

# A Critical Analysis of the Gastroenterology Specialist Workforce in New Zealand

## Challenges & Solutions

**November 2018**

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## **Challenges & Solutions**

The New Zealand Society of Gastroenterology (NZSG) was established in 1966 and has physician, surgeon, scientist and trainee members, who treat, diagnose and research disorders of the gastrointestinal tract and liver. The NZSG strives to support the field of gastroenterology in New Zealand, advance knowledge of gastroenterology, and promote improved standards in the practice of gastroenterology.

The NZSG is a member of the World Gastroenterology Organisation, Asia Pacific Association of Gastroenterology and the Asia Pacific Society for Digestive Endoscopy. Members of the NZSG serve on various subcommittees and boards of these international organisations. There is a strong association with the New Zealand Nurses Organisation Gastroenterology Nurses College.



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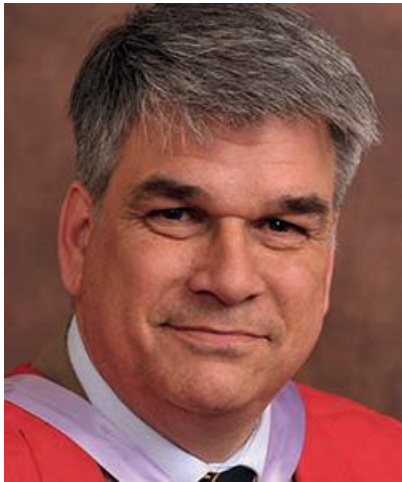
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## FOREWORD



Assoc Prof Michael Schultz FRACP  
President NZ Society of  
Gastroenterology

At a specialist meeting in 2016 on Inflammatory Bowel Disease, New Plymouth gastroenterologist Dr Campbell White made a presentation titled 'The Isolated Gastroenterologist'. There followed a discussion on concerns about the delivery of gastroenterology services in general and the inequities in access to good quality care in many parts of New Zealand, especially for people living in rural and deprived areas.

There was also serious concern expressed about the achievability of the upcoming rollout of the National Bowel Screening Programme, given the large additional demand this would place on colonoscopy services and the impact on time available for other gastroenterology patients and their problems. Likewise, concern had been growing about the rising incidence and burden of Inflammatory Bowel Disease, the long average lead time to diagnosis, the inconsistent treatment pathways and access to specialist care available around the country to patients living with this serious and very debilitating disease.

As with other areas of the health service, the gastroenterology sector also faces important broader challenges, such as the changing health needs of an aging population, rising patient expectations, the opportunities for new models of care created by technological developments, achieving access to innovative but costly new medicines, the increasing prevalence of chronic disease, and, as ever, limited funding.

In considering these issues, it became obvious that there is insufficient specialist workforce data on critical issues such as the gastroenterologist specialist per head of population ratio and the age and distribution of the specialist workforce. In the absence of these data it is simply not possible to determine what is needed to ensure the gastroenterology workforce has the capacity and skills to deliver high-quality services and meet these pressing demands now or into the future.

These challenges are not new, however. Indeed, they were all identified in an extensive gastroenterology workforce review undertaken in 2011. The review pointed to 'a significant recruitment and retention problem in gastroenterology in New Zealand, which has reached crisis point' and set out a vision for the sector for 2020, with detailed recommendations on how this could be realised. While some action has been taken the underlying problems remain. Of particular concern is the reality that the need to assemble accurate data has not been addressed.

The New Zealand Society of Gastroenterology (NZSG) therefore resolved to undertake a workforce review as a matter of urgency.

Accordingly, over 2016/17 the NZSG conducted a survey of the workforce to determine the age, training and qualifications, lists per week and numbers of colonoscopies performed per year, and the number of fulltime equivalents (FTEs) of gastroenterology specialists and surgeons working in public and private in the field of gastroenterology. In addition, research was carried out through onsite visits and information requests to establish precise specialist numbers per DHB. We also reviewed other recent and earlier reports on gastroenterology workforce issue. The results, which were presented to the NZSG's Annual Scientific Meeting in November 2017, form the basis of this report.

An overview of this review and its recommendations was presented to the Minister of Health, the Honourable Dr David Clark, on 3 May 2018.

A key objective of the NZSG is to promote improved standards in the practice of gastroenterology. To ensure we have the capacity, skills and structural arrangements to deliver the quality and range of services to all New Zealanders who require them, we regard it as imperative that the actions proposed in this review are implemented.



**Michael Schultz, MD, PhD, FRACP**

President

New Zealand Society of Gastroenterology

Associate Professor of Medicine, Otago University, and gastroenterologist, Dunedin

### **Authors and members of the 2018 review group**

The review was undertaken by Assoc Prof Michael Schultz, MD, PhD, FRACP, gastroenterologist (Dunedin), President of the NZSG, Dr Malcolm Arnold, FRCP, FRACP, gastroenterologist (Hawkes Bay), President elect NZSG, and Dr Thomas Caspritz, FRACP, gastroenterologist (Timaru) Member Exec Committee NZSG.

Additional work was done by Dr Ely Rodrigues, PhD, Postdoctoral Fellow, University of Otago, and Dr Campbell White, FRACP, gastroenterologist (Taranaki), Secretary Exec Committee NZSG.

### **Acknowledgements**

The review was funded by the NZSG. Dr Malcolm Arnold's work in visiting DHBs and endoscopy centres throughout New Zealand was supported by Hawkes Bay DHB.

# I. EXECUTIVE SUMMARY

## Background

The nationwide demand for gastroenterology services has grown to an all-time high, a climb that is set to continue in light of our ageing and increasing population, but also the introduction of new programmes such as the National Bowel Screening Programme. A confluence of factors has put enormous pressure on the capacity of the country's health sector to deliver timely, high quality specialist gastroenterology (GE) treatment to New Zealanders in need. In particular, we note:

- New Zealand has one of the highest rates of bowel cancer in the world, and one of the highest death rates in the developed world from this disease. Overseas evidence indicates an association of significantly lower rates of bowel cancer in areas with a higher density of GE specialists.
- New Zealand also has one of the highest and fastest-growing rates of inflammatory bowel disease (IBD) in the world, currently affecting an estimated 20,792 New Zealanders young and old. This number is expected to double in the next 10 years.
- The rising prevalence of Hepatitis C places further pressure on the GE workforce. Currently at least 50,000 New Zealanders have Hepatitis C, of whom half are yet to be diagnosed. Efforts to move treatment for this disease into the community have not been successful.
- There are substantial numbers of patients nationwide already on unacceptably long waiting lists for gastroenterology follow-up.
- The National Bowel Screening Programme rollout forecasts are unachievable with the current size of the GE workforce, in part as a result of the original Health Workforce New Zealand (HWNZ) modelling being based on inaccurate underlying Ministry of Health data.
- The absence of accurate data on the GE workforce impedes the ability of the sector and health planners to correctly assess current capacity and the future supply of specialist services.

The New Zealand Society of Gastroenterology conducted a survey from 2016 to 2017 to investigate the structure, distribution and demographics of the GE specialist workforce and to establish specialist numbers per DHB. In addition to visits to DHBs, data was gathered through an electronic questionnaire. Responses were received from 51 GEs (55% of the workforce) and 24 general surgeons. Other reports on related issues were also considered as part of this study.

## Survey results

The survey established the following:

- In November 2017 there were 93 gastroenterology specialists providing clinical service in New Zealand, of whom nine work exclusively in private practice.
- This translates to a full time equivalent (FTE) ratio per capita of 1.53/100,000. This is the most accurate measure of the specialist workforce and is commonly lower, due to positions also covering general medicine (25 percent) and GEs doing some private work (70 percent).

- Measured by headcount (which is used for international comparisons), the NZ GE workforce headcount per capita ratio is 1.93/100,000 population (or 1.74/100,000 without fully private specialists).
- The gastroenterologist headcount per population ratio is low when compared to similar countries such as Australia (3/100,000) and Scotland (2.34/100,000).
- There are substantial regional, socio-economic and ethnic inequalities in access to GE treatment. Smaller DHBs in particular commonly have very limited or no gastroenterology service, and there are four DHBs with no local resident GE specialist. These areas coincide with areas of significant deprivation.<sup>1</sup>
- The GE specialist workforce is relatively old, with 42 percent likely to retire within the next 10 years and with an insufficient number of qualified local specialists to replace them. We presently rely heavily on overseas-trained doctors to fill open positions.
- The training output in New Zealand is eight gastroenterology specialists per year. It is estimated around half leave to take up positions overseas.
- Training facilities nationwide are suboptimal.
- Gastroenterology specialists provide more colonoscopies per specialist than other endoscopists, predominantly general surgeons. The mean number of colonoscopies performed per year per GE is 466 (264 public and 202 private), and per general surgeon is 269 (151 public and 118 private).

## Conclusions

Our research and survey established the following:

### 1. An unmanageable increase in demand for GE services

- Increases in the prevalence of bowel cancer, inflammatory bowel disease and Hepatitis C, together with the demands of the rollout of the National Bowel Screening Programme, are placing huge pressure on the capacity of GE specialists to deliver high quality, timely services to patients. Substantial numbers of patients nationwide are already enduring unacceptably long waiting times for gastroenterology follow ups. There are simply not enough GE specialists and not enough graduates coming through to meet current needs.
- Increasing the workforce and replacing the large number of specialists approaching retirement will mean a heavy reliance on recruiting overseas trained specialists.
- The number of nurse endoscopists coming through training is too small to have any immediate impact on workload, and given the need for experience it will be years before the potential of this initiative will be realised.

### 2. Inequities of access and treatment

- As well as the need to increase overall capacity there is a compelling need to improve the distribution of the GE workforce to improve equity of access to good quality treatment and reduce regional, ethnic and socio-economic disparities in patient outcomes.

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<sup>1</sup> <https://www.health.govt.nz/publication/dhb-maps-and-background-information-atlas-socioeconomic-deprivation-new-zealand-nzdep2006>

- There is no requirement for DHBs to have a GE specialist. As a result there are four DHBs with no local resident GE specialist, and most other regions have inadequate GE coverage.
- Māori and Pasifika face the double disadvantage of being disproportionately affected by a number of gastrointestinal conditions and over represented in deprived areas where access to GE specialist services is limited or non-existent.

### 3. Lack of data

- There is a clear need to improve data collection on the GE workforce.

### 4. Loss of new graduates to overseas positions

- The likelihood that half of new GE graduates will continue to leave New Zealand permanently is a serious concern.
- Training provision throughout the country is widely regarded as being suboptimal. Coordination and communication of research also needs to be improved to increase the visibility and viability of gastroenterology as a profession.
- Given the extensive and expensive training involved, it could be seen as a waste of expertise and knowledge to have fully qualified gastroenterologists providing general medicine services as well, although dual roles may be needed in smaller hospitals.

### 5. Limited access to new treatments

- Lack of access to new, more effective medicines available in comparable countries for patients with serious gastrointestinal conditions is a huge concern and frustration for GE specialists. It may also be a factor in attracting graduates to train in GE and in discouraging newly trained GEs from remaining in New Zealand.

### 6. Need to foster a team approach

- Gastroenterology is a team effort, involving specialist nurses, technicians and allied health workers to optimise patient care and maximise use of specialist time.
- There is an acute shortage of specialist IBD nurses, the current ratio being 1/1,155 IBD patients. Achieving the Australian headcount standard would require the creation of 11 new IBD specialist nurse positions.
- Understaffing is likely in other GE-related nurse specialists such as Hepatitis, stoma care, colorectal cancer screening and surveillance, and colon polyp follow-up triage.
- Ensuring that nurse specialists are appropriately recognised and valued is important in contributing to recruitment and retention and achieving optimal care and outcomes for patients.

## Recommendations

### Workforce

1. Match the gastroenterologist/population ratio to the Australian ratio, as proposed in the 2011 Workforce Review. This will mean adding 51 more to match Australia, or 20 more specialists to match Scotland.

2. Implement the recommendations of the 2011 Workforce Review that have not yet been actioned.
3. Implement the recommendations of the 2018 National Bowel Screening Programme Assurance Review Report.
4. Further address regional, rural and socio-economic inequities in access to high-quality GE care and treatment, through the following actions:
  - a. Direct DHBs who are currently critically under-resourced in GE capacity to establish new GE specialist positions and to fill vacant GE specialist positions to match their population's needs, based on the ratio proposed above and in line with the Ministry of Health's objectives and statement of intent<sup>2</sup>
  - b. Establish provincial gastroenterology fellowships with funding from Health Workforce New Zealand (HWNZ). NZSG recommends that four fellowships be established in Taranaki, South Canterbury, Northland, Invercargill
  - c. Establish scholarships for Māori and Pasifika doctors to undertake GE training, and
  - d. Consider and secure iwi and/or private sector support for b. and c. above. The NZSG is willing to assist in this.
5. Further develop the team approach to improving patient care and outcomes, optimising GE specialist and support staff time and improving the attractiveness of the work environment by:
  - a. Establishing an IBD nurse training programme and filling 11 new positions to match the Australian IBD nurse target (0.6/100,000)
  - b. Training and employing hepatology nurses to implement and monitor recommended standards for end-stage liver disease, and
  - c. Increasing auxiliary workforce, e.g. dietitians and pharmacists.

## Data gathering

6. Survey current gastroenterology trainees, recent graduates and consultants to explore reasons for leaving and the feasibility of incentives to stay, and determine whether training positions need to be increased.
7. Establish yearly workforce data acquisition and the publication of a 'workforce fact sheet' (as currently produced in Australia - see Appendix 1) to assess the progress and fitness of the current state of the workforce to match service requirements. This data could be acquired through the compulsory application for annual practising certification administered by the Medical Council of New Zealand and production should be undertaken by HWNZ.

## Implementation

8. Establish a joint Ministry of Health – New Zealand Society of Gastroenterology steering group to drive and support the implementation and monitoring of these actions.

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<sup>2</sup> <https://www.health.govt.nz/publication/statement-intent-2014-2018>

## II. INTRODUCTION

### What is gastroenterology?

Gastroenterology (GE) involves the diagnosis and management of diseases and disorders of the digestive system. This includes disorders of the oesophagus, stomach, small and large intestine, liver, gallbladder and pancreas. The knowledge base and experience required for diagnosis and disease management is extensive, including thorough knowledge of pathology, physiology, anatomy, biochemistry, genetics, pharmacology and psychosocial aspects of disease.

Gastroenterologists (GE specialists) are internal medicine subspecialists. They are required to undertake extensive training in the assessment and treatment of diseases of the digestive system, including diagnostic and therapeutic gastrointestinal endoscopy.

### Context of this survey

The context of this survey was growing concern in the GE sector about the capacity of the specialist workforce to deliver high quality service across the country, especially in rural centres. Other pressing matters of concern were:

- the poor state of data on the GE specialist workforce. The NZSG is aware that specialist workforce data supplied by the Ministry of Health is not accurate. This may be because sub-specialities are not always documented in information collected by the New Zealand Medical Council as part of the application for an annual practising certificate
- regional disparities and socio-economic and ethnic inequities in access to GE services and in treatment outcomes. Ethnic inequities have been further highlighted as a major concern with respect to access to and uptake of the NBSP in the recent independent assurance review of the programme<sup>3</sup>
- clear overseas evidence<sup>4</sup> of the association of a higher density of GE specialists with a significantly (14 to 17 percent) lower incidence of advanced colorectal cancer (CRC) in relatively higher socio-economic areas
- the demands (including administrative) of the rollout of the National Bowel Screening Programme (NBSP), which the NZSG believes is based on unachievable workload numbers
- the impending health crisis posed by the large and growing incidence of Inflammatory Bowel Disease (IBD) in New Zealand, including the growing burden and cost to IBD patients (and the health system) of late diagnosis and inequitable access to care and treatment pathways across the country. The productivity losses as a result of these predominantly young patients' absence from the workforce is estimated at \$86 million annually<sup>5</sup> and the total direct and indirect cost of IBD is estimated to be \$245 million per annum. In this regard we note that the financial cost imposed on the country by inpatient care and surgery could be vastly reduced by the provision of medications readily available in most OECD countries
- the rising incidence of Hepatitis C affecting over 50,000 New Zealanders (only half of whom have been diagnosed) which is putting further pressure on GE specialists. Around 1000 new cases are diagnosed each year. Left untreated the disease is a major cause of liver damage and cirrhosis and the leading cause of requirement for liver transplantation in New Zealand. Efforts to move treatment of Hepatitis C into the community have not been successful with more than half still being treated in secondary care<sup>6</sup>

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<sup>3</sup>[https://www.health.govt.nz/system/files/documents/media/nbsp\\_independent\\_assurance\\_review\\_report\\_2018\\_-\\_final.pdf](https://www.health.govt.nz/system/files/documents/media/nbsp_independent_assurance_review_report_2018_-_final.pdf)

<sup>4</sup> J Gen Intern med. 2010 Nov;25(11):1164-71

<sup>5</sup> Crohn's & Colitis NZ 2017 [https://issuu.com/crohnsandcolitisnz/docs/271017\\_master\\_formatted\\_bod\\_report\\_](https://issuu.com/crohnsandcolitisnz/docs/271017_master_formatted_bod_report_)

<sup>6</sup> Hepatitis C: quarterly report for the Ministry of Health: using PHARMAC data January 2018-March 2018.



- the need for more trained IBD, Hepatitis, stoma, endoscopy and other specialist nurses, healthcare workers and technicians to: facilitate a team approach to GE service delivery; improve patient outcomes; improve the attractiveness of the work environment in terms of encouraging recruitment into the sector; and to free up consultant time for higher-level activities
- the need for GPs to have clear guidelines on how to manage patients who present with gastrointestinal problems
- the failure of health decision makers to address many of the issues identified in the extensive GE workforce review undertaken in 2011. The review set out a vision for GE for 2020. This is discussed in detail in Chapter IV
- major inequities for patients in regional and rural areas who have little or no access to gastroenterology expertise, and
- high workload and long waiting times in the larger centres, preventing gastroenterologists in these centres from providing services to the smaller centres.

As with other areas of the health workforce, the broader backdrop of this study is an ageing population; increasing patient expectations; increasing demand driven by technological developments; increasing prevalence of chronic disease; the need to manage access to innovative, effective but costly new medicines; changing perceptions of medicine as a vocation; the growth of a two-tier health system that provides faster, better care for those who can afford it; and limited funding.

## Survey objectives

The objectives of this review were to:

1. establish accurate data on the status of the gastroenterology specialist workforce in New Zealand
2. evaluate its ability and readiness to deliver adequate gastroenterology services to meet the growing needs of patients across New Zealand now and into the future, and
3. recommend solutions and actions needed to address the issues identified.

## Methodology

The NZSG conducted an electronic survey<sup>7</sup> from 2016 to 2017 to investigate the structure, distribution and demographics of the specialist workforce. The return rate of 51 gastroenterologists equals about 55 percent of the gastroenterology specialist workforce in New Zealand.

The NZSG survey was designed to answer the following questions:

- How does the New Zealand gastroenterology specialist workforce compare with other similar countries in terms of numbers per head of population?
- How is the workforce distributed?
- Are there regional inequalities in service delivered and patient outcomes?
- How stable is the workforce?

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<sup>7</sup> See Appendix 5

- Are GEs trained in New Zealand or overseas?
- What is the current workload? How many colonoscopies are currently being done, i.e. what is the rate per GE specialist and per general surgeon? How does this compare with the baseline data used in forecasting workforce capacity for the rollout of the National Bowel Cancer Screening Programme?

To supplement the information obtained through the survey, Dr Malcolm Arnold undertook a sabbatical involving visits to DHBs to establish precise numbers of GE specialists per DHB. Data from the Ministry of Health's 2016 workforce survey was also utilised in the study.

The NZSG has also drawn on data from other relevant reports, including:

- the 2011 Gastroenterology Workforce Service Review<sup>8</sup>
- a 2017 burden of disease report undertaken by Crohn's & Colitis New Zealand<sup>9</sup>
- the recent Independent Assurance Review for the National Bowel Screening Programme<sup>10</sup>, and
- data obtained from the Ministry of Health on numbers of colonoscopies performed and the incidence of Hepatitis C.

To add further insight and qualitative context to the data, we have gathered anecdotal evidence from GE specialists and other health care professionals on the impact of workforce issues highlighted by this survey.

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<sup>8</sup> <https://www.health.govt.nz/system/files/documents/pages/gastroenterology-review.pdf>

<sup>9</sup> Op. cit

<sup>10</sup> Op. cit



### III. SURVEY RESULTS

The survey has provided new data and insights on the numbers, distribution and composition of the GE specialist workforce, as well as data on training, support services and workload.

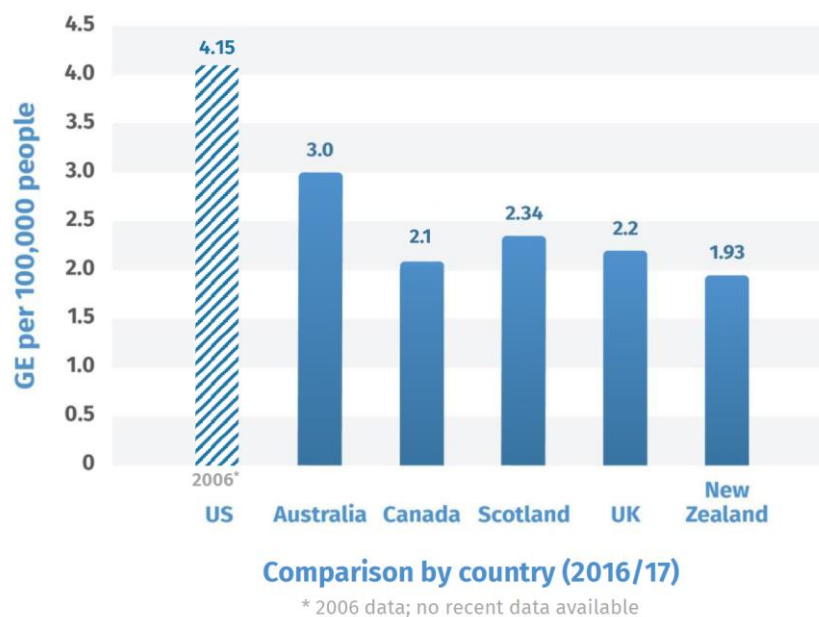
## Workforce size

**The survey found that in November 2017 there were 93 gastroenterology specialists providing clinical service in New Zealand. Nine of those worked exclusively in private practice.**

The headcount (not FTE<sup>11</sup>) per capita is 1.93 GE specialists/100,000<sup>12</sup>, including those working fully in private practice, or 1.78/100,000, excluding those working fully in private practice. This compares with previous 2017 data supplied by the Ministry of Health which put the numbers at 74 specialist GEs, making a headcount per capita of 1.53 GEs/100,000.

The gastroenterologist headcount per population ratio is low, when compared to similar countries, such as Australia (3/100,000) and Scotland (2.34/100,000). See Figures 1 & 2.

**Figure 1: GE headcount/100,000 population, comparison by country 2016/2017.**

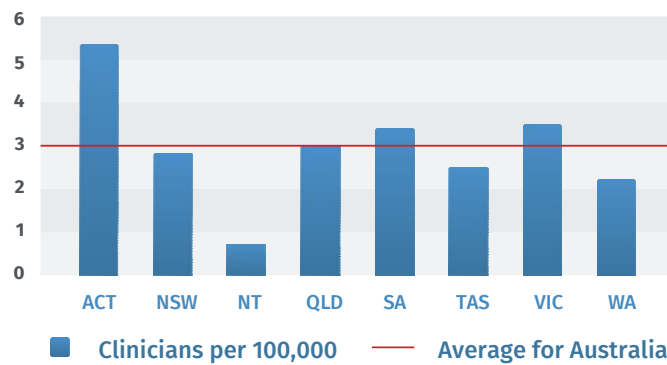


Source: EphMRA Foundation Committee Report – Doctor Statistics in Canada, France, Germany, Italy, Japan, Spain, UK, USA 2008; BSG Gastroenterology Workforce report, Oct 16; CMA Masterfile]

<sup>11</sup> Headcount is used for international comparisons. FTE is the most accurate measure of the specialist workforce. It is commonly lower than headcount, due to positions also covering general medicine, and GE specialists also conducting some private work.

<sup>12</sup> Based on NZ population headcount 2017 of 4.83 million.

**Figure 2: Clinicians per 100,000 population in Australia 2016**

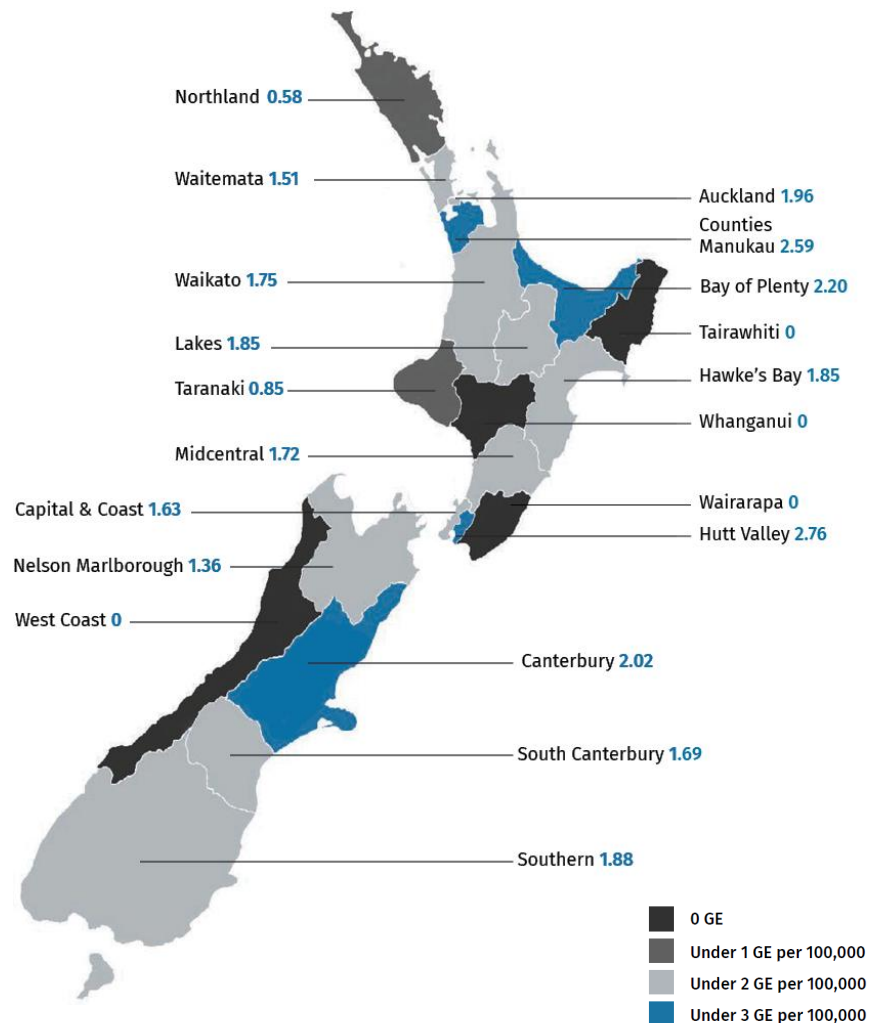


Source: Gastroenterology & hepatology 2016 factsheet: healthworkforcedata@health.govt.au

## Workforce distribution

The survey established reliable workforce data for every DHB, expressed as headcount (not FTEs) per 100,000 population.

**Figure 3: GE headcount per 100,000 by DHB 2017**



Source: NZSG Gastroenterology Workforce Survey 2017

## Regional, ethnic and socio-economic inequalities

### Four DHBs have no resident gastroenterologist: West Coast DHB, Tairāwhiti DHB, Wairarapa DHB, Whanganui DHB

The survey data highlights substantial regional, socio-economic and ethnic inequalities in availability of GE specialists and access to treatment. As shown in **Figure 4**, most DHBs (16 of 20) have inadequate service (below two GE specialists per 100,000 population). Smaller DHBs, in particular, commonly have very limited gastroenterology service. Even more concerning is that there are four DHBs with no local resident GE specialist at all. These regions include areas of severe deprivation<sup>13</sup>.

General practitioners in these areas with little or no gastroenterology service report serious concerns with the level and variability of care they are able to offer patients presenting with gastroenterology problems. At the same time GE specialists in the larger centres report that high workload and long waiting lists prevent them from providing service to smaller centres.

“ We have no direct access to gastroenterology at all. Everything needs to go through the surgeons... The surgical service is mostly made up by locums... **I am worried that things get lost.** The service we can offer here is quite different to what is being offered in bigger centres. ”

-GP West Coast

“ We need **30-50% more gastroenterologists very quickly** and need support for this, and more endoscopy rooms of course. ”

-GE major centre

“ Currently **there are 3,000 patients on the waiting list** for follow up in gastroenterology at my DHB. This includes patients with chronic, incurable problems, IBD, cirrhosis, etc. who are not being seen. **Some capable patients who know who to call are getting in, but many more vulnerable or less capable (arguably those at higher risk) aren't.**

Even if we could be very efficient and see 10 in one **clinic we would need to run 7 additional GE-led clinics per week for 42 weeks just to see this tail of 3,000**, let alone the new patients we are seeing, many of whom will be added to the follow up queue. **Many SMOs are feeling increasing clinical anxiety about these patients.** ”

-GE major centre

<sup>13</sup> <https://www.health.govt.nz/publication/dhb-maps-and-background-information-atlas-socioeconomic-deprivation-new-zealand-nzdep2006> <https://www.health.govt.nz/system/files/documents/publications/westcoast.pdf>

To match the current GE specialist headcount per population in Australia of 3/100,000, South Canterbury should have 1.8 GE specialists, or to match Scotland's ratio of 2.34 GE/100,000, South Canterbury should have a headcount of 1.4 GE specialists.

In addition, as discussed in Chapter IV Issues, p.29, to meet the Australian IBD Standard of Care, the DHB would also need to have a team dedicated to treating patients with IBD<sup>14</sup>, which would include 0.5 FTE GE specialist devoted to IBD, and 0.5 FTE colorectal surgeon devoted to IBD, as well as access to specialist nurses and dietitian services.

## Impact of the rising prevalence of Hepatitis C

Until now, prevalence has been based on a 2000 report: Hepatitis C infection in New Zealand: estimating the current and future prevalence and impact<sup>15</sup> (Nesdale et al). It estimated there were 25,200 people in New Zealand in that year with Hepatitis C and projected a 50 percent increase over the following 10 years. This study and work from Australia led to the conclusion of a 1.1 percent prevalence.

In late 2014 an evaluation was completed on a Hepatitis C Pilot undertaken by the Hepatitis Foundation with funding from the Ministry of Health. The report included data on those diagnosed with Hepatitis C in four DHBs (Capital and Coast, Hutt Valley, Wairarapa and Bay of Plenty)<sup>16</sup>. The analysis of the HCV testing volumes and positivity rates compares baseline figures from the year before the Pilot commenced (2011–2012) to the second year of the Pilot (2013–2014). Of 7,290 HCV tests in Pilot year two, 249 were found to be positive, giving a positivity rate of 3.4 percent in Pilot year two.

A 2015 study<sup>17</sup> of Hepatitis C in a middle-aged population in Dunedin, showed high prevalence and limited knowledge of Hepatitis C. The prevalence for HCV was 4.01 percent, 95 percent CI: 2.6 percent - 5.8 percent.

As set out in a letter to the Minister of Health and Pharmac in April 2018, the NZSG is deeply concerned about the two-tier health care system for Hepatitis C that has developed as a direct result of Pharmac funding treatment only for genotype 1 Hepatitis C but not for the other genotypes. Untreated Hepatitis C is a progressive disease that will lead to long-term complications but with the newer medications can be eradicated. We noted that patients with Hepatitis C can be socially vulnerable, with limited abilities for them or their family or whanau to advocate for access to curative treatment.

### A regional/rural snapshot: South Canterbury



- **DHB Population 59,210**
- **No registrars**
- **Single GE (0.3 FTE GE and 0.7 FTE general medicine)**
- **Around 261 IBD Patients**
- **Over 300 Hepatitis C patients, and an estimated additional 300 undiagnosed**

<sup>15</sup>[http://www.moh.govt.nz/notebook/nbbooks.nsf/0/66d62562cfc858dccc2576010082fda6/\\$FILE/Hepatitis+c+infection+in+nz+.pdf](http://www.moh.govt.nz/notebook/nbbooks.nsf/0/66d62562cfc858dccc2576010082fda6/$FILE/Hepatitis+c+infection+in+nz+.pdf)

<sup>16</sup> See Appendix 8

<sup>17</sup> Vermunt J, Fraser M, Herbison P, Wiles A, Schlup M, Schultz M. Prevalence and knowledge of Hepatitis C in a middle-aged population, Dunedin, New Zealand. *WJG* 2015; 21:10224-10233

We also noted that it was anticipated by Pharmac and the Ministry of Health that treatment of Hepatitis C is being shifted to the community to ease pressure on hospital doctors. As the table<sup>18</sup> in Appendix 2 shows, this did not quite happen.

A New Zealand publication<sup>19</sup> currently under review has identified a number of barriers for GPs to undertake diagnosis and treatment of patients with Hepatitis C. With around 25,000 undiagnosed patients in the pipeline, this is a huge burden for hospital doctors.

## Relationship of GE workforce density and rates of colorectal cancer

**Overseas evidence shows that a higher GE density is associated with a significantly lower (14 to 17 percent) incidence of late-stage colorectal cancer in relatively higher socio-economic areas.**

A study of the association of physician density with the incidence of late-stage colorectal cancer was conducted in Pennsylvania and published in 2010 in the *Journal of General Internal Medicine*<sup>20</sup>. Colorectal cancer is the third most common cancer in the United States.

The study found that higher socio-economic areas had a lower incidence of late-stage CRC (a reduction of 17 percent) when they had at least 3.3 GEs/100,000 populations. On linear regression, non-metropolitan counties which had a high density of gastroenterologists had a reduction incidence of late-stage CRC of 14 percent.

While no definitive study has been undertaken in New Zealand, data on the prevalence of colorectal cancer in New Zealand also generally indicate an association of a lower rate of CRC in areas with a higher density of GE specialists, notably in the major cities. See **Figure 4** overleaf.

### Bowel Cancer in NZ

- **One of the highest bowel cancer rates in the world**
- **One of the highest death rates from this cancer in the developed world**
- **Second highest cause of cancer death, including for Māori men**
- **New cases per year increasing by 15% for men and 19% for women**

<sup>18</sup> Appendix 2 2014-04-18 Hepatitis C MOH data Jan – Mar2018.pdf

<sup>19</sup> Johnson S, Aluzaitė K, Taar A, Schultz M. Identifying Barriers to Treatment of HCV in the Primary Care Setting. (under review)

<sup>20</sup> *J Gen Intern Med.* 2010 Nov;25(11):1164-71. doi: 10.1007/s11606-010-1457-z. Epub 2010 Jul 24



**Figure 4: Correlation of density of GE specialists with incidence of colorectal cancer by DHB**

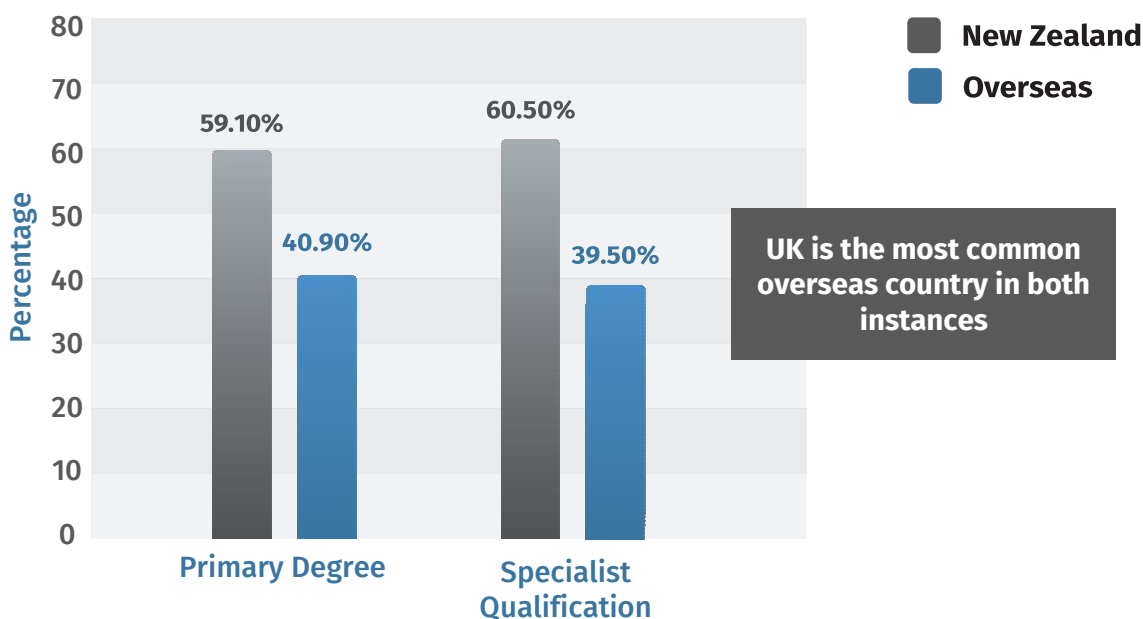
District Health Board	Prevalence of CRC: 1 per head of population	Population	# of GE specialists per 100,000 people	# of reported colorectal cancer cases
Capital & Coast	1/2,090	307,250	1.63	147
Counties-Manukau	1/2,089	541,080	2.59	259
Auckland	1/2,050	510,450	1.96	249
Waitemata	1/1,773	597,510	1.51	337
Waikato	1/1,670	400,820	1.75	240
Lakes	1/1,618	105,170	1.9	65
Canterbury	1/1,545	543,820	2.02	352
Hutt Valley	1/1,514	145,310	2.76	96
Northland	1/1,387	170,560	0.58	123
Taranaki	1/1,342	118,110	0.85	88
Bay of Plenty	1/1,309	226,530	2.2	173
MidCentral	1/1,263	174,340	1.77	138
Tairāwhiti	1/1,255	47,680	0	38
Nelson-Marlborough	1/1,207	147,210	1.35	122
Whanganui	1/1,201	62,445	0	52
Wairarapa	1/1,125	43,890	0	39
South Canterbury	1/1,096	59,210	1.69	54
Hawke's Bay	1/1,079	161,780	1.85	150
West Coast	1/1,037	33,190	0	32
Southern	1/998	319,200	1.88	320
		<b>Total</b> <b>4,715,555</b>		

Source: M. Schultz, M. Arnold

## Origin of specialists’ qualifications

**About 40 percent of the workforce gained their specialist qualification overseas.**

Figure 5: Gastroenterology Qualifications



Source: NZSG Gastroenterology Workforce Survey 2017

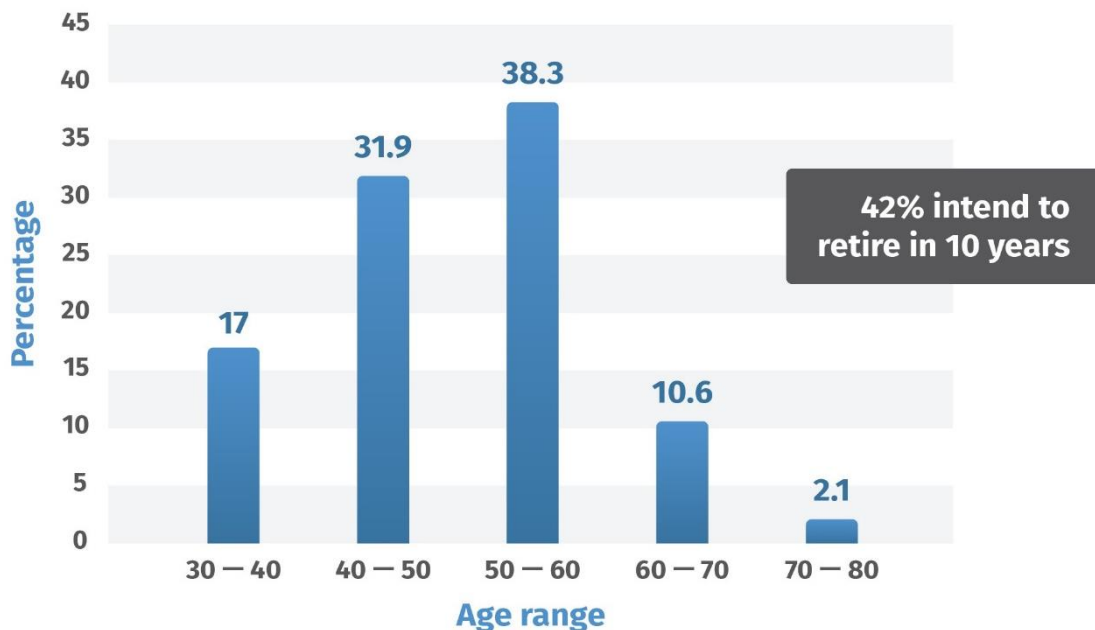
## Composition of the workforce

**The GE specialist workforce is relatively old.**

The survey revealed that 42 percent of New Zealand GE specialists are likely to retire within the next 10 years, compared to 33.8% in Australia<sup>21</sup>. There is an insufficient number of qualified local specialists to replace those retiring, and a heavy reliance on recruiting overseas-trained doctors to fill open positions.

<sup>21</sup> Gastroenterology & hepatology 2016 factsheet, healthworkforcedata@health.govt.au

Figure 6: GE population age range



Source: NZSG Gastroenterology Workforce Survey 2017

**A quarter of GE specialists work in dual roles (gastroenterology & general internal medicine)**

The survey found that 12 out of 50 GE specialists work in dual roles: gastroenterology and general internal medicine. The average FTE in general internal medicine is 0.43.

Given the extensive training involved, it could be seen as a waste of expertise and knowledge to have fully qualified gastroenterologists providing general medicine services as well. On the other hand, we recognise that dual roles may be needed in smaller hospitals to populate the on-call rosters. However, the fact that often only one person is in the role makes the service vulnerable during times of leave and sickness.

**70 percent of GE specialists do some private work**

Of those sampled, 35 out of 50 GE specialists do some private work, the average FTE being 0.18 percent, in addition to their public duties.

## Workforce stability & retention

**On average New Zealand trains eight new GE specialists per year, but loses around half to overseas roles.**

Around eight trainees complete gastroenterology speciality training each year, and it is normal practice for these graduates to undertake an international fellowship before taking up a GE consultant position. It is not however known how many GE graduates choose to stay permanently in New Zealand or return to New Zealand after completing a fellowship to take up consultant roles.

Previous data from 2000-2009 (see Appendix 3) suggest that in some years up to 50 percent of new graduates leave New Zealand permanently. NZSG therefore assumes that similar numbers of trainees today are also choosing to pursue careers abroad.

This trend is a serious concern. Consideration needs to be given as to how to address or mitigate it, and to ensure gastroenterology is seen as an attractive and viable profession to pursue in New Zealand. A contributing factor that needs to be addressed is that training provision throughout the country is widely regarded as being suboptimal. Coordination and communication of research also needs to be improved to increase the visibility and viability of gastroenterology as a profession.

Consultant gastroenterologist positions offered by DHBs need to be sufficiently attractive to retain skilled talent. We recommend that further research be undertaken, including a survey of current trainees to ascertain their intentions, and a survey of recent graduates to determine what influenced their decision to leave or stay in New Zealand. If the trend to leave permanently cannot be reversed or at least reduced, consideration needs to be given to increasing the annual intake of trainees.

## Nursing & other specialist support

**There are 18 inflammatory bowel disease (IBD) specialist nurses across New Zealand, or 1/1,555 IBD patients.**

It is well recognised that gastroenterology is very much a team effort. To deliver optimal care and treatment to patients, and make maximum use of specialists' time, gastroenterologists depend on the support of specialist trained nurses, technicians, and allied health workers, such as dietitians.

An area of particular need is nurses specialising in caring for patients with IBD, which includes Crohn's disease and ulcerative colitis. In this regard we note the recent burden of disease report<sup>22</sup> undertaken by Crohn's & Colitis New Zealand which reported a current headcount of 18 IBD nurses in New Zealand, most of whom work in dual roles, for example IBD and general nursing. See **Figure 7** below. This equates to a headcount of 0.37/100,000 population, or 1/1,155 IBD patients, assuming nurses were FTEs and nurses and patients were evenly distributed across the country. It can furthermore be assumed that FTE distribution is even worse. Of the 20 DHBs seven have no IBD nurses.

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<sup>22</sup> Op. cit P.48, Figure 20, Current distribution of IBD nurses.

Of further concern is that there are no trained dedicated paediatric IBD nurses at all in New Zealand, meaning that children with IBD do not receive nursing expertise for this complex condition where it has been shown that expert nursing input is invaluable. It should also be noted that there is still no formal pathway of training for nurses to specialise in IBD.

**Figure 7: Current Distribution of IBD Nurses (headcount, not FTE) 2017**

<b>DHB</b>	<b>No. IBD Nurses</b>
Auckland	4
Bay of Plenty	1
Canterbury	1
Capital and Coast	1
Hawkes Bay	1
Hutt Valley	1
Lakes	1
MidCentral	1
Nelson-Marlborough	1
South Canterbury	1
Southern	2
Taranaki	1
Waikato	1
Waitemata	1

Source: *Reducing the Growing Burden of IBD in New Zealand, Crohn's & Colitis NZ, 2017*

Useful guidelines for appropriate ratios of GE specialists and IBD specialist nurses per capita of population are set out in the Australian IBD Standards 2016<sup>23</sup> (see **Figure 11**), Standard A1: The IBD Team. Achieving the Australian standard of a headcount of 0.6 IBD nurses/100,000 would require the creation of 11 new IBD specialist nurse positions.

It can be assumed that the understaffing situation is similar for other GE-related nurse specialists such as Hepatitis, gastrostomy care, colorectal cancer screening and surveillance, and colon polyp follow-up triage.

We believe that further research needs to be undertaken to examine current nursing support staffing levels, and the impact that an increase in the number of GE specialists will have on the demand for and availability of specialist gastroenterology support services.

Ensuring the work environment is attractive and that nurse specialists are appropriately recognised and valued are also important factors in contributing to recruitment and retention and achieving optimal care and outcomes for patients.

<sup>23</sup> Australian Workforce Data Standard A1 <https://www.crohnsandcolitis.com.au/site/wp-content/uploads/IBD-Standards-Final.pdf>

## Endoscopy workload

**On average GE specialists perform 264 colonoscopies per year in the public system<sup>24</sup>. General surgeons perform an average of 151 colonoscopies per year.**

**The modelling underlying the rollout of the National Bowel Cancer Screening Programme is based on the assumption that GE specialists perform an average of 660 colonoscopies per year.**

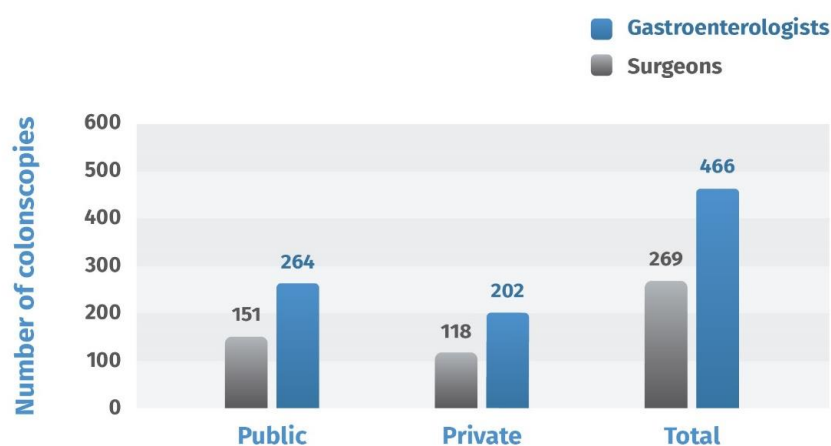
High quality endoscopy of the upper and lower gastrointestinal tract is a key skill and core interest of GE specialists. Endoscopy is also performed by general surgeons and some other health care professionals, but GE specialists carry out the large majority. The need and demand for high quality endoscopy will further increase with the current rollout of the National Bowel Cancer Screening Programme (NBSP) in New Zealand.

The Health Workforce New Zealand modelling for the rollout of the NBSP used incorrect data, including an assumption that 660 colonoscopies would be performed per year by GE specialists. In our view this undoubtedly renders the rollout targets unachievable. Ministry of Health data on the actual numbers of GE specialists working in New Zealand is also incorrect. It is assumed this inaccuracy arose because subspecialties are not always recorded by the Medical Council of New Zealand in the yearly applications for practising certificates.

As shown in **Figures 7 and 8**, the NZSG survey found that on average, in the public system, GE specialists performed 264 colonoscopies per year, while general surgeons performed an average of 151 per year. Of the 50 GE specialists surveyed, only three had performed more than 660.

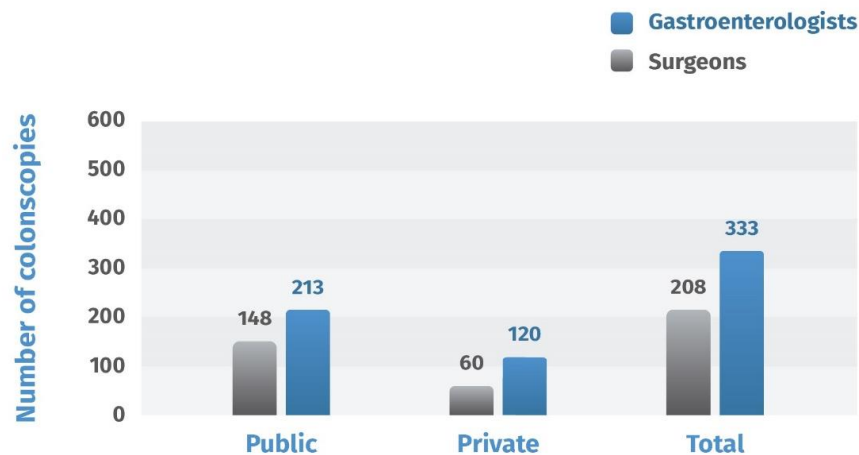
Data we have drawn from DHBs on the split between the numbers of GE and GS endoscopy lists (see Appendix 7) indicate that 128.8 endoscopy lists are done by general surgeons and 227.45 by gastroenterologists. We expect this split is likely to be reasonably representative.

**Figure 8: Colonoscopies/12 months mean per specialist 2017**



Source: NZSG Gastroenterology Workforce Survey 2017

<sup>24</sup> BCS is only performed in the public system.

**Figure 9: Colonoscopies/12 months median per specialist 2017**

Source: NZSG Gastroenterology Workforce Survey 2017

## Access to medications for GE patients

**New Zealand is again slipping behind the rest of the world in terms of medication access, and our patients endure suffering that they would not face if they lived in comparable countries.**

In the course of conducting this survey and preparing this report we have received many comments and letters from colleagues regarding the lack of access to medications for many of the patients we care for. It is impossible to have a discussion about the issues facing our profession without this concern being raised. As discussed above, long-term gastrointestinal conditions affect the daily lives of many New Zealanders. Yet it appears to us that New Zealand is again slipping behind the rest of the world in terms of medication access, and our patients endure suffering that they would not face if they lived in comparable countries.

Further, other groups of New Zealanders with different, equally problematic illnesses such as cancer or rheumatological conditions have access to medication options and classes that highlight a discrepancy in equal access when compared to gastroenterology. Patients with chronic gastroenterological problems often suffer in silence, with symptoms that make daily life embarrassing and limiting.

As examples, Hepatitis C, Inflammatory Bowel Disease and Irritable Bowel Syndrome are all conditions for which new and often profoundly more effective treatments are available overseas, but we cannot access these for our patients.

Over the past few months the New Zealand Society of Gastroenterology has submitted applications to Pharmac for funding of many medications that are desperately needed to significantly enhance the care of our patients. These medications are already first line treatment options in some locations or offer important alternatives for treatment. Unfortunately, perhaps due to commercial sensitivities, the Pharmac system is not transparent and we do not often get information as to the status of our applications.

The NZSG has offered to be involved in the decision process with the aim of delivering the best care possible for our patients.

## IV. ISSUES

### 1. 2011 Gastroenterology Workforce Service Review

An extensive GE workforce report was published in March 2011<sup>25</sup>. The report was undertaken " ...to inform both the Ministry of Health and the gastroenterology health sector on workforce requirements, what models of care might best meet need based on evidence-based best practice and the relevant training needs predicted for 2020....and to

1. develop a vision of the gastroenterology health service and workforce for 2020, and
2. develop a model of care for the gastroenterology health workforce that is patient-centred, team-based and builds in primary care where appropriate." [p.9]

The report was informed by previous papers on these issues, including a discussion paper from the NZSG (Appendix 4).

#### Context

The following are two noteworthy points made in explaining the context of the 2011 review:

"Despite numbers being collected by the Medical Council for the Medical Register, **it is unclear how many gastroenterologists there are (and how many surgeons, physicians and GPs who also do endoscopies)**. DHB data available from 2008 (the latest available) record 73 doctors who identified gastroenterology as their sub-specialty. Age profiles are accessible from the Medical Council registration data and workforce surveys, although gastroenterology is not listed in the specialty breakdown." (P.11)

**"It is recognized that there is a significant recruitment and retention problem in gastroenterology in New Zealand, which has reached crisis point especially affecting smaller centres.** In the South Island alone there are unfilled fulltime or part-time gastroenterology positions on the West Coast, Timaru, Dunedin and Invercargill, and inadequate cover in Marlborough. **This results in major inequities for patients in these areas who may now have little or no access to gastroenterology expertise. High workload and long waiting times in the larger centres prevents gastroenterologists in these centres from providing services to the smaller centres.** There are similar issues in the North Island. There are major differences between centres in numbers of colonoscopies performed per head of population, resulting in noticeable delayed cancer diagnosis in centres with less service provision. (P.12)

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<sup>25</sup> <https://www.health.govt.nz/system/files/documents/pages/gastroenterology-review.pdf>



## Recommendations and commentary on progress

The following are the final recommendations of the 2011 Workforce Review. We note that little has changed since these were put forward, and our recommendations today mirror those of the 2011 review. *(Please see our comments and updates on progress included under each original point below, where applicable).*

“These recommendations offer suggestions of ways forward to ensure that people affected by gastroenterology issues get the best standard of care, delivered by a well prepared and responsive gastroenterology workforce.”

### 1. Recruitment and retention of gastroenterologists

It is recommended that effective recruitment and retention strategies are put in place nationally to fill the current vacancies for gastroenterologists around New Zealand, especially focusing on the smaller centres to address the inequities faced by the public in these areas – the exact number of vacancies needs to be clarified with HWNZ.

**Comment:** *vacancies remain throughout the country and 4 DHBs with no GEs have not established GE positions.*

### 2. Increase in gastroenterology posts

Once these vacancies are filled, it is estimated that an additional ten to fifteen fulltime gastroenterologists will be required nationally by 2020 to partly address the increased workload by this time, in addition to other measures.

**It is recommended that the exact number of increased positions will need to be clarified further by reviewing the data from the NZSG services survey from 2007 and comparing with numbers of gastroenterologists per head of population in similar countries such as Australia and the UK.**

**Comment:** *this was not done. The NZSG supports this approach and we recommend that parity with the ratio of GEs per capita in similar countries (Australia and Scotland) be set as the target in New Zealand and a timeframe agreed for reaching it.*

### 3. Enhance advanced training in gastroenterology to reduce regional inequity

It is recommended that gastroenterology advanced trainees routinely rotate to positions in smaller centres throughout New Zealand, provided that adequate training criteria are met in these centres. An increase of three training positions, implemented immediately, and available on an annual basis for new trainees, would lead to a cumulative effect in 10 years to meet projected demand.

**Comment:** *we understand that a few training positions have been made available but these are not in the smaller centres, so trainees have not been rotated around these centres. Three additional trainee positions were created but there is no funding commitment to make these permanent or to add more.*

### 4. Facilitate nurse specialisation

- a. It is recommended that HWNZ work with the Nursing Council of New Zealand and the New Zealand Nurses Organisation to clarify and solve legal and salary issues related to

nurse specialist roles, to attract nurses into new positions in clinics for inflammatory bowel disease, Hepatitis, faecal incontinence and constipation, dyspepsia, gastrostomy care, colorectal cancer screening and surveillance, colon polyp follow-up triage, and organ transplant follow-up.

Experience has shown that combining nurse specialist and endoscopy nursing roles increases job satisfaction, and recruitment and retention in endoscopy nursing.

- b. It is recommended that HWNZ work with the Gastroenterology Nurses Executive Committee in establishing a national reporting system for endoscopy to gather information from all current nurses practising in endoscopy, to identify nursing issues with shortages, retention, extended practice and other significant gaps in practice and patient care.

**Comment:** *Some progress has been made in this area with the introduction of a nurse endoscopy training curriculum and pathway. Four nurses will be completing training in the near future and four more are taking up the opportunity this year.*

*Funding for the next intake has not yet been secured, and suitable candidates need to be attracted, but it is hoped that an intake of 4 to 6 nurses will be achieved every two years. Some legal issues especially around prescribing still need to be addressed to allow these nurses independence.*

## 5. Improve options for co-operation and team work

It is recommended that HWNZ work with telecommunications providers to explore provision of high bandwidth inter-hospital communication to allow high quality teleconferencing to reduce inequities in rural areas – this may involve widening the use of the KAREN network beyond Universities and into healthcare. Utilise and expand existing best practice guidelines and software tools to facilitate assessment and treatment of patients.

**Comment:** *No progress has been made in this regard, however, a country-wide endoscopy reporting system has been introduced in most units as part of the NBSR requirements. While similar data is now being collected, the programme is housed on different servers that do not communicate with each other.*

## 6. Improve access to services

It is recommended that HWNZ investigates the implications of utilizing a mobile clinic in rural areas to address access issues, versus employing physicians with gastroenterology training in these areas, versus providing high quality videoconferencing facilities or a combination of these.

**Comment:** *A mobile surgical services bus<sup>26</sup> has been operating since 2002 throughout the country, and currently provides day surgery and procedures in a wide range of specialities including endoscopy. In 2016, 226 colonoscopies were performed through this service.*

*A review<sup>27</sup> of the service undertaken by Sapere in 2015 recorded that endoscopy accounted for 29% of services provided. It noted that the service “improves access for rural patients and in particular those patients who are from groups that tend to have high health needs, suffer from health inequalities, and/or face barriers to accessing care.”*

*It also found that “The bus was seen as small but useful supplementary capacity, helping DHBs to manage the shorter targets for patient waiting times. We conclude that the capacity is the equivalent*

<sup>26</sup> <http://www.mobilesurgical.co.nz/>

<sup>27</sup> <https://www.health.govt.nz/system/files/documents/publications/mss-review-report.pdf>

*of one additional day surgery list per month for most host DHBs, and up to one extra list per week for DHBs with multiple hosting sites.”*

## 7. Expand the diversity of the gastroenterology workforce

It is recommended that:

- a. HWNZ work with DHBs to increase the number of enrolled nurses or similarly trained patient care workers to be used in Gastroenterology clinic settings or as community liaison in remote areas.
- b. Develop training for technicians to be used in non-patient roles, including maintenance of endoscopy equipment.
- c. Increase numbers of allied health workers, for example dietitians, who can assist with assessment and management of a range of gastrointestinal disorders, and pharmacists who play an important role in dispensing the many complex medications and where required parenteral nutrition for patients with IBD.

**Comment:** *we are not aware of what if any progress may have been made in these areas but would warmly welcome and support these initiatives.*

## 8. Increase use of non-specialist endoscopists

It is recommended that the use of General Physicians and Surgeons is increased in smaller centres in an environment where service quality can be measured and maintained.

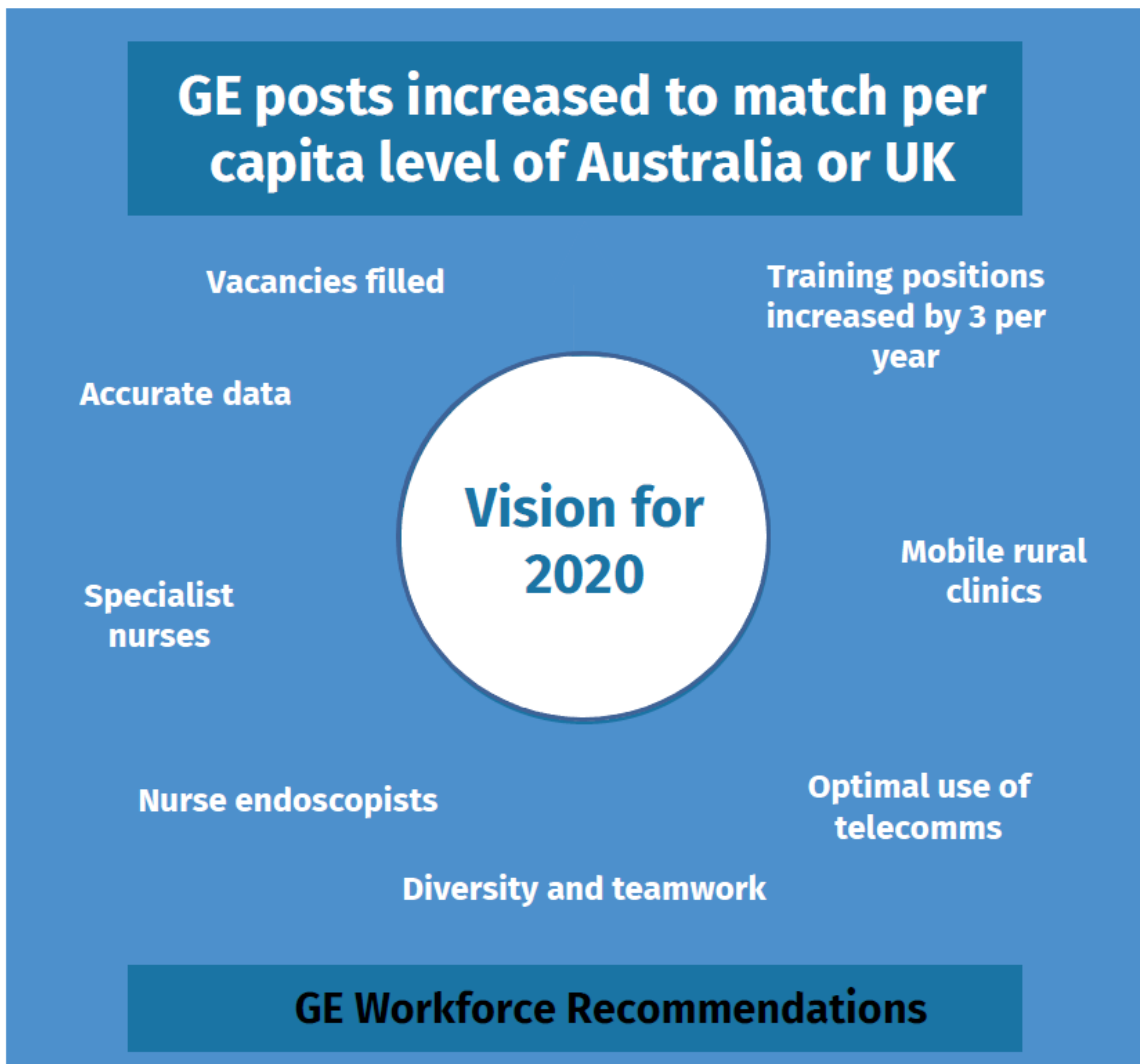
**Comment:** *there is some progress in individual DHBs using non-specialist endoscopists but this is largely uncoordinated. The Endoscopy Guidance Group of New Zealand (EGGNZ) is working towards rationalising training and accreditation in endoscopy so that all endoscopists are trained to the same high standards and that those standards are assessed regularly.*

## 9. Nurse endoscopy

There may be a case for developing nurse endoscopists for particular procedures in a team environment. It is recommended that HWNZ work with the Nursing Council of New Zealand, NZNO, DHBs, educational training providers and relevant professional bodies to set in place the means by which registered nurses can train to become Nurse Endoscopists in supervised roles in larger centres.

**Comment:** *a two-year nurse endoscopy course with four positions has been established and is being run by the University of Auckland. The first intake of four will graduate soon and another four will begin training. While this is welcome, it will take many years before it will have a significant impact on the colonoscopy workload. At this stage there is no commitment for further funding for this programme.*

In summary, the vision set out in the 2011 Gastroenterology Workforce Service Review was as follows:



## 2. The rising burden of Inflammatory Bowel Disease

Inflammatory Bowel Disease (IBD) is the collective term for Crohn's disease and ulcerative colitis. These are chronic, debilitating diseases, with onset typically in late childhood/early adulthood, and resulting in profound physical, social and psychological impacts.

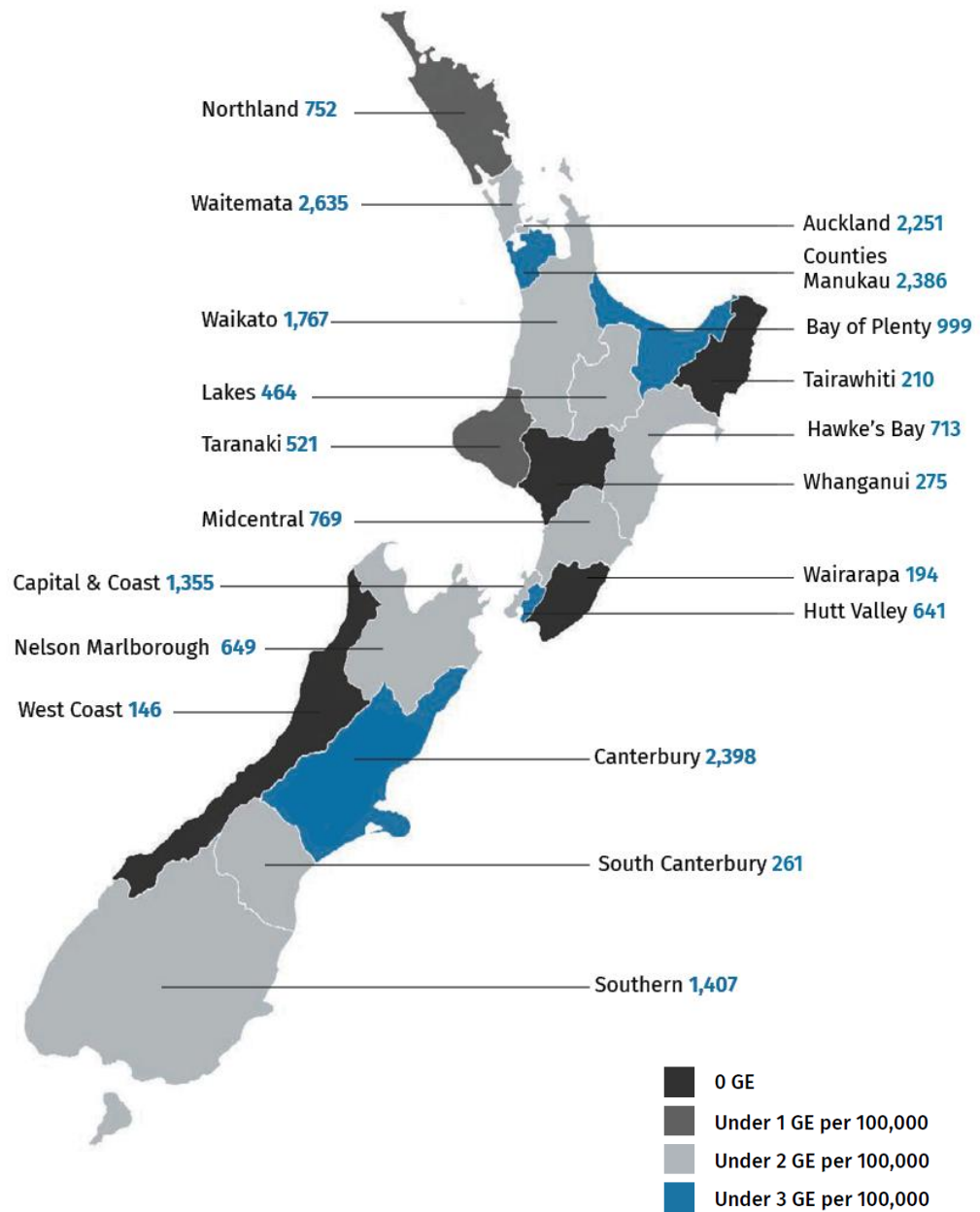
The growing incidence of IBD is placing increasing demands on the gastroenterology sector and represents an impending health crisis for New Zealand if left unchecked. The following are some of the key points highlighted in the recent burden of disease report undertaken by Crohn's & Colitis New Zealand<sup>28</sup>.

- We have one of the highest rates of IBD in the world, affecting an estimated 20,792 New Zealanders (a fifth of whom are children) and increasing at a rate of 5.6 percent annually.
- It costs New Zealand an estimated \$245m annually in healthcare costs and lost productivity.
- Despite the scale, IBD is poorly understood, including among GPs, DHBs and national health planners.
- Diagnosis is slow and often late in the disease, with 60 percent of patients diagnosed in hospital emergency departments and many living with IBD symptoms for years before diagnosis.
- Intervention is often late, and involves longer hospitalisations and more invasive, radical and costly treatment than might have been required if diagnosis had been earlier.
- Patients are often disconnected from the healthcare system and may only have contact with a specialist during an acute flare.
- There are geographic inconsistencies in diagnosis and treatment, and patients who live outside the main centres or who are socio-economically disadvantaged do not have adequate access to IBD specialists or psychosocial support (see Figure 9).
- There is an acute shortage of IBD nurses: only 18 (not FTEs) across NZ, with 7 DHBs having none. That equates to one IBD specialist nurse per 1155 IBD patients, or 0.37/100,000 population

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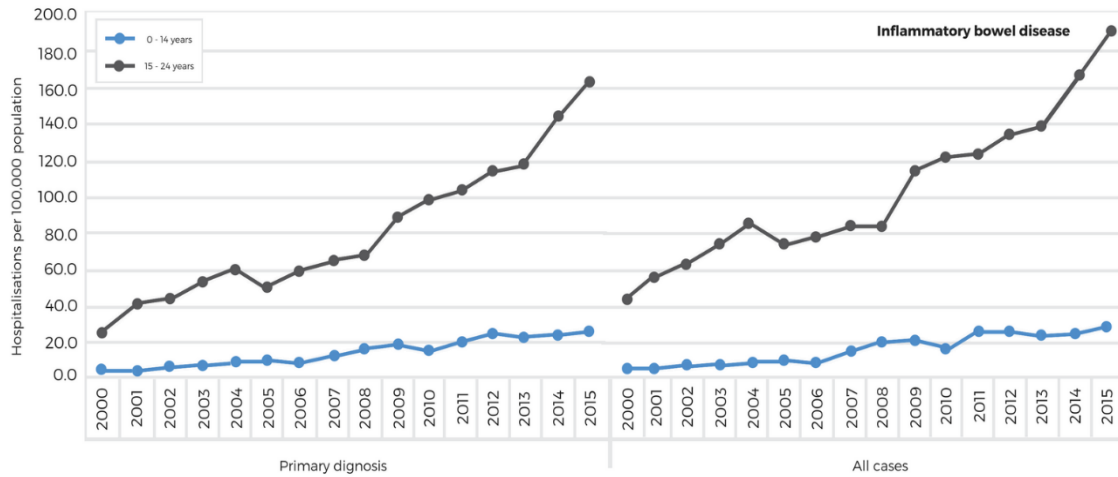
<sup>28</sup> [https://issuu.com/crohnsandcolitisnz/docs/271017\\_master\\_formatted\\_bod\\_report\\_](https://issuu.com/crohnsandcolitisnz/docs/271017_master_formatted_bod_report_)

**Figure 10: Estimated prevalence of IBD by DHB as at 31 Dec 2016**



Source: Estimated prevalence, extrapolated by census DHB populations; CCNZ Burden of Disease Report etc.

**Figure 11: Hospitalisations for IBD, 0-24 years old, by age group, NZ 2000 – 2015**



Source: CCNZ Burden of Disease etc.

### An increasing treatment gap between NZ and the rest of the world

"The prevalence of IBD indicates that there needs to be more than a 20% increase in gastroenterology specialist positions to match the recommended workforce benchmarks<sup>29</sup>."

The current ratio of GE specialists working in the public system to IBD patients in New Zealand (if all GEs were FTEs and GEs were spread evenly across New Zealand) would be 1/247 patients. In practice, because many areas have limited or no GE specialists available, IBD patients are often not being seen by a GE specialist until they have reached an acute or severe stage of their illness. The patient load on GE specialists in the main centres is much higher, particularly in the south of New Zealand where IBD incidence is particularly high.

A further factor contributing to the increasing treatment gap between New Zealand and the rest of the world is the disparity in access to so-called biological therapies in this country compared with other OECD countries.

<sup>29</sup> Report of Assn of Salaried Medical Specialists, 2010. P.13

## Australian IBD Standards

The Australian IBD Standards<sup>30</sup> 'specify nationally consistent expectations of IBD care for hospitals, healthcare professionals, IBD stakeholders and people living with IBD. Ultimately they aim to improve the safety and quality of care for people with IBD.'

The standards were developed by Crohn's & Colitis Australia together with the key professional bodies in IBD healthcare in Australia, and draw on work done by the IBD Standards Group in the United Kingdom.

These standards provide an excellent model for New Zealand to adapt and adopt, and NZSG supports in particular their guidelines for high-quality clinical care set out in Standard A1. This standard covers all aspects of the delivery of high-quality, integrated care, and includes the guidelines set out here in **Figure 12**.

### Figure 12: Australian IBD Standards A1

#### Implementation standards

##### **Standard A1: The IBD team**

A defined IBD team with named personnel should care for people with IBD. Team members must establish a collaborative approach and may replace each other provided the necessary competencies are present. There should be a named clinical lead for an IBD service.

Based on the need for cross-cover and a defined population of 250 000, the IBD team should have a minimum of:

- 2 FTE consultant gastroenterologists
- 2 FTE consultant colorectal surgeons
- 1.5 FTE clinical nurse specialists with competency in IBD
- 1.5 FTE clinical nurse specialists with competency in stomal therapy and ileo-anal pouch surgery
- 0.5 FTE accredited practising dietitian allocated to gastroenterology
- 0.5 FTE administrative support for IBD meetings, IBD database recording and audit.

**FTE:** full-time equivalent

Source: Australian IBD Standards 2016

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<sup>30</sup> <https://www.crohnsandcolitis.com.au/site/wp-content/uploads/IBD-Standards-Final.pdf>



## 3. Colonoscopy capacity

### Lessons from the Bowel Screening Pilot (BSP)

The NZSG supported the Bowel Screening Pilot and the aims of the National Bowel Screening Programme (NBSP) rollout, namely early diagnosis and timely, high-quality treatment for all New Zealanders diagnosed with bowel cancer, as well as the detection of precancerous lesions which can be removed, thus preventing cancers.

However, as set out in a discussion paper published in 2010 that formed part of the Gastroenterology Workforce Services Review, the NZSG had serious, longstanding concerns about the following issues:

- The number of funded but unfilled vacancies in GE positions throughout New Zealand
- the inequitable delivery of services due to wide variations in numbers of GEs per capita around the country, and
- the additional pressure the national bowel screening programme would place on an already very stretched workforce.

In light of this the NZSG identified in its paper the following issues for consideration and possible implementation:

- Non-specialist endoscopy should be explored as an option for routine gastroscopy and possibly flexible sigmoidoscopy in certain circumstances.
- To increase training posts in gastroenterology and to allow an additional three Senior Medical Officer positions to be filled per annum to meet current volumes and replace retiring gastroenterologists.
- To deliver timely diagnostic and surveillance colonoscopy within the public hospital system. This will require an increase in colonoscopy volumes of approximately 25% from current levels.
- To provide increased screening for colorectal cancer. Predictions are that colonoscopy volumes could increase by a further 50%. This increased demand must be delivered by competent well-trained gastroenterologists and surgeons.
- To advocate for an additional nine training posts in gastroenterology in order to meet current service levels and increased demands from colonoscopy screening.
- Recognition of the Senior Medical Officers contribution and input to training is critical. To encourage the DHBs to develop fulltime gastroenterology positions rather than having specialists practising in a combined general medicine /gastroenterology role.
- To review current protocols and practice to ensure no unnecessary colonoscopy procedures are undertaken.
- To increase funding for endoscopy training courses, for gastroenterology registrars, surgical registrars and nurse endoscopists. Well-equipped endoscopy simulation training centres need to be developed at the main centres.
- To determine optimal level per capita, of colonoscopy procedures for New Zealand.

These concerns and objectives were mirrored in the Bowel Screening Pilot (BSP) Final Evaluation Report published by the Ministry of Health in August 2016<sup>31</sup>. In identifying areas of consideration to support a safe national bowel screening programme, the report noted colonoscopy capacity, and drew the following conclusions:

*"In the BSP, significant effort was needed to ensure there was adequate colonoscopy capacity to meet the quality standards, particularly in Round 1. Concerns continue about whether this achievement can be replicated sustainably across New Zealand. **A key learning from the BSP is having adequate endoscopist capacity to meet the growing demand for colonoscopies in screening Round 1, the need to closely monitor capacity to meet quality wait time standards, and the actions required when these look to be breached.** Consideration is also needed on ensuring adequate colonoscopy capacity for symptomatic colonoscopies, which is projected to increase as the programme progresses."*<sup>32</sup>

In its final conclusion, the report stated:

*"The challenges of workforce capacity for endoscopists, endoscopy nurses and pathologists are well known for a national roll-out, as well as the pressure surveillance colonoscopies will place on symptomatic services. Adherence to surveillance colonoscopy guidelines is critical to prevent bowel cancer and unnecessary workload. Workforce requirements will require active monitoring and management particularly in screening Round 1 of a national programme."*<sup>33</sup>

## 4. Rollout of the National Bowel Screening Programme (NBSP)

Following conclusion and assessment of the BSP, the Ministry of Health with the support of Health Workforce New Zealand (HWNZ) prepared a business case for the rollout of a national screening programme.

Working with the Ministry, HWNZ developed a comprehensive model, incorporating current symptomatic service provision, use of Computed Tomographic Colonography (CTC) and an increase in symptomatic referrals as a result of increased awareness of bowel cancer.

Based on the modelling and projections, HWNZ determined that New Zealand will have the workforce capacity to implement the NBSP.

The business case included the following plan to ensure the workforce capacity meets needs<sup>34</sup>.

**Workforce:** HWNZ has undertaken extensive workforce modelling and projections of the gastroenterology, general surgery and pathology workforce and determined that New Zealand will have the workforce capacity to implement the NBSP.

Because iFOBT analysis would be undertaken at a central laboratory and histopathology would be undertaken in DHBs under usual processes, HWNZ's workforce modelling shows

<sup>31</sup> <https://www.health.govt.nz/publication/final-evaluation-report-bowel-screening-pilot-screening-rounds-one-and-two>

<sup>32</sup> Final Evaluation Report of the BSP, p.89

<sup>33</sup> Op cit, p. 93

<sup>34</sup> <https://www.health.govt.nz/system/files/documents/pages/nbsp-programme-business-case-part4.pdf>

that the need for the pathology workforce would be manageable. However, investment would be required to increase the endoscopy workforce to meet the demand for colonoscopies.

Both gastroenterologists and general surgeons perform endoscopies in New Zealand, but gastroenterologists will be the primary workforce that performs the majority of screening (and non-screening) colonoscopies. Since 2013, the Royal Australasian College of Physicians and the New Zealand Society of Gastroenterology have increased the number of trainees in gastroenterology. As a result, HWNZ projects that the gastroenterology workforce will increase during the four-year implementation period of the NBSP.

HWNZ will ensure the NBSP has the workforce to meet colonoscopy demand by:

- Supporting the Royal Australasian College of Physicians and the New Zealand Society of Gastroenterology to train sufficient numbers of gastroenterology registrars every year between 2017 and 2020;
- Supporting the relevant surgical bodies to consider the increased role that surgical endoscopists may play in the future and the projected impact this would have on the required number of surgical trainees;
- Encouraging shared service agencies to work with DHBs to take a regional and coordinated approach to the placement of newly qualified gastroenterologists during the sequential roll out of the NBSP;
- Supporting the Nurses Performing Endoscopies Training Programme. Having trained nurses available to perform endoscopic procedures will enable gastroenterologists and general surgeons to focus on providing screening colonoscopies for the target population group.

The modelling showed an additional 8,300 colonoscopies would be required in 2019/20, accounting for 18 percent of the total volume of colonoscopies in that year<sup>35</sup>.

## Unachievable demands

Unfortunately, the colonoscopy numbers were based on modelling rather than real baseline data. As discussed above, MoH data on the specialist workforce is not accurate. We understand that one of the assumptions used in the modelling was that the average GE specialist performs 660 colonoscopies per year, a rate which is clearly unachievable. As an example, one large DHB outsourced 2000 colonoscopies in 2017 to keep up with the demand.

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<sup>35</sup> NBSP Business Case 4.6 Key Constraints and Dependencies, Table 16, p.52

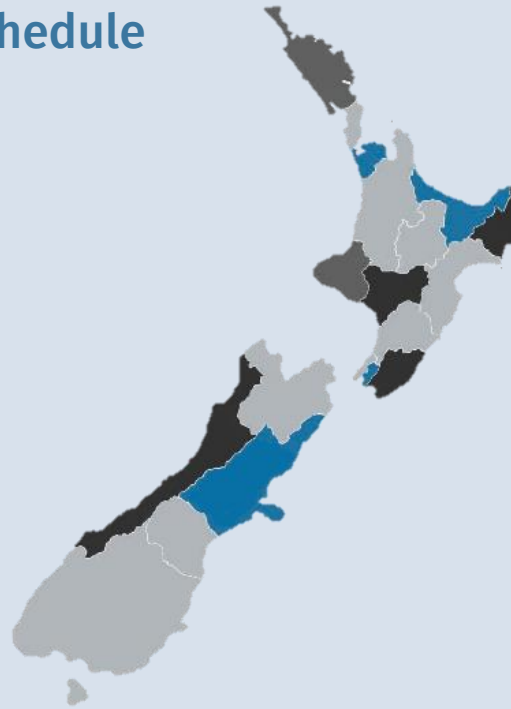
## NBSP national rollout schedule

### Currently offered by:

- Hutt Valley
- Wairarapa
- Waitemata
- Counties Manukau
- Southern
- Nelson-Marlborough
- Hawkes Bay (from 9 Oct 2018)

### Then by:

- Lakes (from 30 Nov 2018)
- Whanganui & Mid Central (from: 30 June 2019)
- Remaining 10 (from 30 June 2021)



Comments from specialist gastroenterologists on the roll-out:

- “ While the importance of the NBSP cannot be overstated, it is putting a terrible strain on doctors and nurses at the DHBs who were already having difficulty keeping up with their workload. We are seeing unacceptably long waiting times for colonoscopies as well as critical surgical procedures for patients with IBD. This results in longer waiting times for procedures needed to make diagnoses (resulting in an increase in morbidity and worsening of long-term prognoses), as well as surveillance procedures due to their increased risk of bowel cancer. ”
- “ A lot of money has been spent in the last few years on various initiatives to reduce waiting lists, but it wasn't spent wisely – it was just about clearing the backlog and not about creating a sustainable service. And now, since the start of the NBSP, the Lower Hutt waiting list for symptomatic patients has already increased. ”
- “ In Waitemata in 2017, in order to keep up with the demand, 2000 colonoscopies were outsourced. ”
- “ I think that to roll out screening but have no extra money for increased facilities is putting symptomatic patients at risk. Our waiting lists will be impossible to manage with the increased work load. And we desperately need funding for more Endoscopy theatre. ”
- “ In our DHB we're constantly being criticised about waiting times for CTs and MRIs, as well as access to theatre and waiting lists for elective surgical procedures. To roll out a bowel screening programme in this environment is simply not sustainable. ”
- “ We need 30-50% more gastroenterologists very quickly and need support for this, and more endoscopy rooms of course. ”



## V. KEY CONCLUSIONS

Our research and survey have highlighted and confirmed a number of key challenges facing the GE workforce.

### 1. Increasing demand for services

The nationwide demand for GE services has grown to an all-time high, a climb that is set to continue in light of our aging and increasing population. A confluence of factors is putting enormous pressure on the health sector's capacity to deliver timely specialist GE treatment to New Zealanders in need. In particular, we note:

- New Zealand has one of the highest rates of bowel cancer in the world, and one of the highest death rates in the developed world from this disease. There is clear overseas evidence of the association of a higher density of GE specialists with a significantly (14 to 17 percent) lower incidence of advanced colorectal cancer in relatively higher socio-economic areas. Data on the prevalence of colorectal cancer in New Zealand also generally supports this conclusion<sup>36</sup>.
- Likewise, we have one of the highest rates of inflammatory bowel disease in the world, affecting 20,792 New Zealanders young and old, and growing at a rate of 5.6 percent every year.
- The prevalence of Hepatitis C is rising rapidly, with at least 25,000 patients with the disease yet to be diagnosed, and moves to shift treatment from hospitals to the community have not been successful.
- There are substantial numbers of patients nationwide already enduring unacceptably long waiting times for gastroenterology follow-ups.
- The National Bowel Cancer Screening Programme (NBSP) rollout forecasts are unachievable with the current size of the GE workforce.

### 2. Inequities of access and treatment

As well as the need to increase overall capacity, there is a compelling need to improve the distribution of the GE workforce to improve equity of access to good quality treatment and reduce regional, ethnic and socio-economic disparities in patient outcomes.

In particular we note that:

- Māori and Pasifika are disproportionately affected by a number of gastrointestinal conditions, and given that they are also over represented in deprived areas, their access to good quality GE services is inequitable. We note also that uptake of the NBSP is considerably lower among Māori and Pasifika, compared with European and Asian populations.
- People living in remote and rural areas and in low socio-economic communities also face inequities of access to good quality treatment.

It is also clear that a number of actions are required both to increase the total number of GEs across

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<sup>36</sup> See figure x of the incidence of CRC by DHB and no. of GE specialists

the country and ensure rural and smaller regions are properly staffed to care for GE patients.

- There is no requirement for DHBs to have a GE specialist. As a result there are four DHBs with no local resident GE specialist, and other regions with limited or inadequate GE coverage to meet their local population's demand.
- With 42 percent of GE specialists likely to retire within the next 10 years, there are insufficient qualified local specialists to replace them, and a heavy reliance on recruiting overseas-trained doctors to fill open positions.
- Given the extensive training involved, it could be seen as a waste of expertise and knowledge to have fully qualified gastroenterologists providing general medicine services as well. Nevertheless we recognise that dual roles may be needed in smaller hospitals.

With respect to improving the distribution and diversity of the GE workforce we note the following:

- It is well established that immersion into an area or population leads to increased uptake of posts in that particular area<sup>37</sup>. Rural Medical Immersion Programmes such as those offered by the University of Otago<sup>38</sup> and the University of Auckland<sup>39</sup>, are among a number of initiatives aimed at getting young doctors familiar with rural communities in which they may ultimately return to live and work.
- There are very few Māori and Pasifika GE specialists and nurses. There are no Māori in the current GE training year, although there are two in the 2019 year who identify as Māori.
- A number of initiatives are underway to attract Māori and Pasifika into medicine generally. There are also significantly more Māori graduates coming out of universities (enrolment of Māori students at the University of Otago has almost tripled in recent years). Whether these developments will result in more Māori choosing to specialise in GE remains to be seen.
- It is clear however that further initiatives will need to be undertaken to help address chronic workforce shortages in rural and deprived areas and improve health inequities for Māori.

### 3. Data collection

The absence of accurate data on the GE workforce impedes the ability of the sector and health planners to correctly assess current capacity and the required future supply of specialist services. There is a clear need to improve this.

### 4. Endoscopy capacity

The demand for high-quality endoscopy, exacerbated by the rollout of the bowel screening programme, cannot be met in a timely fashion with the limited (and soon diminishing) numbers of GE specialists available, as well as the lack of training facilities and personnel.

The number of nurse endoscopists currently coming through training is too small to have any

<sup>37</sup> Influence of rural background and rural medical training on postgraduate medical training and location in New Zealand. Shelker W, Zaharic T, Sijnja B, Glue P. <http://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2014/vol-127-no-1403/6311>

<sup>38</sup> <https://www.otago.ac.nz/dsm-gprh/rmip/index.html>

<sup>39</sup> <https://www.auckland.ac.nz/en/fmhs/study-with-us/application-and-admission/admission-schemes/regional-rural-admission-scheme.html>

immediate impact on workload, and given the need for experience it will be some years before the potential of this initiative will be realised.

## 5. Retention of GE workforce

The likelihood that half of new GE graduates will continue to leave New Zealand permanently is a serious concern.

- Consideration needs to be given as to how to address or mitigate this trend, and to ensure gastroenterology is seen as an attractive and viable profession to pursue in New Zealand.
- A contributing factor is that training and research facilities throughout the country are widely regarded as being suboptimal.

## 6. Access to new treatments

Lack of access to new, more effective medicines available in comparable countries for patients with serious gastrointestinal conditions may be a further factor in attracting graduates to train in GE and in discouraging newly trained GEs from remaining in New Zealand.

## 7. Need to foster a team approach

Gastroenterology is a team effort, involving specialist nurses, technicians and allied health workers to optimise patient care and maximise use of specialist time. However our research found significant understaffing in many key areas.

- There is an acute shortage of specialist IBD nurses, with only 18 across the country, a ratio of 1/1,155 IBD patients.
- Useful guidelines for appropriate ratios of GE specialists and IBD specialist nurses per capita of population are set out in the Australian IBD Standards 2016<sup>40</sup>, Standard A1: The IBD Team. Achieving the Australian standard of a headcount of 0.6 IBD nurses/100,000 would require the creation of 11 new IBD specialist nurse positions.
- It can be assumed that the understaffing situation is similar for other GE-related nurse specialists such as Hepatitis, gastrostomy care, colorectal cancer screening and surveillance, and colon polyp follow-up triage.
- Further research needs to be undertaken to examine current nursing support staffing levels, and the impact that an increase in the number of GE specialists will have on the demand for and availability of specialist gastroenterology support services.
- Ensuring the work environment is attractive and that nurse specialists are appropriately recognised and valued are also important factors in contributing to recruitment and retention and achieving optimal care and outcomes for patients.

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<sup>40</sup> Op. cit. <https://www.crohnsandcolitis.com.au/site/wp-content/uploads/IBD-Standards-Final.pdf>





## VI. RECOMMENDATIONS

### Workforce

1. Match the gastroenterologists/population ratio to the Australian ratio, as proposed in the 2011 Workforce Review. This will need a further substantial increase in gastroenterology positions throughout NZ: namely 51 to match Australia or 20 more specialists to match Scotland.
2. Implement the recommendations of the 2011 Workforce Review that have not yet been actioned.
3. Further address regional, rural and socio-economic inequities in access to high-quality GE care and treatment, through the following actions:
  - a. Direct DHBs who are currently critically under-resourced in GE capacity to establish new GE specialist positions and fill vacant GE specialist positions to match their population's needs, based on the ratio proposed above and in line with the Ministry of Health's objectives and statement of intent<sup>41</sup>
  - b. Establish provincial gastroenterology fellowships. NZSG recommends that four fellowships be established, ideally in Taranaki, South Canterbury, Northland, Invercargill
  - c. Establish scholarships for Māori doctors to undertake GE training, and
  - d. Consider and secure iwi and/or private sector support for a. and b. The NZSG is willing to assist in this.
4. Further develop the 'team approach' to improving patient care and outcomes, optimising GE specialist and support staff time and improving the attractiveness of the work environment:
  - a. Expand the IBD nurse training programme and fill 11 new positions to match the Australian IBD nurse target (0.6/100,000)
  - b. Train and employ hepatology nurses to implement and monitor recommended standards for end-stage liver disease
  - c. Increase auxiliary workforce, e.g. dietitians and pharmacists, and provide better psychological and social support for patients with complex GE conditions, and
  - d. Improve general practitioner knowledge and skills in diagnosing IBD more promptly and referring for specialist input earlier.
5. Accelerate access to the many medications that are desperately needed to significantly enhance the care of GE patients:
  - a. Accelerate the process of review and approval of funding applications for new medications
  - b. Make the decision-making transparent and inform applicants such as NZSG, and

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<sup>41</sup> <https://www.health.govt.nz/publication/statement-intent-2014-2018>

- c. Accept the offer of NZSG to assist and support the decision-making process.
6. Improve training provision throughout the country. Coordination and communication of research also needs to be improved to increase the visibility and viability of gastroenterology as a profession.

## Data gathering

7. Survey current gastroenterology trainees and recent graduate to explore reasons for leaving and feasibility of incentives to stay, and determine whether training positions need to be increased.
8. Establish yearly workforce data acquisition and publication of a 'workforce factsheet' (as currently produced in Australia – see Appendix 1) to assess progress and fitness of the current state of the workforce to match service requirements. This would require the MCNZ to seek the relevant information on annual practising certificate applications. Production of the annual factsheet should be undertaken by HWNZ.

## Implementation

9. Establish a joint Ministry of Health – New Zealand Society of Gastroenterology steering group to drive and support the implementation and monitoring of these actions.

# Appendix 1

## Gastroenterology & Hepatology 2016 Factsheet

### Gastroenterology & hepatology 2016 Factsheet



Australian Government  
Department of Health

Gastroenterology and hepatology are branches of internal medicine concerned with the prevention, investigation, treatment of and research into illnesses involving the gastrointestinal tract and liver. It takes a minimum of 6 years of full time training through the Royal Australasian College of Physicians to specialise in gastroenterology and hepatology.

\* Factsheet excludes paediatric gastroenterology figures.

#### Workforce

In 2016, there were 773 gastroenterology and hepatology specialists employed in Australia, of whom 58% worked in the private sector. The majority (94.4%) of specialists who completed the 2016 National Health Workforce Survey indicated they were clinicians.



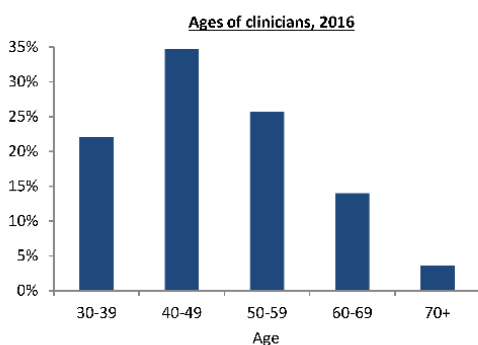
\* Includes roles reported by survey respondents that did not fit predefined survey categories.

#### Demographics of clinicians

In 2016, male clinicians had an average age of 49 years and represented 79.3% of all clinicians. Females were 4.7 years younger on average and represented 20.7% of all clinicians.

Category	% of clinicians	Average age	Average hours per week
Male	79.3%	49.9	45.3
Female	20.7%	45.2	37.9
<b>Clinician total</b>	<b>100.0%</b>	<b>49.0</b>	<b>43.7</b>

The graph below outlines the age groups of all clinicians in 2016. 35% of the workforce was aged 40-49 years and a further 26% were aged 50-59 years.



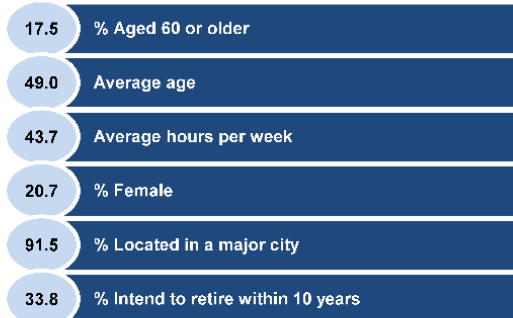
#### Distribution of clinicians

In 2016, the majority (91.5%) of clinicians were located in a major city or a location considered as MMM1 under the Modified Monash Model classification system.

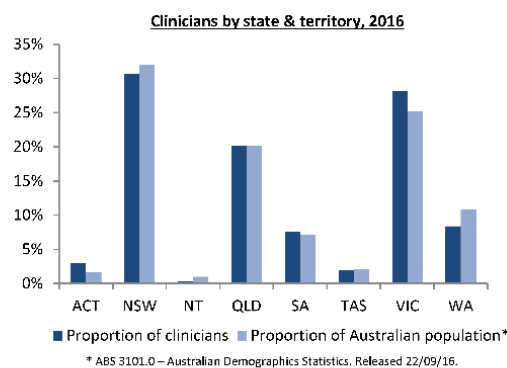
Location of clinicians by remoteness, Modified Monash Model (MMM*)	1	2	3	4	5	6	7
MMM category	1	2	3	4	5	6	7
%	91.5	4.8	3.0	-	0.2	0.3	0.2

\* Further information on the Modified Monash Model is available at [doctorconnect.gov.au](http://doctorconnect.gov.au)

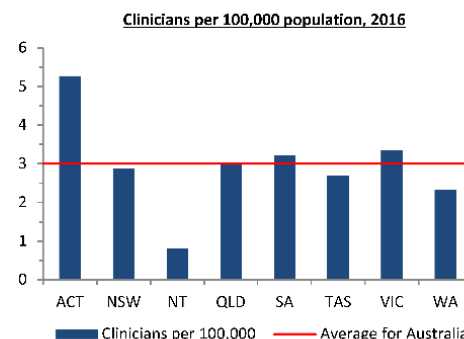
#### Quick facts of clinician workforce



In 2016, the jurisdiction with the highest number of clinicians was New South Wales with 30.6% of clinicians, followed by Victoria and Queensland with 28.2% and 20.2% respectively.



There was an average of 3.0 clinicians per 100,000 population across Australia in 2016. The Australian Capital Territory had the highest ratio of clinicians with 5.3 per 100,000 population, by contrast Northern Territory had the lowest ratio with 0.8 per 100,000 population.



### New fellows

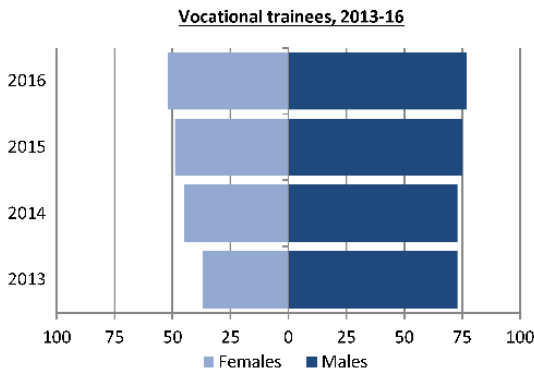
The number of gastroenterology and hepatology new fellows in 2015 was 7.7% higher than the number in 2013.

Number of new fellows, 2013-15			
	2013	2014	2015
Males	24	26	27
Females	15	7	15
<b>Total</b>	<b>39</b>	<b>33</b>	<b>42</b>

### Vocational training

The number of gastroenterology and hepatology trainees in 2016 was 17.3% higher than the number in 2013. Between 2013 and 2016 female trainees increased by 40.5%, whereas male trainees increased by 5.5%.

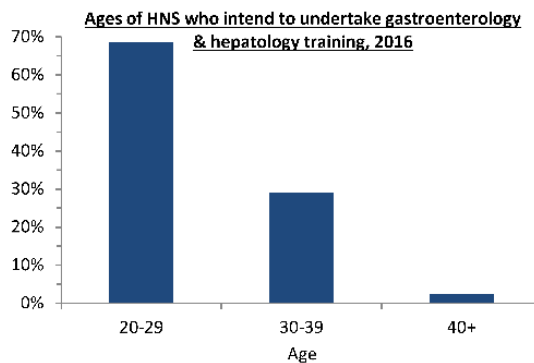
Trainee numbers, 2013-16			
Year	Females	Males	Total
2013	37	73	110
2014	45	73	118
2015	49	75	124
2016	52	77	129
<b>Change 2013-16 (%)</b>	<b>40.5%</b>	<b>5.5%</b>	<b>17.3%</b>



### Vocational intentions

In 2016, there were 83 Hospital Non-Specialists (HNS\*) who indicated their intention to undertake vocational training in gastroenterology and hepatology. The majority (68.7%) were aged 20-29 years.

\* A HNS is a medical practitioner employed in a salaried position mainly in a hospital. They do not hold a specialist qualification and are not training to obtain one. They include career medical officers, hospital medical officers, interns, principal house officers, resident medical officers and registrars.



### Workforce dynamics indicator\*

The workforce dynamics indicator highlights areas of concern in the future. The indicators measured and their current status is highlighted in the table below.

**Note:** The workforce dynamics indicators are for workforce assessment purposes only and are not intended to guide future training numbers.

\* Further information on the workforce dynamics Indicator is available at [health.gov.au](http://health.gov.au)



Indicator	Description	Status
<b>Ageing of workforce</b>	Workforces with higher average ages are more susceptible to higher exit rates due to retirements.	Yellow
<b>Replacement rate</b>	This measure indicates whether trainee numbers are sufficient to replace the numbers leaving the workforce.	Green
<b>Duration of training program</b>	This measure indicates how long it takes to train a replacement workforce. Indicator considers basic and advanced training components.	Orange

#### References

- 1) National Health Workforce Dataset (NHWDs): Medical Practitioners 2016.
- 2) Royal Australasian College of Physicians.
- 3) Medical Education and Training Report 1<sup>st</sup> edition (Unpublished).
- 4) ABS 3101.0 – Australian Demographics Statistics. Released 22/09/16.
- 5) Australian Medical Association (AMA) Career Pathways Guide.
- 6) National Medical Training Advisory Network (NMTAN) – Prevocational Doctor Factsheet Methodology Paper.

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## Appendix 2

### Hepatitis C: medications prescribed Jan-Mar 2018 in primary and secondary care

Hepatitis C: quarterly report for the Ministry of Health: using PHARMAC data January 2018-March 2018

Table 1: People prescribed Viekira Pak or Viekira Pak+200mg RBV from 1 January 2018-31 March 2018, broken down by DHB and prescribing in primary and secondary care

DHB	General practitioner	Secondary care	Total	% Primary care	% Secondary care
Auckland	14	4	18	78	22
Bay of Plenty	15	4	19	79	21
Canterbury	10	39	49	20	80
Capital Coast	6	5	11	55	45
Counties Manukau	6	8	14	43	57
Hawkes Bay	1	3	4	25	75
Hutt Valley	6	5	11	55	45
Lakes	1	7	8	13	88
MidCentral	2	6	8	25	75
Nelson Marlborough	11	12	23	48	52
Northland	8	6	14	57	43
South Canterbury		5	5	0	100
Southern	3	22	25	12	88
Tairāwhiti	1	1	2	50	50
Taranaki	4	6	10	40	60
Waikato	11	9	20	55	45
Waitemata	9	10	19	47	53
Whanganui		1	1	0	100
<b>Grand Total</b>	<b>108</b>	<b>153</b>	<b>261</b>		

Table 2: Summary of hepatitis C medication prescribed from 1 January 2018-31 March 2018, broken down by medication type and prescribing in primary care and secondary care

Quarter		Primary care	Secondary care	TOTAL
Jan-Mar18	Harvoni	1	28	29
Jan-Mar18	Viekira Pak	15	16	31
	Viekira Pak + 200mg RBV	93	137	230
	<i>Sub total</i>	<i>108</i>	<i>153</i>	<i>261</i>
	Viekira Pak RBV % by prescriber	41%	59%	
<b>TOTAL all prescribing</b>		<b>109</b>	<b>181</b>	<b>290</b>



## Appendix 3

### Gastroenterology graduates from 2000 to 2009

<b>Year</b>	<b>Number of Graduates</b>	<b>Practicing in New Zealand</b>
<b>2000</b>	4	4
<b>2001</b>	1	1
<b>2002</b>	4	4
<b>2003</b>	2	2
<b>2004</b>	4	3
<b>2005</b>	5	2
<b>2006</b>	6	3
<b>2007</b>	2	2
<b>2008</b>	1	1
<b>2009</b>	7	Data not available
<b>Total</b>	<b>29</b>	<b>22</b>

Source: Gastroenterology Workforce Service Review 2011. Data from the Royal Australasian College of Physicians, sourced June 2010





# Appendix 4

## A Discussion Paper from the NZSG

### Attachment I



### Gastroenterology and Endoscopy Workforce: 2020

#### *A Discussion Paper from the NZSG*

One of the key objectives of the New Zealand Society of Gastroenterology (the Society) is the promotion of improved standards in the practice of gastroenterology. This aim can only be achieved by developing a workforce which has the capacity and the skills to deliver the required services. The New Zealand medical workforce is characterised by shortages in a great number of specialities, a strong reliance on overseas trained physicians, an unevenly distributed workforce<sup>3</sup> and an ageing work force<sup>4</sup>. The Society has been considering how services may be reconfigured to meet increasing demand driven by new technological developments, an increasing prevalence of chronic disease, increasing pressures on Senior Medical Officers (SMOs) from a variety of quarters and a static numbers of newly trained gastroenterologists.

Recent events, namely the roll-out of the Colorectal Cancer Screening program, have precipitated a need to closely examine workforce issues, with a view to planning gastroenterology and endoscopic services across the entire sector.

#### THE PURPOSE OF THIS PAPER

The purpose of this paper is to predict the future number of specialists required to deliver a sustainable service over the next ten years in New Zealand. In considering this issue the Society has examined the gastroenterology workforce against the economic, societal and political background of the New Zealand health sector.

There are some caveats in predicting the future with precision as it is difficult, if not impossible, because innovation is discontinuous. For example, a group of academic surgeons, when asked to predict developments in surgery over 10-15 years, failed to identify laparoscopic surgery as a critical clinical development.

Gastroenterology and endoscopy in New Zealand have changed over the last ten years due to developments in technology. For example, capsule endoscopy has enabled better diagnosis of small bowel disease; access to biological therapies for Inflammatory Bowel Disease has reduced

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<sup>3</sup> Gorman, D & Brooks, P. 2009, *On solutions to the shortage of doctors in Australia and New Zealand*, Medical Journal of Australia, 190 (3) 152-156

<sup>4</sup> The average age of a doctor in New Zealand is 44 years old. See Zurn, P & Dumont, J 2008, *Health workforce and international migration: Can New Zealand compete?*, OECD

hospital bed stay and surgery rates, and new services have been developed with the establishment of the Liver Transplant Unit in Auckland. The impact of technology is manifold: in some cases greater skills are required on the part of the specialists to understand and utilise the technology, and new advances may increase demand as previously undiagnosed presentations are identified. Some innovations may allow non-specialist practitioners to perform work previously requiring specialist involvement.

New Zealand is part of the global medical workforce and consequently many specialists migrate permanently overseas.<sup>5</sup> Gastroenterology/endoscopy is no exemption. The Society is well aware that several funded and unfilled vacancies in gastroenterology and endoscopy exist around the country and some of these have been vacant for some time. A recent survey of the workforce<sup>6</sup> has revealed wide variations in numbers of gastroenterologists/endoscopists per capita between DHB's which may not be explained by differences in disease prevalence. Delivery of colonoscopy services differs significantly across the country and there is public concern regarding the provision of services in some areas.

### THE HEALTH SECTOR CONTEXT

The health context must be analysed in order to understand those variables that may impact upon future demand, change the service delivery or shape the political or social environment in which gastroenterologists practise.

To predict the future, a number of potential variables need to be considered:

1. **New services** will change how gastroenterologists practise, e.g. CRC screening. New technology, such as endoscopic surgery, self propelled colonoscopy and robotics CT colonoscopy, has offered an alternative diagnostic pathway for large bowel disease. The colon pillcam and other emerging technologies, such as the self propelled colonoscopy, are now a reality which will have a bearing on clinical practice in years to come. Potentially these technologies will make colonoscopy a therapeutic and an interventional procedure requiring more specialisation and skill to perform. Current technology could be developed further with use of robotics and the widespread implementation of CT, MRI, colon capsules.
2. **Changes in disease prevalence** will have one of biggest impacts on the workforce, and as a result demand for gastroenterology services will increase significantly. The prevalence of Hepatitis C is predicted to increase by 10,000 by 2010.<sup>7</sup> Obesity has reached epidemic proportions in New Zealand<sup>8</sup> requiring a greater input from gastroenterologists to provide treatment for the associated co-morbidities.
3. **Changes in the role of existing medical specialists.** The medical specialist may be viewed as a supervisor rather than a 'hands on' clinician. Significant emphasis is now

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<sup>5</sup> Ibid

<sup>6</sup> New Zealand Society of Gastroenterology and Ministry of Health workforce survey done in 2008.

<sup>7</sup> New Zealand Society of Gastroenterology: [www. http://www.nzsg.org.nz/research/hepatitis/hepatitis-c/](http://www.nzsg.org.nz/research/hepatitis/hepatitis-c/)

<sup>8</sup> Mann, J et al, 2004 *Obesity and diabetes: questions remain but action should not be delayed*, *New Zealand Medical journal*, December 2004, 117, no.1207

placed on SMO's to be involved in clinical leadership thus taking them away from his/her clinical practice.<sup>9</sup>

4. **New roles within the health sector.** Whilst non-specialists may be unable to undertake colonoscopy there may be a role in reading capsule studies, assisting with endoscopy, and performing endoscopy. Supervision and training issues would need to be carefully examined before integrating these roles into the work place.
5. **The public's changing expectations of medical services.** The public today want easy access to high-quality medical care when they require it.<sup>10</sup> The Colorectal Cancer (CRC) screening program will build the public expectations that an effective service will be provided across the country and there will be pressure to deliver within agreed timeframes.
6. **Funding of health services.** According to a recent OECD survey New Zealand<sup>11</sup> has significant capacity to develop private health services. Endoscopic services have a low mortality rate; therefore they could easily be delivered by private providers allowing the public hospitals to focus on the complex issues associated with gastroenterology. This approach could assist in meeting service requirements demanded by the public.
7. **The changing perception of medicine as a 'vocation'.** Younger medical practitioners wish to strike a balance between their career and their personal life therefore they are inclined to work fewer hours and seek a more flexible work environment.<sup>12</sup> This has huge implications for predicting future numbers required to meet service levels.

## RECOMMENDATIONS

The Society has identified the following issues for consideration and possible implementation:

- Non-specialist endoscopy should be explored as an option for routine gastroscopy and possibly flexible sigmoidoscopy in certain circumstances.
- To increase training posts in gastroenterology and to allow an additional three SMO positions to be filled per annum to meet current volumes and replace retiring gastroenterologists.
- To deliver timely diagnostic and surveillance colonoscopy within the public hospital system. This will require an increase in colonoscopy volumes of approximately 25% from current levels.
- To provide increased screening for colorectal cancer. Predictions are that colonoscopy volumes could increase by a further 50%. This increased demand must be delivered by competent well trained gastroenterologists and surgeons.
- To advocate for an additional nine training posts, in gastroenterology, in order to meet current service levels and increased demands from colonoscopy screening.
- Recognition of the Senior Medical Officers contribution and input to training is critical.

<sup>9</sup> Royal College of Physicians, 2010, *Future physician: Changing doctors in changing times*, UK

<sup>10</sup> Royal College of Physicians, 2005, *Doctors in society: medical professionalism in a changing world*, UK

<sup>11</sup> Professor Don Matheson "How the New Zealand Health System Compares with Other Countries" presentation at ASMS 21<sup>st</sup> Annual Conference, December 2009

<sup>12</sup> Royal College of Physicians, 2005, *Doctors in society: medical professionalism in a changing world*, UK

- To encourage the DHB's to develop fulltime gastroenterology positions rather than having specialists practising in a general medicine /gastroenterology role.
- To review current protocols and practice to ensure no unnecessary colonoscopy procedures are undertaken.
- To increase funding for endoscopy training courses, for gastroenterology registrars, surgical registrars and nurse endoscopists. Well equipped endoscopy simulation training centres need to be developed at the main centres.
- To determine optimal level, per capita, of colonoscopy for the New Zealand.

## **OVERVIEW OF TRAINING IN GASTROENTEROLOGY**

### **Gastroenterology Training - Retrospective Data and Assumptions**

From 2000 to 2008, twenty-nine Fellows completed the Royal Australasian College of Physicians (RACP) training requirements. Twenty-two RACP fellows obtained consultant jobs in New Zealand. Seven Fellows took up overseas jobs resulting in a loss of 25% of trained consultants over that period.

The current numbers of new specialists, entering the New Zealand workforce, are maintaining present numbers. However, in the next 10 years, it is estimated that least 15 gastroenterologists will retire from public practice.<sup>13</sup> The impact of losing senior medical officers will have implications for service delivery and provision of training.

Several gastroenterologists who are practising in the main centres are also practising as internal medicine specialists as this fits with the service configuration for those DHBs.

### **The Current Situation Regarding Training**

At present there are 15 training posts<sup>14</sup> and all trainees are dual trained requiring 3 years in gastroenterology and 18 months in general medicine. Trainees are encouraged to extend their clinical experiences by practising overseas for at least 2 years therefore not all trainees may in the country at a given time.

The current training output is 3-4 new RACP Fellows per year, i.e. registrars who are in a position to take up consultant jobs.

Given the training requirements for specialists any immediate increase in training posts will not be apparent for 5 years. Currently 20 registrars are actively discussing options with the SAC<sup>15</sup>.

However, 4-5 registrars may be unable to find training posts for next year. There are issues that need to be resolved in the short term so trainee's can continue in their desired specialty and not seek positions overseas.

### **The Need to Develop New Training Posts**

To augment the current training program, the Society strongly argues for the creation of additional training posts over next 10 years. This can gradually be achieved by working with the DHB's. The Society estimates that the following additional posts could be developed in the future:

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<sup>13</sup> Estimates based on the GSNZ data.

<sup>14</sup> Data from the Royal Australasian College of Physicians

<sup>15</sup> SAC – A Specialist Advisory Committee. A committee within RACP which is responsible for overseeing that trainees fulfil the training requirements for advanced training in gastroenterology.

- Auckland - 1-2 additional posts
- Hamilton -1
- Palmerston North- 1
- Christchurch - 1
- Wellington / Hutt -1
- Rotation through provincial regions - Napier, New Plymouth - may add another post.

### Limitations in Delivering Training

There are several issues that require resolutions to ensure training needs are met.

- The DHB's prime goal is to provide clinical services to their population base. Senior gastroenterologists are required to deliver these services to meet DHB service agreements but under the current apprenticeship model, they are also responsible for training RMOs. To ensure training is delivered adequately SMO need to have protected time regarding educational activities.
- RACP requires certain standards are met in order to accredit a hospital as a training site. For example, an adequate number of gastroenterologists are required in each centre to actively supervise the RMOs. The possibility that several gastroenterologist will retire in the near future may impact the viability of training in some centres.
- Most endoscopy outside of the main centres is performed by General Surgeons and the numbers of surgical trainees outnumber gastroenterology trainees by 3:1. Currently surgical trainees need to perform a required number of upper and lower endoscopic procedures even if they never intend to practise as GI surgeons. This is a requirement of the Royal Australasian College of Surgeons and is largely driven by the need to train surgeons for rural Australian settings. The consequence of this policy is that much "endoscopy training" is not always directed to those who will ultimately perform endoscopy.

## WORK FORCE INNOVATION

### Non- specialist workforce delivering endoscopy

The Society accepts that the development of new roles within the health sector are required to address workforce shortages and meet the public's growing expectations regarding health services. However consideration must be given as to how these individuals will improve health outcomes.

In the Society's view non-specialists i.e. endoscopic nurses could undertake some procedures but these would be small in volume and mainly limited to routine gastroscopy. In the United Kingdom it is estimated that nurses perform approximately 20% of endoscopy.<sup>16</sup> When considering New Zealand's small population/low volumes it would appear that endoscopic nurses would not be appropriate in the New Zealand environment. There is a need to increase the number of colonoscopies undertaken in New Zealand however this not a procedure that the non-specialists can undertake without significant training i.e. at least 3 -5 years.

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<sup>16</sup> Personal communications from the BSG

In order to deliver these services the non-specialist workforce would need to be trained and supervised<sup>17</sup>. In order to meet service demands the non-specialist would require specific training. Depending on the procedures undertaken the non-specialist would need to train for a minimum of 12 months (to deliver routine gastroscopy) to 5 years (to undertake colonoscopy screening). In Appendix B the Society has quantified the training requirements to produce competent non-specialists across a range of procedures.

If non-specialists are to make a valuable contribution to the health workforce then they must be adequately supervised. Supervision would be provided by specialists and these activities would place yet another level requirement on the SMOs limited time. As some of these procedures would require supervision by experienced trainers in endoscopy this may place restrictions on training opportunities for gastroenterology registrars and surgical registrars.

Taking all the issues into consideration, by 2020 it is likely that the non-specialist endoscopist would only be providing routine gastroscopy and possibly flexible sigmoidoscopy within protocol led rectal bleeding clinics.

### **The Impact of the Colorectal Cancer Screening Program on Workforce**

The objective of this paper is to address the issues across the entire gastroenterology and endoscopic workforce however the roll-out of the Colorectal Cancer (CRC) Screening program will impact significantly on the workforce.

To deliver a service meeting the requirements of the proposed national colonoscopy screening program the total number of colonoscopies performed within the public health service would need to increase by 10%-12%.<sup>18</sup>

Additionally it was estimated that the total number of colonoscopies performed per annum within the public sector would need to increase by a further 15% to ensure individuals identified at increased risk of CRC were offered a surveillance colonoscopy within 6 months from the time of first referral or scheduled repeat date.<sup>19</sup>

As previously noted, follow-on colonoscopies are not generally considered appropriate for non specialist endoscopists. These extra procedures need to be performed by well trained gastroenterologists or surgeons and if newer technologies result in colonoscopy becoming a more interventional procedure this will impact further on the workforce.

The best estimate is there are 50 fulltime equivalents currently delivering the gastroenterology service in New Zealand. However, the Society estimates that a substantial increase in FTEs is required by 2020 to meet the diagnostic needs of the population, undertake surveillance of increased risk groups and to meet colonoscopy screening requirements.

### **CONCLUSION**

The Society proposes to work with key stakeholders to bring about these changes and to ensure that all New Zealanders have access to a sustainable gastroenterology and endoscopy service.

<sup>17</sup> Brooks, P, 2006, *Health Workforce Innovation Conference*, Medical Journal of Australia, 6 February 2006, 184 (2) 105-106

<sup>18</sup> In 2010 Ministry of Health's Pilot CRC Screening Implementation.

<sup>19</sup> *Surveillance and Management of Groups at Increased Risk of Colorectal Cancer*, New Zealand Guidelines Group 2004

In this paper the Society has undertaken a broad analysis of the key issues impacting on the gastroenterology and endoscopy workforce. The Society accepts that not all issues can be resolved in the short-term and we would appreciate discussing with you how we may progress with these issues identified in this discussion paper. The Society would welcome your views on any issues raised in this discussion document.

A handwritten signature in black ink, appearing to read 'John Wyeth', written in a cursive style.

**Dr John Wyeth, FRACP**  
**President**  
**Gastroenterology Society of New Zealand**





# Appendix 5

## NZSG Workforce Survey

Dear Colleague, the NZSG is conducting a workforce survey to determine the endoscopy capacity and distribution of medical and surgical endoscopists in New Zealand ( both in private and public ). There are two main reasons for conducting this research:

1. To provide accurate data to facilitate dialogue with Workforce New Zealand on long term SMO provision, specifically with regards to Bowel Cancer screening.
2. To determine ratio of endoscopy, surgery and gastroenterology services per head of population in New Zealand and its regional variation. This benchmarking information will enable better planning of services across the country.

Results will be totally anonymised before sharing with WFNZ. Your initials will help us ensure we have results from as many Endoscopists as possible. Thank you in anticipation of your assistance!  
 Russell, Campbell, Thomas on behalf of the NZSG Executive

NZSG WORKFORCE QUESTIONNAIRE 2016		
1	First Name/Middle Name/Fam. Name (initials)	__ / __ / __
2	General Surgeon <input type="checkbox"/> Gastroenterologist <input type="checkbox"/> Other (please specify) <input type="checkbox"/> _____	
3	Age?	
4	DHB?	
5	Year started this DHB?	
6	Locum? Permanent?	
7	Prim Med Degree NZ/overseas?	NZ <input type="checkbox"/> overseas <input type="checkbox"/> , country: _____
8	Specialist Qual NZ/overseas?	NZ <input type="checkbox"/> overseas <input type="checkbox"/> , country: _____
9	FTE Surgery (public) (e.g. 0.6)	
10	FTE Gastroenterology (public) (e.g. 0.6)	
11	FTE Internal medicine, if any, (public)	
12	FTE Private Work (please estimate, e.g. 8 h/week = 0.2, assuming 40 h/week)	
13	Endoscopy lists/sessions per week (overall)	
14	Number of Colonoscopies/year last 12 months - Public (approx.)	
15	Number of Colonoscopies/year last 12 months - Private (approx.)	
16	Estimated further working years until retirement (public system)	
17	Comments (if any)	
		<i>Version 3 TC 30-10-2016</i>

# Appendix 6

## NZSG letter to Hon Dr David Clarke



PO Box 10-601, Wellington, 6143 New Zealand    anna.pears @racp.org.nz    Tel: (04) 460 8126    Fax: (04) 472 6718

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26 April 2018

Hon Dr David Clark  
Minister of Health  
Parliament Buildings  
Wellington

Dear David

I am writing this letter as the President of the New Zealand Society of Gastroenterology on behalf of our members and the patients for whom we advocate.

Over the last six months I have received correspondence from concerned colleagues regarding the lack of access to medications for many patients we care for. Many long term gastrointestinal conditions affect the daily lives of many New Zealanders. It appears to us as that Aotearoa is again slipping behind the rest of the world in terms of medication access, and our patients endure suffering they would not face if they lived in comparable countries. Further, other groups of New Zealanders with different, equally problematic illnesses such as cancer or rheumatological conditions have access to medication options and classes that highlight a discrepancy in equal access when compared to gastroenterology. Patients with chronic gastroenterological problems often suffer in silence, with symptoms that make daily life embarrassing and limiting. Other patients, such as those with hepatitis C, can be socially vulnerable, with limited abilities for them or their family / whanau to advocate for access to curative treatment.

In the following, I will highlight some examples:

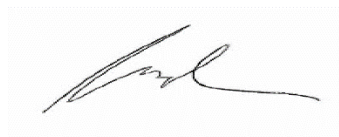
- The New Zealand Society of Gastroenterology is deeply concerned about the two tier health care system for Hepatitis C that has developed as a direct result of Pharmac funding treatment only for genotype 1 Hepatitis C but not for the other genotypes. Untreated Hepatitis C is a progressive disease that will lead to long-term complications but with the newer medications can be eradicated.
- While the introduction of biological medications (Infliximab and Adalimumab) for the treatment of Inflammatory Bowel Disease has been a milestone in 2009, we are now seeing more and more patients who lost response to these medications and face debilitating surgery to treat their condition. Numerous other biologicals are available overseas that offer real treatment advantages. While we understand that criteria need to be in place to regulate these costly medications, we are requesting more dosing flexibility, to optimise treatment and the funding of new medications.

- Another area of concern is Irritable Bowel Syndrome. This condition affects many New Zealanders. Advantages have been made and newer treatments developed but again, we do not have access to these. Linaclotide and Prucalopride are two highly effective medications that are now first line overseas in the treatment of constipation.

The New Zealand Society of Gastroenterology, over the last six months has submitted applications to Pharmac for funding of many medications that are desperately needed to significantly enhance the care of our patients. These medications are already first line treatment options in some locations or offer important alternatives for treatment would benefit patients with Hepatitis C, Inflammatory Bowel Disease, and Irritable Bowel Syndrome. Unfortunately, probably due to commercial sensitivities, the Pharmac system is not transparent and we do not often get information as to the status of our applications.

The New Zealand Society of Gastroenterology is offering to be involved in the decision process with the aim to deliver the best care possible for our patients.

Yours sincerely



A/Prof Michael Schultz  
President  
New Zealand Society of Gastroenterology

CC Dr John Wyeth  
Clinical Director  
Pharmac  
PO Box 10-254  
Wellington



## Appendix 7

### General Surgeons vs Gastroenterologist lists by DHBs

DHB	DHB/unit	Population by DHB	Population served by unit	Tenths FTE Endoscopists or Number of endo lists per week	GS sessions	GE/other session
West Coast	Greymouth	33,190	33,190	4	4	0
	Mobile Surg Bus					
Nelson/Marlborough		147,210				
	Nelson		80,000	7	5	2
	Blenheim		67,210	4	3	1
	Mobile Surg Bus					
Auckland	Auckland Public (incl Greenlane)	510,450	510,450	36	2	34
Southern		319,200				
	Dunedin		219,200	14	2.5	11.5
	Invercargill		98,000	6	1.5	4.5
	Dunstan		2,000	0.5	0	0.5
	Mobile Surg Bus					
Taranaki	Taranaki	118,110	118,110	10	9	1
Bay of Plenty	Tauranga	226,530	226,530	26	6	20
	Whakatane			5	4	1
Northland		170,560	170,560			
	Whangarei			8	7	1
	Kaitiaki			1	0.3	0.7
Tairāwhiti	Gisborne	47,680	47,680	4	4	0
Waitemata		597,510	597,510			
	Waitakere			22.75	6.25	16.5
	North Shore			13	3	10
Waikato	Waikato	400,820	400,820	24	10	14
	Thames			8	8	0
	Mobile Surg Bus					
Capital Coast	Wellington	307,250	307,250	16	3	13
Whanganui	Whanganui	62,445	62,445	10	10	0
	Mobile Surg Bus					
South Canterbury	Timaru	69,210	69,210	6	5	1
Counties Manukau	Middlemore	541,000	541,000	21	0	21
	Manukau Superclinic			20	2	18
Hutt Valley	Hutt	145,310	145,310	13	4.25	8.75
Wairarapa	Masterton	43,890	43,890	7	7	0
Hawkes Bay	Hawkes Bay	161,780	161,780	11	3	8
	Mobile Surg Bus					
Lakes		105,170				
	Rotorua		68,850	10	3	7
	Taupo		36,320			
Mid Central	Palmerston North	174,340	174,340	12	3	9
	Mobile Surg Bus					
Canterbury	Christchurch	543,820	543,820	37	13	24
	Mobile Surg Bus					
<b>TOTALS</b>			<b>4,725,475</b>	<b>356.25</b>	<b>128.8</b>	<b>227.45</b>

Source: M. Arnold 2018



## Appendix 8

### Pilot HCV antibody tests in general practice and positivity rates

DHB	Baseline year			Pilot year two			Pilot total		
	2011—2012 (12 months)			2013—2014 (12 months)			2012—2014 (21 months)		
	Ab tests	Ab +	Ab+ rate	Ab tests	Ab +	Ab+ rate	Ab tests	Ab +	Ab+ rate
Capital and Coast	2,762	99	3.6%	<b>3,360</b>	93	<b>2.8%</b>	5,920	165	2.8%
Hutt valley	855	43	5.0%	<b>1,102</b>	41	<b>3.7%</b>	1,935	73	3.8%
Wairarapa	91	12	13.2%	<b>403</b>	21	<b>5.2%</b>	591	34	5.8%
Wellington region	<b>3,708</b>	<b>154</b>	<b>4.2%</b>	<b>4,865</b>	<b>155</b>	<b>3.2%</b>	<b>8,446</b>	<b>272</b>	<b>3.2%</b>
Bay of Plenty	1,314	61	4.6%	<b>2,425</b>	94	<b>3.9%</b>	3,457	156	4.5%
Total	<b>5,022</b>	<b>215</b>	<b>4.3%</b>	<b>7,290</b>	<b>249</b>	<b>3.4%</b>	<b>11,903</b>	<b>428</b>	<b>3.6%</b>

Source : Hepatitis Foundation





New Zealand Society of  
Gastroenterology<sup>Inc</sup>