. These include quality and safety in hospitals, and improvements to services in targeted areas such as cancer services, elective services, aged care, and an initiative to reduce waiting times in emergency departments to a maximum of four hours.^b

Future developments

As now, the extent of future shortages will vary between specialties, between states and between metropolitan, urban and rural areas.

Supply and demand projections for designated medical specialties are to be one of the first tasks of the new agency, Health Workforce Australia.

Key factors to be considered will be the ageing of the specialist workforce and changing attitudes towards working hours and work-life balance.

Future outflows

Increasing retirements

Of the specialists who were aged 45 to 49 years in 2005, 39% were projected to cease practising by 2020 when they were aged 65 to 69 years, with this figure increasing to 64% when they would be 70 to 74

GPs = approx 120 specialists, or (c) None of the under 30s are specialists, two-thirds of the 30-39 group are specialists and two-thirds of the 40+ groups are specialists, the rest being GPs = approx 135 specialists.

^a Health Insurance Amendment (New Zealand Overseas Trained Doctors) Act 2010.

^b A National Health and Hospitals Network: Further Investments in Australia's Health. Australian Government, 2010

years of age. Between 1700 and 2600 specialists are projected to retire every five years from 2010 to 2025.^a

A survey of members undertaken by the Royal Australasian College of Surgeons in 2005/06 indicated 42% of Australian surgeons were 55 years and older. A quarter of the surgical workforce intended to retire from emergency practice and operating within five years; and a third of the current surgical workforce expected to retire within five years from emergency on-call work.^b

Increasing number of females in the specialist workforce

In 2006, 21.6% of clinical specialists in Australia were female. In comparison, 40.9% of clinical specialists-in-training were female. Female medical practitioners worked fewer hours, on average, than their male counterparts (37.6 hours per week compared with 46.2).^c

Females now make up more than 50 percent of the entrants into medical degrees in Australia.^d

Changing attitudes among “Generation Y” doctors

A “work-life flexibility” survey of doctors carried out by the Australian Medical Association in 2007 indicates “attitudes of the medical workforce are changing in line with societal change” and that doctors are placing greater importance to work-life balance.

Eighty-one percent of survey respondents said they would like greater access to flexible working arrangements, the top three arrangements for specialists being flexible work hours, part-time work, and home-based work.

The survey also found that: “Contrary to popular belief, access to flexible arrangements is not just an issue for female doctors. The demand for flexible working and training arrangements is similar among male and female doctors.”

Further, older generations of doctors were accessing flexible arrangements in greater numbers than their younger colleagues, indicating they were “just as motivated to find a balance between their personal and professional lives”.^e

Retention

On the positive side, Australia has had a relatively low expatriation rate of doctors generally. While it is estimated 29% of New Zealand’s doctors are working overseas – most of them in Australia – around 6% of Australian doctors are working overseas.^f

Medical careers surveys of post-graduate doctors in Australia indicate an attrition rate of between 0.5% and 2.5% (including leaving medicine altogether as well as permanently migrating overseas).^g

^a D Schofield et al. “Ageing medical workforce in Australia - where will the medical educators come from?” Human Resources for Health 2009, 7:82, 5 November 2009.

^b RACS media release, 21 March 2006.

^c P Carver. Self-Sufficiency and International Medical Graduates – Australia, National Health Workforce Taskforce, September 2008.

^d A National Health and Hospitals Network: Further Investments in Australia’s Health. Australian Government, 2010.

^e Australian Medical Association 2008. AMA Work-Life Flexibility Survey. AMA 2008. Available at: [www.ama.com.au/web.nsf/doc/WEEN-7DB7QX/\\$file/WLF_Report_2008.pdf](http://www.ama.com.au/web.nsf/doc/WEEN-7DB7QX/$file/WLF_Report_2008.pdf)

^f P Zurn, J-C Dumont. Health Workforce and International Migration: Can New Zealand Compete? OECD Health Working Paper No 33, 2008.

^g AMWAC 2005. Career Decision Making by Post-Graduate Doctors. AMWAC Report No. 2005.3.

Conclusion

Current indications are that Australia will continue to rely on IMGs to address staff specialist shortages in the foreseeable future. Shortages will vary between specialties, between states and between rural and urban areas. New Zealand will continue to remain an attractive and accessible source of recruitment and retention to staff specialist positions.

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