General Physician Numbers (New Zealand)

Discussion Paper prepared by IMSANZ NZ Executive at the request of the RACP (NZ) office

Background and other data:

IMSANZ is not aware of relevant forecasts or papers that indicate the most desirable ratio of General Physician per 100,000. There are several reasons why this is difficult to do, as discussed below. The most relevant work has been done by the Royal College of Physicians (RCP), UK. The RCP has quoted 10 FTE physicians per 100,000 as a benchmark for physician workforce with the inference that many of these would need to practice general medicine to some degree. About 50% of physicians in UK practise some form of General Medicine (http://www.rcplondon.ac.uk/college/mwu/mwu_03_census.pdf), but it is not clear whether they are trained / credentialled to do so, and how many FTE's they devote to this role. If this were 0.5 FTE this would result in a requirement for 5 FTE / 100,000.

Before considering other UK data below it should be pointed out that in the UK, age-based acute admitting services are prevalent, and the UK geriatricians take on much more acute care than they do in NZ. In NZ much of the care of older people is, by necessity, performed by general medical services. How general physicians will work best with geriatricians in New Zealand to provide quality care for older people is an area that needs further exploration.

RCP 2000. Consultant workforce requirements in general medicine (GIM) and geriatric medicine.
(Taken from http://www.rcplondon.ac.uk/pubs/books/momp/wp_momp_part3.htm)

KEY POINTS

- Consultants on small rotas (one in four to five) for acute GIM find that a disproportionately high and inflexible GIM workload impedes work in their specialties.
- Consultant rotas for GIM of around one in 10 to one in 13 (admitting about 20 patients) allow reasonable time for specialty work, while providing enough GIM cases to maintain experience.
- More consultants are needed in all the medical specialties linked with GIM. Targets are one consultant per 80,000 population for the specialties of cardiology, diabetes and endocrinology, respiratory medicine, and gastroenterology for district general hospitals in which such specialties are linked with GIM.
- The recommended number of consultant geriatricians, where geriatric medicine is linked with GIM, is one per 4,000 population over 75 years. (This equates to about one per 50,000 general population).
- The recommended number of physicians would be greater in districts with a large commitment to teaching or research.
- Local planning of medical and geriatric medicine services should examine the needs of each major specialty. Job plans should apportion the workload (including any contributions to general medicine) logically and fairly to reflect those needs.

- Regional and national planning should aim to promote equity by encouraging recruitment to achieve desirable levels of staffing in those districts which are presently least favoured.

In New Zealand, the general physician FTEs per 100,000 will depend on the geography; population demographic; whether metropolitan or non metropolitan; presence of, and relationship to, other “general” specialties such as general practice, emergency medicine or geriatrics; presence of, and relationship to, other relevant subspecialties, especially cardiology, respiratory, renal, endocrinology /diabetes, neurology, critical care. It is important to incorporate some consideration of FTEs along with numbers, as most general physicians will combine general medicine with another subspecialty; the minority practice purely general medicine. In larger centres with a large cadre of general physicians it may be possible to work in general medicine for smaller proportions of time, although less than 0.3 FTE seems undesirable in terms of maintaining patient continuity and physician skills. On the other hand, in smaller centres, and in areas where there is a concentration of effort nearer the “front door” of the hospital in an acute admitting unit, it is likely that the proportion of FTE per person will need to be higher, perhaps nearer to 0.7 FTE or greater. There needs to be a mix of general physicians - some with general medicine their only or main interest, and others who combine it with another subspecialty or a related area such as medical education, administration or research.

A model of the current position in NZ:

There are currently about 310 physicians practising some form of general medicine in NZ. If one estimates that, on average, they are doing this 0.5 FTE (remembering that MCNZ 2003 data shows that an FTE is 50 hours per week), this is 155 FTEs. IMSANZ estimates that there are about 50 general physicians short nationally. Estimating job size as 0.5 FTE, this is at least 25 FTE short.

Therefore and estimate of present needs is 180 FTE gen med for NZ
180 FTE / 4 million = 4.5 FTE / 100,000

Case Example: Auckland

The general medical service at Auckland City Hospital runs effectively on 8 FTE / 415,000 population in ADHB, or 1.9 FTE / 100,000; however the service works closely with other subspecialties and units such as CCU, the stroke unit, and ICU staffed by subspecialists. The 8 FTE is made up from contributions of 16 physicians. A similar formula exists at Counties Manukau, where, if they were fully staffed, this would result in 8 FTE / 400,000, or 2 FTE / 100,000 fro general medicine.

As already mentioned 2 FTE / 100,000 represents the minimum ratio as the general medical service is fully supported by other subspecialty services and radiology, many on a 24/7 roster. This allows for caseloads to be quickly triaged and shared, and the possibility of patient problems being addressed very quickly. There is also the possibility of a 1:12 roster. This may sound luxurious, but as there are four admitting teams per day, this means being on call every 2-3 days and for part of every second weekend.

50% of New Zealanders have their medical care in non - metropolitan centres. In these centres general physicians will take on most of the roles done by others in tertiary centres, so the requirements per 100,000 will be higher. Very few of these centres will have independent admission streams for subspecialty acute medical admissions – all being channelled through general medical services. It is also uncertain if one could say which part of the time of a general physician who is also a subspecialist is spent doing the acute call, but we suspect most would say that it is general medical acute call. Very few centres have stroke units to support their practice. In centres other than Auckland, most consider their general medical practice to exceed 0.5 FTE. In Dunedin this averages 0.7 FTE, in Invercargill 0.8, and in Middlemore it is 0.6 FTE without a clinic. In smaller centres there is also the need to consider critical mass, including rostering, leave and CME requirements.

Some colleagues in smaller centres are working 55 hours plus just to meet the service needs.

Case Example: Tauranga

"This city has a demographic much as NZ will be in 2021. Tauranga Hospital's current staffing is 12 Physicians (although advertising for number 13 has occurred over the last 6 years). One Physician practices subspecialty Neurology and does not contribute to the acute Medical Admitting roster. Three practise subspecialty Cardiology and work a 1:3 week and 1:6 weekend acute admitting roster targeting admissions with a predominant cardiovascular flavour from the Medical admissions. This splitting arose in part because the post take Physician ward rounds were taking more than 8 hours to complete (Tauranga averages 25 admissions per 24 hours with the usual wild fluctuations related to winter and summer although the latter remains busy because of the summer holiday population influx). The splitting also arose in part because of increasing reluctance and ability of some Physicians to manage acute Cardiology problems. Eight other Physicians also contribute to the acute medical admitting roster in a 1:6 basis; only three would consider themselves true Generalists, all practice subspecialty medicine including Respiratory, Rheumatology, Endocrinology/diabetes, Gastroenterology, Infectious Diseases, and Elderly Medicine. The hospital has been unable to secure Oncologists or Renal Physicians to our Hospital despite providing more than 25% of Midland region's work because of issues regarding sole practice and collegiality. This has impacted on Acute Medicine as inpatient care for these subspecialties is provided by the Physician on call. Four of the top 10 DRGs for inpatient and outpatient numbers are respiratory, but there are only 1.3 FTEs currently in respiratory medicine, (and only 0.3FTE for first 6 months of this year). Although the outside perception of the Bay of Plenty is a "retirement" community (which is true for Tauranga with 18% plus of the Western Bay of Plenty population over the age of 65), 20% of the population are also Maori in the younger age group with very high prevalence of diabetes, respiratory disease, heart disease, renal disease and are high/heavy users of the Hospital.

All the Tauranga Hospital Physicians feel the Acute Admitting component of their jobs is becoming more and more onerous and not sustainable without increasing Physician numbers. There is no doubt that in Tauranga Hospital more and more Physician time is now by default committed to providing the inpatient Medical Service, and physicians struggle to balance this with other commitments including

teaching, CME and planning activities, and elective work for which there is an exponential growth in demand.

The causes are multifactorial but include:

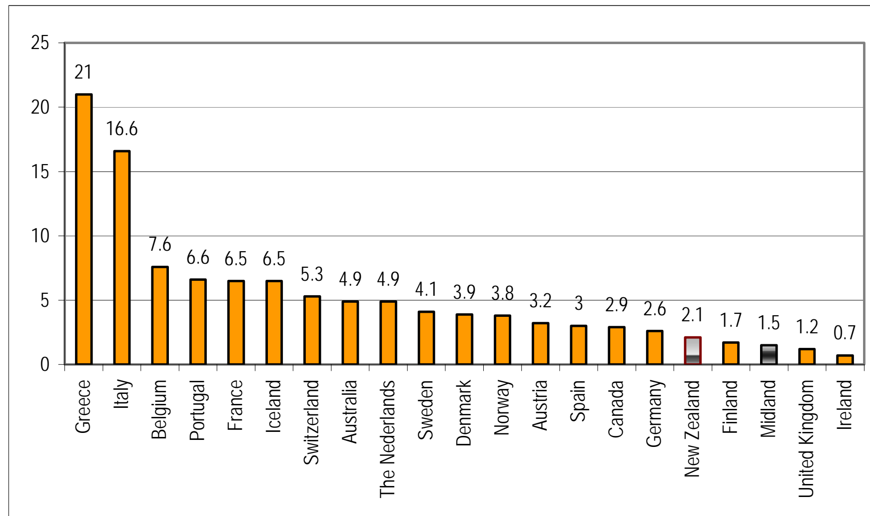
- *the quality and experience of the Registrar staffing (most registrars in Tauranga are pre FRACP written examination, and increasingly foreign medical graduates or locums)*
- *ongoing rapid population growth particularly of the elderly*
- *increasing acuity and complexity of chronic disease/co-morbidities in this population – and this also includes now a significant proportion of patients admitted to the adult surgical services who need to be managed by Physicians*
- *Services for the elderly are chronically under- manpowered due to inability to fill Geriatrician position, and this has major implications because of the important interface of Acute Medicine with Medicine for the Elderly*
- *Inadequate staffing hospital wide and beds to deal with BOP population (bed numbers have decreased, city population has doubled in last 20 years). This puts pressure on processing and discharging patients as quickly as possible (not necessarily increasing efficiency or a good thing for quality of care or safety)*
- *Hospital currently being rebuilt, major disruptions to current service provision, and predictions that will still not meet needs (bed numbers not increased and will fall during construction)*
- *expectations of the public to have the "best" care*

Regardless of Physician numbers Tauranga Hospital is totally dependent on its RMO staffing to provide Acute Medical Services, and any significant shortage of RMOs for any period of time will cripple the hospital and impact on all areas of Health Provision.

The other area of major concern for the Bay Of Plenty is continuing to provide Medical Services to the Eastern Bay of Plenty via Whakatane Hospital. It has been impossible to employ long term Physicians, staffing is made up of locums and Medical Officers. One model for the future is for Physicians based in Tauranga to be rotated there on a short term basis and to run a short term Medical Admitting Unit with longer stay and more complex patients transferred to Tauranga. This will never be feasible with current Physician numbers.

Cardiology admissions make up about 30% of all Medical Admissions at Tauranga Hospital, so the next comments are interpreted in this light.

Figure 1. Cardiologists per 100,000 population in 2000 [1]: shows that the specialist to population ratio for specialist cardiologists across Europe and other countries is very variable. Excluding the high ratios of Greece and Italy and those less than two per 100,000, the mean value is 4.3 cardiologists per 100,000



The draft Midland Cardiovascular Services Plan has recommended as a realistic level 4.6 Cardiologists for the Bay of Plenty increasing to 6.4 by 2011. Part of this recommendation is based on British Cardiac Society recommendations from May 2003 to the Department of Health in England [2] suggesting 30-40 Cardiologists per million population.

***In conclusion** it is clearly difficult to come up with a specific number of Physicians per population without considering all the associated factors above (Sub-specialist staffing, population demographics, RMO staffing/experience, and committment to providing care at multiple sites). For Tauranga Hospital we believe Physician FTE will need to be doubled to approximately 24FTE to provide appropriate mix of inpatient and elective services at the Tauranga and Whakatane campuses.*

References :

1. *Block P, Weber H, Kearley P. (on behalf of the Cardiology Section of the UEMS). Manpower in Cardiology II in Western and Central Europe. Eur Heart J 2003; 24:299-310.*
2. *http:/www.bcis.org.uk/resources/documents/BCS_Cardiology_Workforce_Group_2003.pdf*

Therefore, recalculating more realistically, considering general medicine to be 0.6 FTE, yields an estimate of 5.4 FTE general physicians per 100,000.

So the likely answer is that FOR NOW we need between 2 and 6 FTE /100,000 depending on service configuration, critical mass of physicians on site, and assuming that physicians will continue work the mean of 50 hours per week they do currently.

Trends:

Based on the Tauranga experience above and for several reasons outlined below, IMSANZ believes the workforce requirements for general physicians will undoubtedly increase in the medium term. It is difficult to see how other grades of health professionals (e.g. as outlined in http://www.rcplondon.ac.uk/pubs/wp_hdup.htm), will be able to pick up the highly skilled practise of a general physician. For all the patients under their care general physicians are trained to rapidly assess all of the patient's problems, diagnose, prioritise, liaise with subspecialists and general practitioners, and initiate and deliver an appropriate, evidence based, and cost

effective management plan. They also supervise and train the most junior medical trainees in the health system.

Some factors leading to an increased workforce requirement to meet service needs:

- An ageing demographic with greater health needs that cannot be met solely by primary care. On the other hand admission to a subspecialty may be
- Increasing need to match health resources to health needs – generalism in health systems has been shown to help with this (Baicker and Chandra 2004)
- Admission and planning units are effective, but do require committed leadership and an increased presence from consultant general physicians
  - The RCP in 2003 recommended that all patients admitted medically be admitted to a dedicated unit, staffed by at least 3 physicians, and be seen within 24 hours of admission with at least 15minutes dedicated to that consultation (Royal College of Physicians of London. *Acute medicine: making it work for patients*. Report of a working party. London: RCP, 2004)
- One FTE currently involves working about 50 hours per week- work force directives and perceived negative incentives may force this to reduce.
- The level of junior cover is also important. Smaller centres do not have registrars. In more recent years the quality of RMOs has often been marginal, placing increased pressures on consultant staff. This needs to be considered when calculating required numbers. Lack of registrars has a major impact on on-call hours worked. Numbers are very important when it comes to acute call, the burden of which has long been unrecognised or ignored. In the future predicted workforce shortages, on can only anticipate problems for smaller centres getting worse unless there are major incentives provided for RMOS and consultant staff to work in these centres
- There are moves to enforce the 2/3 clinical service to 1/3 non contact time split in work roles in order to allow adequate time for education (self and others), service development, quality improvement, research, professional college activities, and health services administration. In smaller centres such as Wanganui this is not achievable unless there are more physicians on site
- The general physician workforce is on average 5 years older than other physicians so there will be a greater workforce requirement sooner than in other specialty areas
- An increasing number are female, and an increasing number may wish to work part time. Women work on average 20% fewer hours They will also more likely interrupt training and service.
- Many trainees dual train in general medicine and a subspecialty-some will move to practice exclusively in the subspecialty and be lost to general medicine. Perverse relative values (remuneration, conditions of work) do need to be corrected to reduce this loss, but there will still need to be an excess number of trainees to account for losses.

Future requirements:

As a consequence of these arguments, there should be a target of at least 5 – 7 FTE general physicians per 100,000 in the medium term. This will vary among centres depending on service configurations, with smaller regional centres requiring higher ratios than metropolitan centres.

There are currently 110 advanced trainees in general medicine. This seems inadequate to replace the current general medical workforce, let alone build a stronger one.

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August 2005

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