

**REPORT TO THE HEALTH
WORKFORCE NEW ZEALAND BOARD**

ON THE

**GASTROENTEROLOGY WORKFORCE
SERVICE REVIEW**

MARCH 2011

FINAL

Disclaimer

The review group request that this report not become a public document until formal consultation has been undertaken with gastroenterology colleagues and relevant professional bodies

Whilst members of the review group were pleased to have the opportunity to make recommendations on New Zealand's future gastroenterology workforce and made every effort to meet the original terms of reference, further formal consultation with the relevant professional bodies will be required to endorse the preferred workforce options and demonstration sites identified within this report.

Demonstration sites for the clinical scenarios are indicative only and the review group request that these be further discussed endorsed and supported by gastroenterology colleagues and professional bodies, including NZNO Gastroenterology Nurses Executive Committee, before they are approached and chosen.

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Executive Summary

This gastroenterology workforce review report is one of a number of health workforce service reviews requested by the Health Workforce New Zealand Board (HWNZ). To address the issue for more health workers into the future as the population grows and ages, HWNZ pulled together ‘think tanks’ of key experts in clinical areas with a strong interest and relevant expertise or connections with the workforce service area to develop a vision of the relevant health service workforce for 2020.

The gastroenterology review group in its deliberations was asked to take into consideration:

- a likely doubling of health service demand but only a 30 – 40% increase in funding over the next 10 years
- maintenance of quality in service provision
- a continued need to address inequalities, and
- the status quo is only acceptable if there are no superior alternatives.

The purpose of the review was 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. The report is informed by previous papers and documents that have examined the scope and training requirements for gastroenterology and endoscopy.

In their discussions review group members identified four areas that capture the overall climate of gastroenterology. These are workforce, service delivery, technology and costs.

In reviewing the roles of gastroenterologists and nurses the review group noted an opportunity for a greater team approach whereby gastroenterologists provide leadership, teaching and oversight to allow nurses and other healthcare workers to take on roles that free up consultant time for some higher level activities.

An outline of the clinical pathway illustrates the current patient journey through to the gastroenterology service, including first presentation to primary care services to referral to a gastroenterology specialist, possible surgical services and follow-up, and identifies the workforce involved at each stage. However, it was noted that the traditional pathway of referral from the GP to the hospital specialist is being reassessed in some centres and there is potential for increased efficiency and more involvement of the GP in treating some of the more complex gastroenterology conditions.

Five common clinical scenarios were agreed on to highlight the variety of work and workforce requirements now and into 2020. These cover the range of serious acute illness, chronic serious illness, chronic non-serious illness to screening and prevention. Endoscopy, either gastroscopy (upper gastrointestinal tract) or colonoscopy (lower gastrointestinal tract), was highlighted in the clinical scenarios. A number of options were provided ranging from maintaining the status quo to various workforce configurations.

In addition, some demonstration sites for the clinical scenarios were provided but are indicative only and these will need to be further discussed, endorsed and supported by gastroenterology colleagues and professional bodies.

In addition to gastroenterologists, four main workforce groups are implicated in the examination of the training/education workforce requirements for gastroenterology health towards 2020. These include

registered nurses, enrolled nurses, technicians/healthcare assistants and general practitioners. Workforce implications for gastroenterology specialists, general physicians and general surgeons require retention and recruitment strategies alongside current training programmes.

Major emphasis will need to be placed on the training needed and partnerships between providers, professional bodies and key stakeholders to achieve the desired workforce mix. Regional courses with identified preferred providers will assist in avoiding duplication of programmes and unnecessary overload of courses throughout the country.

Key to the success of any future training is cooperation between the profession, the provider, the regulatory bodies and funders.

Recommendations

The following recommendations provided at the end of this report are based on the NZSG Workforce Report and the clinical scenarios agreed on by the review group. They 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 centers to address the inequities faced by the public in these areas – the exact number of vacancies needs to be clarified with HWNZ.

2. Increase in Gastroenterology Posts

Once these vacancies are filled, it is estimated that an additional ten to fifteen full-time 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 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.

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 3 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.

4. Facilitate Nurse Specialisation

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.

It is also 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 practicing in endoscopy, to identify nursing issues with shortages, retention, extended practice and other significant gaps in practice and patient care.

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.

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.

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.

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.

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.

Introduction

There has long been recognition that the health sector will continue to need more health workers into the future as the population grows and ages, with a likely doubling of health service demand but only a 30 – 40% increase in funding over the next ten years. In looking to address these issues and at the same time maintain a sustainable and fit-for-purpose health workforce, Health Workforce New Zealand Board (HWNZ) called for a number of health workforce service reviews. The Board realised that workforce planning needed to be informed by reliable intelligence from the health sector with considerable clinician involvement to provide important input into HWNZ planning and decision making around workforce purchasing intentions.

Purpose

The purpose of this gastroenterology workforce service review is 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.

Goal

Under the Terms of Reference, the goal of the review was to identify the workforce and training needs of the gastroenterology health workforce with the objectives to:

1. Develop a vision of the gastroenterology health service and workforce for 2020;
2. Develop a model of care for the gastroenterology health workforce that is patient-centred, team-based and builds in primary care where appropriate.

The Review Group

In 2010 HWNZ set up a number of ‘think tanks’ of key experts in clinical areas with a strong interest and relevant expertise or connections with the workforce service area to develop a vision of the relevant health service workforce for 2020.

This review group, in its deliberations, was asked to take into consideration:

- a likely doubling of health service demand but only a 30 – 40% increase in funding over the next 10 years
- maintenance of quality in service provision
- a continued need to address inequalities, and
- the status quo is only acceptable if there are no superior alternatives.

The group of clinical specialists including a general practitioner, a surgeon, a nurse endoscopy specialist as well as a consumer, were brought together as part of the review team. The group members consisted of:

Dr John Wyeth, Review Group Lead. Gastroenterologist & Clinical Leader

Dr Susan Parry, Gastroenterologist & Clinical Director NZ Familial GI Cancer Registry

Dr Tim King, Gastroenterologist and Hepatologist

Professor Murray Barclay, Gastroenterologist & Clinical Pharmacologist | Clinical Professor

Julian Hayes, Colorectal and General Surgeon

Raewyn Paviour, Endoscopy and Infection Control Services Manager

Dr John McMenamin, General Practitioner

Brian Poole, Consumer, and Chairman of the Crohn's & Colitis NZ Charitable Trust.

The review group was supported by Dr Chris Walsh and Sue Ellis, Directors of HER Solutions, to provide project management for the Group. The group met for two all day meetings in Wellington and one half day meeting in Auckland.

Vision for Gastroenterology Health Service and Workforce for 2020

This vision proposed by the review group for the gastroenterology health service and workforce for 2020 takes into account the need to be patient focused with a quality uniformed approach. This approach incorporates all members of the team who have the relevant skills, knowledge and experience to deliver a high quality service led primarily by gastroenterologists.

“In 2020 gastroenterology services will be provided by a diverse range of health specialists and workers delivering a quality service according to best practice guidelines”.

Context

This gastroenterology workforce review sits within an evolving, dynamic and complex health environment. Workforce composition, training, numbers, recruitment and retention underpin the delivery dynamics of this health service. Despite numbers being collected by the Medical Council for the Medical Register, it is unclear how many gastroenterologists there are (and how many surgeons and physicians who also do endoscopies). DHB data available from 2008 (the latest available) record 73 doctors who identified gastroenterology as their sub-specialty.¹

Age profiles are accessible from the Medical Council registration data and workforce surveys, although gastroenterology is not listed in the specialty breakdown. Medical Council data records the average age of the medical workforce as 45 years (The New Zealand Medical Council, 2009).

It takes approximately six years to train a gastroenterologist from the point of entering vocational training. If 10 - 15 new consultant positions are to be created by 2020, this would require an immediate increase of 3 trainees, and then for these additional posts to be filled each year. To maintain this increased number of consultant posts is a more complex problem and requires an understanding of age strata and retirement plans for the current workforce and rate of loss of workforce overseas due to better salaries overseas. There are existing vacancies already that are not filled, which also increases demand for trainee numbers to fill these positions. It would be reasonable to assume that the three additional posts created for training would be required on an ongoing basis.

This report is informed by previous papers and documents that have examined the scope and training requirements for Gastroenterology and Endoscopy. These include:

- Senior Doctors in New Zealand. Securing the Future (June, 2009). Ministry of Health.
- Nurse Endoscopy – Current Situation & Published Evidence (ND). David Theobald.
- Gastroenterology and Endoscopy Workforce: 2020. A Discussion Paper from the NZSG (2010). Dr John Wyeth.
- Position Statement Regarding the Development of the Nurse Endoscopist Role in New Zealand (July, 2010). NZNO Gastroenterology Nurses Section.

¹ Personal communication with Sandra Cumming, Senior Policy Analyst, HWNZ 14 January 2011.

- Issues Paper. State of the Specialist Workforce Crisis in New Zealand's Public Hospitals (August, 2010). Association of Salaried Medical Specialists.
- Research into Models of Care/Scopes of Practice (December 2010). Russell Research Aotearoa Ltd.
- Endoscopy Training Models and Systems (December 2010). Russell Research Aotearoa Ltd.
- New Zealand Society of Gastroenterology Services Survey 2009.
- New Zealand Society of Gastroenterology Position Statement on Nurse Endoscopy 2007.

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.

In 2010 the New Zealand Society of Gastroenterology published a discussion paper outlining the key issues impacting on the gastroenterology and endoscopy workforce (see Attachment I). It looked at requirements for future numbers of gastroenterologist specialists needed to deliver a sustainable service over the next ten years in New Zealand, against the economic, societal and political health sector environment. It notes that several variables need to be considered when attempting to predict the future. These include but not limited to:

- new services to meet changes in disease prevalence
- changing role of medical specialists
- changing public expectations
- changing perception of medicine as a vocation
- introduction of new technology
- funding of health services.

What is Gastroenterology?

Gastroenterology involves the diagnosis and management of digestive system disorders. This includes disorders of the following organs: oesophagus, stomach, large and small intestine, liver, gallbladder and pancreas. Symptoms from the gastrointestinal tract are common and are not always associated with serious disease, making assessment of patients presenting with symptoms difficult. The knowledge base and experience required for high quality diagnosis and disease management is extensive, including thorough knowledge of pathology, physiology, anatomy, genetics, pharmacology and psychosocial aspects of disease.

Gastroenterology has a strong focus on diagnosis, which includes accurate and thorough patient history taking and examination skills, often followed by judicious use of investigations including blood testing, radiology and tests of gastrointestinal tract function. In many cases, patients may also need to have an endoscopy procedure to investigate the gastrointestinal tract. Endoscopes are inserted into the gastrointestinal tract to view and sample the lining. The results of endoscopy are then interpreted by medical personnel in the light of patient history and other investigation results. Therapeutic procedures

can also be done via the endoscope. In many cases these prevent the need for major surgery, for example treatment of bleeding peptic ulcers.

Over time the breadth of clinical scenarios in which endoscopic treatment is considered to have comparable or better outcomes to a surgical approach has steadily increased, and the technologies to achieve these ends have also progressed. From its established role in colonic polypectomy, endoscopic treatment is now considered first choice curative treatment for a range of mucosal-based neoplasms and bleeding lesions throughout the entire gastrointestinal tract, and stenting technology has replaced surgery many patients for palliation of obstruction at sites in the gastrointestinal tract. Indications for endoscopic treatment are expected to expand in coming years as new technologies become accepted.

The workforce to provide these skills is very highly trained, however there are opportunities for patient triaging, outpatient follow-up investigations and management by personnel other than consultant physicians. Opportunities may also exist to train non-medical endoscopists in at least the low levels of endoscopy.

Historically medicines in gastroenterology have not been expensive. However, the environment has changed with the introduction of more expensive biologic agents. Their costs are balanced by significant savings in hospital admission, requirement for expensive surgery and improved patient quality of life.

The management of these potent immunosuppressive drugs will require a workforce with skills comparable to those of transplant physicians in optimizing balance of clinical benefit to cost of these new and expensive treatments. It is inevitable that expensive new biologic drugs will be a budget growth area in the coming twenty years and the workforce needs to adapt to be ready for the impact of these changes.

Role of Gastroenterologists

Gastroenterologists undertake the basic six year medical course followed by two to three years as a house surgeon, one to three years as a junior registrar, then three years in specialist gastroenterology training, including endoscopy training. Most trainees then gain overseas training and experience for one to three years before returning to a consultant position. That is, approximately fifteen years after first entering medical school. The skills and experience required to provide a quality gastroenterology service are not easily substituted. Much caution is required when considering which roles might be appropriate for non-specialist healthcare workers to take up whilst at the same time maintaining high quality care.

Whilst all will complete specialist training with the full range of skills for general gastroenterology, the breadth of the specialty increasingly means that some skills require an early focus even at the level of subspecialist training, the obvious current example being the management of liver transplantation. Increasingly a number of specialized competencies are achieved at the highest level only by a subset of advanced trainees and consultants. These include both clinical (management of complex inflammatory bowel disease use of biologic drugs, treatment of liver disease, nutrition and particularly total parenteral nutrition, interpretation of oesophageal pH and manometry studies) and endoscopic skills (advanced therapeutic endoscopy and ERCP, endoscopic ultrasound).

There is however an opportunity for a greater team approach whereby gastroenterologists provide leadership, teaching and oversight to allow nurses and other healthcare workers to take on roles that free

up consultant time for some higher level activities. Critically however, this will only work if there are gastroenterologists present in the team to provide this leadership and oversight, even (or especially) in smaller centres.

Role of Nurses

Nurses currently have several roles in gastroenterology. Most are endoscopy nurses, with tasks including assisting with procedures, cleaning endoscopy equipment, recovering patients after procedures and providing information to patients. A high level of training is required for some of these tasks and endoscopy nurses have a critical role to play as part of the multidisciplinary team, providing initial assessment, continuing support and follow-up. Several other nurse specialist roles are developing over time such as IBD nursing, hepatitis nursing, motility investigation and biofeedback nursing.

A recent innovation in nursing roles includes triaging of surveillance endoscopy procedures. This triaging facilitates standardization, reduced wastage of resource and cost savings. There are other areas in which nurse specialists could be utilised to help standardize patient care according to accepted protocols and reduce the workload for medical and surgical consultant staff. These include dyspepsia clinics and follow-up of organ transplant patients.

With regard to workforce planning, it is important to note that there is a general shortage of endoscopy nurses due to a number of factors such as the aging nursing workforce and difficulties attracting graduates and younger nurses into this area. This places limits on endoscopy capacity. In centres where nurse specialist roles have been combined with endoscopy nursing duties, there is increased job satisfaction and enhanced recruitment and retention of endoscopy nurses.

Nurse Endoscopy

Nurse endoscopists are registered nurses who are trained and qualified to undertake endoscopy procedures. Endoscopy nurses on the other hand, assist the doctor/specialist with endoscopies. The review group was not aware of any nurse endoscopists currently practicing in New Zealand. Endoscopy nurses work throughout units in New Zealand performing a range of tasks but numbers of them are unclear. Currently in New Zealand there is no formal recognition or credentialing systems in place to certify specialty nurse endoscopy training and practice (O'Brien and Russell, 2010a).

Senior nurses are already working in extended roles with advanced (nursing and medical) tasks that are not recognised formally but are considered valued by many medical professionals. In Auckland, there are plans to train nurses in performance of flexible sigmoidoscopy to work with Colorectal Surgeons and Surgical Trainees in the assessment and management of rectal bleeding. They also assist with the doctor's workload but are not formally recognised or supported by the DHBs.

The Review Group noted that the Nursing Council of New Zealand has modified oversight of the extended nurse role and the expected responsibility is now on the employer/DHB and New Zealand Nurses Organisation for credentialing. However, within the Registered Nurse Competencies, the New Zealand Nursing Council has recently added a new scope of practice to enable some nurses to undertake expanded roles. According to the Nursing Council, "...*this will allow nurses to confidently develop their practice to meet future health service and workforce needs*" (2010, p.2). The new scope takes account of the nurses' competence and educational and legislative requirements that are consistent with such a role to ensure standards are met for public safety.

The nurse is professionally responsible for ensuring they are competent before taking on added health care activities. The onus is on the nurse and the employer before considering an expanded practice role to identify, “...*legislation and standards to support the expansion, evidence that health outcomes will be improved, organisational policies to support the changes and the nurses educational preparation, clinical supervision and assessment of competence*” (Nursing Council of New Zealand, 2010, p.2). Further, nurses will be assessed as part of a PDRP (Professional Development and Recognition Programme) or an employer’s credentialing programme and as part of the Council’s recertification audit.

In 2009 a survey was undertaken by the NZNO Gastroenterology Section to collate information on the current nursing levels within gastroenterology/endoscopy units in New Zealand to assist the work of the Ministry of Health’s Bowel Cancer Programme. Findings from this survey were presented at the NZ National Gastroenterology Conference in Wellington in 2009. At the NZ National Gastroenterology Conference in Auckland in November 2010, medical and nursing attendees were given a clear outline of a 2020 vision in order to meet the care and delivery model required into the next 10 years. The main points and themes raised included:

- Major issues of attracting and recruiting into this specialty area. There is currently an aging nursing workforce in this specialty and it is not seen by younger nurses as a specialty to enter nor advance;
- Major concerns with nurses currently performing extended roles with no recorded job description, no title, no competencies programme and no reimbursement structure;
- High awareness of some within the medical profession being anti-nurse endoscopists;
- Approval of appointment by the Ministry of Health of a doctor and nurse role for the National Endoscopy Service Improvement Lead, Bowel Cancer;
- Enthusiasm to be involved in seeing changes that will start to address gastroenterology/endoscopy nursing issues and concerns;
- Acknowledgment nursing roles that currently are overlapping and sharing tasks and competencies and accountabilities and responsibilities with other health care professionals;
- Awareness that the scope of practice for registered nurses is constantly changing and evolving and the Nursing Council’s Guidelines may facilitate some expanded practice opportunities.

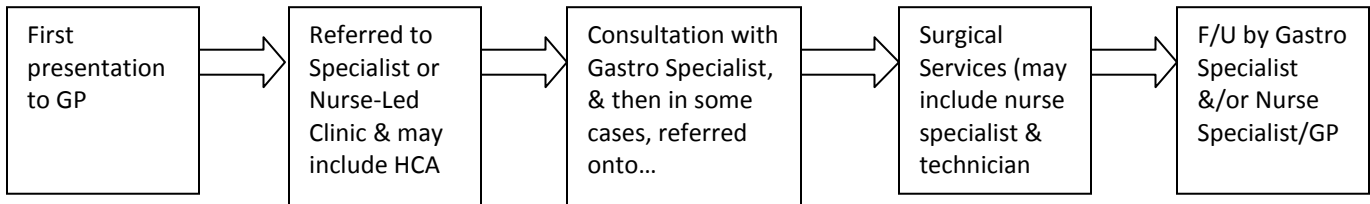
Definitions of Other Gastroenterology Workforce Roles

1. Healthcare Worker: an employee or volunteer in a healthcare facility, usually involved in some supportive role for a patient, with no clinical training in nursing or medicine.
2. Endoscopy Technician: A health care worker not from a medicine or nursing background who provides support for physicians or nurses in endoscopy procedures; usually involving preparing, providing and caring for instruments and equipment, or obtaining specimens.
3. Allied Health: Clinical healthcare professions such as a dietician, distinct from medicine, dentistry and nursing,

Clinical Pathway

The following flowchart illustrates the current patient journey through to the gastroenterology service, including first presentation to primary care services to referral to a gastroenterology specialist, possible surgical services and follow-up, and identifies the workforce involved at each stage.

Options outlined under Clinical Scenarios could change this clinical pathway alongside workforce to include more responsibility in the primary setting and more input from technicians and advanced nursing roles.



What Gastrointestinal Issues would send a person to see their GP?

Any symptom from the gastrointestinal tract including abdominal pain, heart burn, difficulty swallowing, nausea and vomiting, altered bowel habits or difficulty with passing bowel motions, bleeding, weight loss, or jaundice. In addition as more understanding is gained by the public about preventive medicine, patients are asking about their family history of cancer and screening procedures for early detection of disease.

For GPs to manage more patients who present to them, they need succinct clear guidelines possibly delivered through an on-line tool.

GP Referral to Specialist

The traditional pathway of referral from the GP to the hospital specialist is being reassessed in some centres and there is potential for increased efficiency and more involvement of the GP in treating some of the more complex gastroenterology conditions. An example is Health Pathways in Christchurch, which is an on-line set of diagnostic and treatment guidelines written and agreed by GPs and hospital specialists and including referral forms that are protocol driven.

Guidelines have previously been published by the Health Funding Authority for referral of a patient to secondary care which has included recommended time periods for the patient to be seen. For the purposes of this workforce review, five common clinical scenarios have been agreed upon to highlight the variety of work and workforce requirements now and in 2020.

Clinical Scenarios

The following clinical scenarios cover the range of serious acute illness, chronic serious illness, chronic non-serious illness to screening and prevention. Endoscopy, either gastroscopy (upper gastrointestinal tract) or colonoscopy (lower gastrointestinal tract) is a common tool in assessment of a variety of gastrointestinal disorders, and the performance of endoscopy is highlighted in the clinical scenarios.

Demonstration sites for the clinical scenarios are indicative only and will need to be further discussed, endorsed and supported by gastroenterology colleagues and professional bodies.

It is very important to note that the preferred options listed for each scenario below are dependent on having a full complement of gastroenterologists in New Zealand, particularly in the smaller centres, to enable the required planning, direction, training and supervision for each option. This means that the suggested increase in advanced training positions, filling of vacancies and strategies for recruitment and retention need to be put in place first.

1. Dyspepsia

Dyspepsia, defined as a recurrent or persistent discomfort in the upper abdomen, related to eating or food, is common. Up to 45% of people report symptoms of dyspepsia over a 12 month period. If appropriate guidelines for further investigation are not utilised, then large numbers of patients will require medical intervention. These guidelines do exist and are accessible to GP's to aid in management and referral of patients.

Over-the-counter remedies for dyspepsia are easily available and pharmacists have training in assessment of someone presenting with dyspeptic symptoms. The important group to further investigate are the older age group with first presentation of dyspepsia and with the presence of alarm symptoms (weight loss, bleeding, anaemia, difficulty swallowing).

Investigation sometimes requires an endoscopic procedure being performed (gastroscopy) and this is done in a hospital or special clinic environment. A medically trained specialist (physician or surgeon) will be required to perform the procedure with the assistance of at least two nurses, also with specialist experience and training. A trained nurse/trained endoscopy nurse or trained sterile department technician will be responsible for care and disinfection of equipment – this is common practice in many centres throughout New Zealand.

Option 1: Status Quo

Rates of some serious upper GI disease (peptic ulcers and gastric cancer) are falling and most dyspepsia will be functional. However, rates of oesophageal cancer are increasing and age demographics will change resulting in a greater proportion of elderly at higher risk of serious disease. Present trends would indicate less endoscopy investigation will be needed over next ten years regardless of changes to workforce.

Option 2: In Primary Care

Develop nationally acceptable on-line protocols and management tools for easy access by General Practitioners to enable more GPs to provide high quality management of patients in primary health care and reduce the need for tertiary outpatient services.

Option 3: Increased Use of Technicians

Using a technician to clean endoscopy equipment will free up a nurse for other duties. Training of a technician is done “in house”, usually from Sterile Services staff and will take several weeks. The in-house training includes teaching appropriate skills, competency testing, ongoing supervision and monitoring.

Option 4: Health Care Assistants

An enrolled nurse or similarly trained health care assistant could be used in the endoscopy room and replace one registered nurse.

Option 5: Increased Nurse Specialisation

A Nurse Practitioner in the secondary care setting to assess patients with dyspepsia will streamline investigation as work-up can be made more protocol driven. This model is already being used in UK with some success. A trial of this in NZ did result in some patients expressing dissatisfaction, but clinical outcomes were no different.

Training and recognition of Nurse Practitioner status will be needed.

Option 6: Non Specialist Endoscopy

General physicians and General surgeons, including semi-retired specialists could be used to increase available workforce for endoscopy. This would be especially useful in more rural settings where smaller numbers of specialists are working and a broader range of practice is required.

Use of non-specialist or non-medical endoscopists can also be considered. Nurses are more likely to be available for training and there is good support from overseas of using nurses for routine diagnostic gastroscopy. This approach does need to be fully supported by the NZ Society of Gastroenterology and NZNO Gastroenterology Nurses Section to be successful and further input from NZSG members will be needed to progress this.

Training will need to be done to accredited standards and supervision available for non-specialist and non-medical Endoscopists. For nurses, recognition of the specialist training in career structures and salary will be required. By 2020, due to the time required for training to an acceptable standard, it is likely there will only be small numbers of non-medical Endoscopists working and consequently the effect on overall workforce will also be small. In addition, cost savings are unlikely to be obtained from this scenario, when training and supervision are taken into account.

Option 7: Disruptive Technology

Non-invasive tests for dyspepsia already exist, for example carbon-13 urea breath test. However these tests are designed to pick up significant pathology and NZ already has low rates of these diseases so benefits will be limited.

Transnasal endoscopy, using narrower diameter endoscopes, would reduce requirement for sedation. This reduces requirements for recovery from sedation for the procedure and numbers of nurses involved in monitoring the patient.

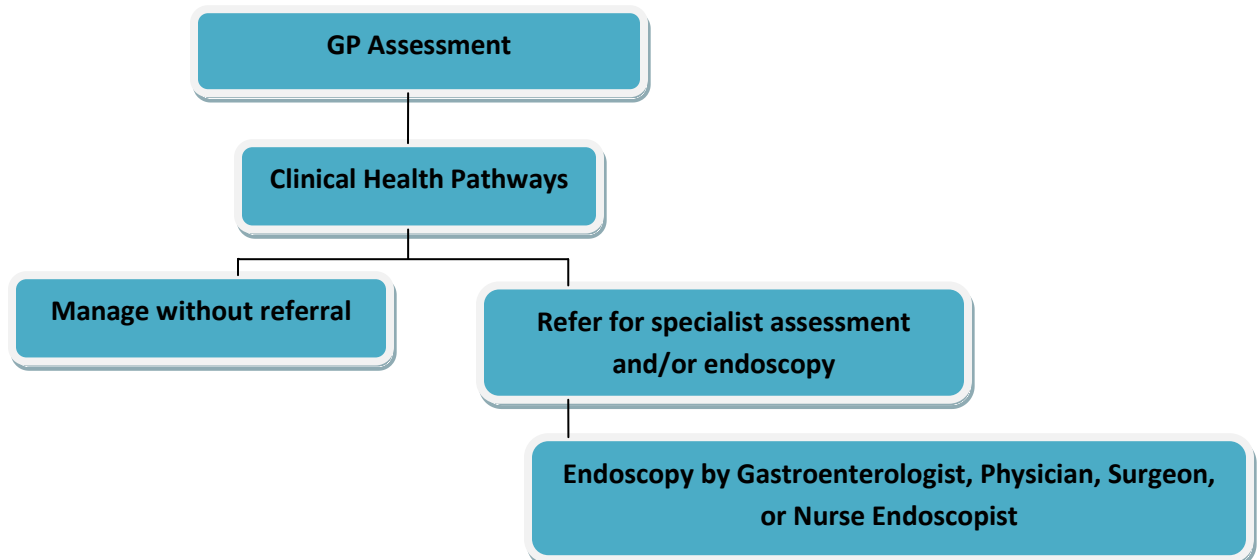
Capsule endoscopy may be an option for exclusion of significant disease. At present this is more expensive than present investigations and diagnostic pick up is limited. If these limitations are overcome, then this would be an option.

Robotic endoscopy may be available. This would allow remote patient access to endoscopy with reduced number of nurses and endoscopists as they could be centralised.

Preferred Options: Dyspepsia

1. In primary care develop nationally acceptable on-line protocols and management tools for easy access by General Practitioners to enable more GPs to provide high quality management of patients in primary health care and reduce the need for tertiary outpatient services. Health Pathways in Christchurch is a working example.
2. Increased use of technicians and/or enrolled nurses in endoscopy units as a cost-effective option to spread the workload of registered endoscopy nurses
 - DHBs will need to develop a nationally accredited train system for technicians
 - Polytechnic/University training for enrolled nurses.
3. Increase use of existing workforce in smaller centres for endoscopy services, for example general physicians, general surgeons, to meet demand (short and long term solution) with support from specialists using videoconferencing facilities and on-site visiting
 - Training will be required under the Guidelines from Conjoint Committee for Recognition of Endoscopy Training, subject to consultation with Societies and professional bodies and potential calls for Expressions of Interest.
4. Define the acceptability and practicality of developing nurse endoscopists for gastroscopy, and address vocational training and registration issues for this in New Zealand in discussion with the appropriate professional bodies and Societies.

Patient Pathways: Dyspepsia



Demonstration Sites:

1. On-line tools - Canterbury DHB for Health Pathways, Contact: - Michael Burt
2. Middlemore DHB: Use of health care assistants and enrolled nurses in the endoscopy suite, Contact: Dr Susan Parry/Dr Ravinder Ogra

2. Altered Bowel Habit

Concerns regarding bowel habit are very common in the community. More than 50% of the population believes their bowel habit is not “normal” and surveys suggest that around 20% of the population actually do have significant problems with bowel function. Guidelines for investigation and management of bowel symptoms are important to avoid having large numbers of patients being referred on for specialist management.

From a GP perspective, acute infectious diarrhoea is the most common presentation of altered bowel habit. This is usually self limiting and is easily managed in the primary care setting. Irritable bowel syndrome or functional bowel disorders are more difficult to assess and often there is patient pressure for specialist referral. Access to non-invasive testing, such as faecal calprotectin testing, to exclude inflammatory conditions will be helpful in this situation. Referral processes could be refined by use of different triage or prioritization processes such as in Christchurch where a GP based in secondary care has been used in triaging with improvements noted in referral patterns.

Definitive assessment of altered bowel habit may require colonoscopy. Like gastroscopy, this is an endoscopic procedure requiring the same resources. In addition, patients require bowel preparation which involves two days of dietary alteration and taking a strong laxative which has a not infrequent rate of adverse reactions. A less invasive procedure, flexible sigmoidoscopy, can also be useful in assessment of altered bowel habit. This procedure does not require the same level of bowel preparation but bowel examination is incomplete, with the risk of missing important disease.

Inflammatory bowel disease is an increasing problem for NZ with more patients presenting with this diagnosis and patients also presenting at younger, paediatric, age groups. More importantly it is a chronic disease and patients often require surgery and hospital admission for recurrent problems from their disease. If the correct diagnosis and management is established early, better outcomes are achieved with this condition. It is important that education is made available regarding recognition of when an inflammatory condition may be present.

Option 1: Status Quo

Altered bowel habit will remain a frequent problem requiring increased resource to investigate.

Option 2: In Primary Care

Develop nationally acceptable on-line protocols and management tools for easy access by General Practitioners to enable more GPs to provide high quality management of patients in primary health care and reduce the need for tertiary outpatient services.

Option 3: Increased Number of Gastroenterologists

The current inequity of access to gastroenterologist expertise means gastroenterologist numbers will need to increase at least in some areas of New Zealand as a baseline before other options can succeed.

Option 4: Increased Use of Technicians

Technicians used in colonoscopy as for gastroscopy, for cleaning and maintenance of endoscopy equipment, will free up nurse time.

Option 5: Health Care Assistants

An enrolled nurse or similarly trained health care assistant could be used in the endoscopy room and replace one nurse.

Option 6: Increased Nurse Specialisation

Using nurses in secondary referral assessments according to best practice guidelines may reduce requirements for specialist involvement and possibly for invasive testing. However, this may also result in increased use of investigations to compensate for a lesser knowledge base and experience. To avoid this, there is a need to implement succinct clear guidelines to ensure best practice is followed consistently and appropriately.

Inflammatory bowel disease specialist nurses already exist in NZ. They can reduce demand on outpatient clinic appointments for specialists. There is evidence that use of a nurse in this role improves outcomes for patients with inflammatory bowel disease. At present, nurses are trained within the Gastroenterology Unit, usually by specialists. Career pathways and salary steps need to be established to reflect the required skills and training to work in this semi-autonomous role.

Nurses could assess patients referred for altered bowel habit prior to diagnosis and manage symptoms if working in a supported team environment with access to good protocols to guide decision making.

Option 7: Non Specialist Endoscopy

Performance of colonoscopy to an accredited level requires a long period of supervised training which will limit the potential use of non-specialist Endoscopists or non-medical Endoscopists.

Flexible sigmoidoscopy is relatively easier to perform and to learn. Non-surgical and non-medical Endoscopists could be utilised for flexible sigmoidoscopy but this does represent a reduction in quality of service provision when compared with the standard full colonoscopy.

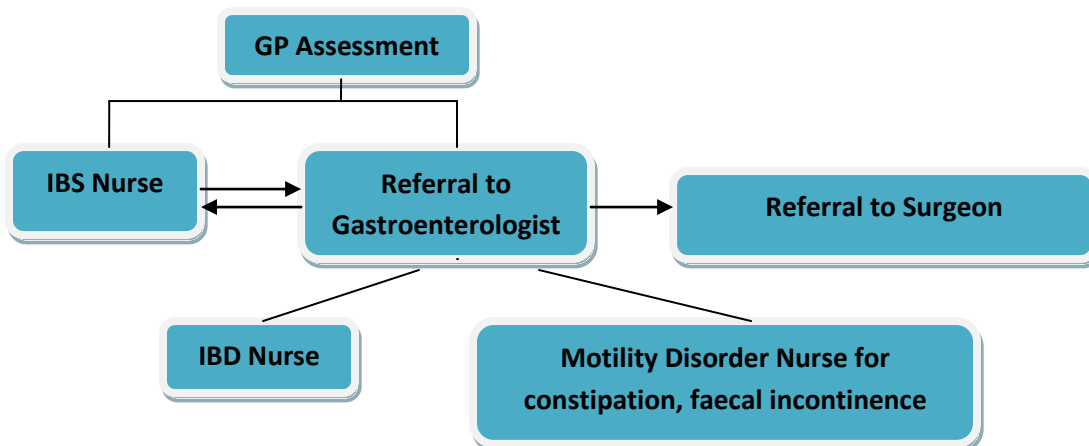
Option 8: Disruptive Technology

Capsule endoscopy is already available and in use for assessment of altered bowel habit in particular situations. A technician could be trained in setting up and performing the capsule study. A technician, nurse or non-specialist medical professional could also be trained to read or interpret the studies with corroboration of the report by a specialist. At present however, capsule endoscopy is not of sufficient quality compared with colonoscopy.

Preferred Options: Altered Bowel Habit

1. Develop nationally acceptable on-line protocols and management tools for easy access by general practitioners to enable more GPs to provide high quality management of patients in primary care and reduce the need for tertiary outpatient services.
2. Develop more nurse specialist positions to help with disease management and follow-up for patients with inflammatory bowel disease, irritable bowel syndrome, faecal incontinence and constipation. Some DHBs have already initiated some of these positions with great success.
 - Post-graduate training will need to be developed further.

Patient Pathways: Altered Bowel Habit (larger centres only)



Demonstration Sites:

1. Hutt Valley DHB IBD Nurse, Contact: – Dr Stephen Inns
2. Canterbury DHB for Health Pathways, Contact: - Dr Michael Burt
3. Nurse specialist positions
 - IBD Nursing – CDHB, Contact: - A/Prof Richard Gearry, CMDHB, Contact: Dr Susan Parry / Dr Ravinder Ogra
 - IBS Nursing – Oxford Clinic Christchurch (private practice)
 - Motility Disorder Nurse - Contact: - Prof Murray Barclay CDHB, Dr Ian Wallace Auckland.
4. Auckland DHB, Contact: - Mr Julian Hayes

3. Blood Loss from the GI Tract

Blood loss from the gastrointestinal tract, as evidenced by blood in or on the faeces or toilet bowl, is considered an alarm feature. Major disease, such as cancer, needs to be excluded. Outlet type rectal bleeding is common and usually is benign and related to haemorrhoids. Rectal examination, with a proctoscope, rigid sigmoidoscope or flexible sigmoidoscopy may be all that is required to establish a diagnosis. When the cause is not clear a full bowel examination may also be required.

Blood loss from the gastrointestinal tract may also be occult with no blood seen being passed and the patient presents with anaemia or a positive faecal occult blood test. In NZ at present the faecal occult blood test is not used routinely as a diagnostic tool. It is more commonly used in screening programs for colorectal cancer, which will be covered separately.

With investigation of rectal bleeding it is important that referral is prompt to exclude the possibility of underlying malignant disease. Auckland Hospital has an excellent team approach in place at present. It utilizes specialists, surgical trainees and experienced senior nurses to rapidly and effectively diagnose and manage rectal bleeding – a “one-stop-shop”. This system could be used by other larger DHB’s with similar numbers of suitable specialists.

Option 1: Status Quo

Increasing demand for procedures will jeopardize accepted waiting times with risk of late detection of significant disease.

Option 2: In Primary Care

Develop nationally acceptable on-line protocols and management tools for easy access by general practitioners to enable more GPs to provide high quality management of patients in primary care and reduce the need for tertiary outpatient services. These protocols will refine referrals to the tertiary system but many patients will still require gastroscopy or colonoscopy or both.

Option 3: Increased Number of Gastroenterologists

The current inequity of access to gastroenterologist expertise means gastroenterologist numbers will need to increase at least in some areas of New Zealand as a baseline before other options can succeed.

Option 4: Increased Use of Technicians

Technicians can be utilized in equipment cleaning and maintenance to reduce use of clinical staff.

Option 5: Health Care Assistants

An enrolled nurse or similarly trained health care assistant could be used in the endoscopy room and replace one nurse.

Option 6: Increased Nurse Specialisation

The Auckland model already uses nurses in a specialised role. Nurses can assess and, more importantly, do the initial investigations of proctoscopy or sigmoidoscopy. Most rectal bleeding will be from haemorrhoids and nurses can be trained in banding and injecting of haemorrhoids. Once again, career structures for specialist nurses need to be defined with adequate salary scales to entice nurses to train and work in this area. Nurses will view this specialization as added value and better retention of staff will follow.

Option 7: Non Specialist Endoscopy

Non-surgical and non-medical Endoscopists could be utilised for flexible sigmoidoscopy as in the model which is being planned at Auckland Hospital Colorectal Services for outlet type rectal bleeding.

Option 8: Disruptive Technology

Capsule endoscopy is commonly used for investigation of “obscure” (when no cause has been found from routine investigations) bleeding from the gut. As already mentioned, there are possibilities for other healthcare workers to be involved in the setting up, performance and interpretation of capsule studies.

Radiological investigation of the GI tract is improving. MRI of the gut and also the blood supply to the gut will lead to significant advances in diagnosis. To implement this, further radiologists will be required by 2020.

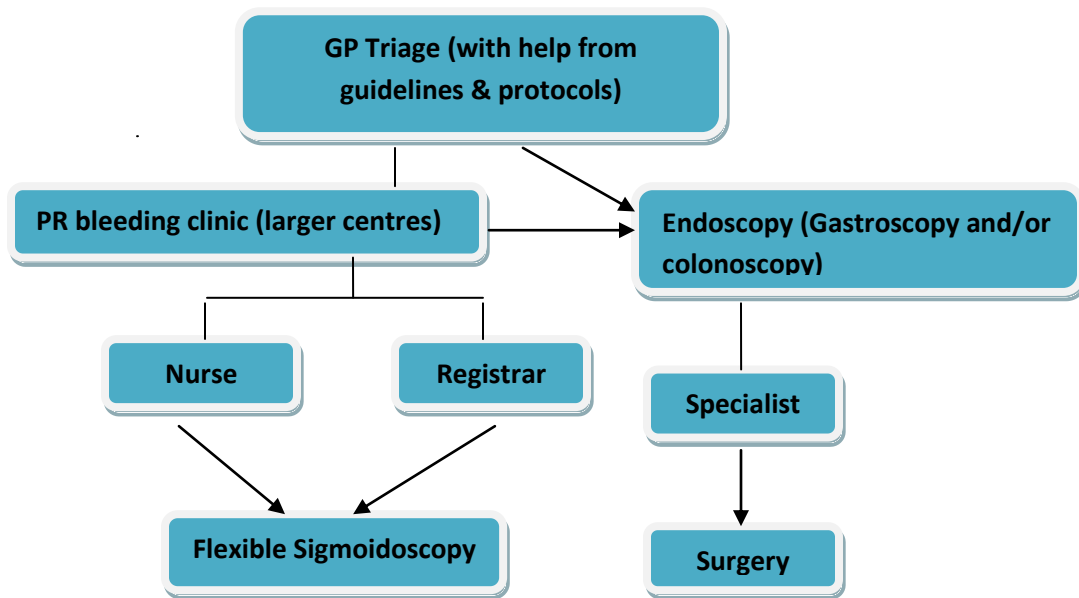
Preferred Options: Blood Loss from the GI Tract

1. Develop nationally acceptable on-line protocols and management tools for easy access by general practitioners to enable more GPs to provide high quality management of patients in primary care and reduce the need for tertiary outpatient services. These protocols will refine

referrals to the tertiary system but many patients will still require gastroscopy or colonoscopy or both.

2. Increased use of technicians and/or enrolled nurses in endoscopy units as a cost-effective option to spread the workload of registered endoscopy nurses
 - DHBs will need to develop a nationally accredited training system for technicians
 - Polytechnic/University training for enrolled nurses.
3. Increase use of existing workforce in smaller centres for endoscopy services, for example general physicians, general surgeons, to meet demand (short and long term solution) with support from specialists using videoconferencing facilities and on-site visiting
 - Training will be required under the Guidelines from Conjoint Committee for Recognition of Endoscopy Training.
4. For outlet-type rectal bleeding, consider training nurses in flexible sigmoidoscopy to participate in rectal bleeding clinics with supervising surgeons or gastroenterologists.
 - Training will be required under the Guidelines from Conjoint Committee for Recognition of Endoscopy Training.

Patient Pathways: Blood Loss from GI Tract



Demonstration Sites:

1. Auckland DHB, Contact: - Julian Hayes, ADHB
2. Rectal Bleeding Clinic, ADHB, Contact: - Mr Julian Hayes (seeking EoI, Society Consultation)

4. Abnormal Liver Function Tests

Abnormal liver function blood tests are common and 5% of the population at least will have liver function test results above the normal range. Abnormal liver function tests do not always indicate significant liver disease and conversely, liver disease may be present with normal liver function blood tests. Viral hepatitis and alcohol related liver disease are two significant causes of abnormal liver function.

The most common cause of abnormal liver function is “fatty liver” or steatosis which is relatively benign and related to other metabolic disorders such as obesity, diabetes and high cholesterol.

Further assessment of abnormal liver function can be very easily done by algorithms from best practice guidelines. In many situations referral to a specialist may not be required. In some situations communication with a specialist, by letter, phone, e-mail or internet consultation may be appropriate.

Hepatitis B, which is relatively common in certain geographical areas and also some ethnic groups, if left untreated will lead to liver failure and liver cancer and consequent huge costs to the health service. Prevention is possible and a vaccination program is in place. NZ previously had screening for Hepatitis B and this should be re-introduced. Once diagnosed with chronic Hepatitis B, monitoring is required for life and some treatment is lifelong, requiring additional close monitoring by a health professional.

Hepatitis C probably affects about 2% of the population, but many sufferers are unaware of their infection or it is being diagnosed late with chronic liver disease already established. The only effective management for end stage chronic liver disease is liver transplantation. However, there are highly effective emerging curative treatments of finite duration for hepatitis C.

In the next 10 years there is a predicted large increase in liver transplants and liver cancer from Hepatitis C. The main focus needs to be on early detection and treatment of chronic hepatitis B and C to prevent development of chronic liver disease.

Prevalence of fatty liver is also increasing, in line with the increase in obesity. A small percentage of patients with fatty liver will develop a more aggressive form of the disease leading to liver failure requiring transplantation.

Patients with abnormal liver function tests need accurate diagnosis and then ongoing monitoring and surveillance of their condition.

Option 1: Status Quo

Increase in numbers of patients with abnormal liver function and an increase in numbers developing chronic disease requiring monitoring and treatment. In particular, liver specialists and liver surgeons will be needed.

Option 2: Increased use of other speciality services for assessment and management of patients with chronic viral hepatitis.

In China and other countries within Asia-Pacific, most patients with chronic viral hepatitis are currently managed by infectious diseases specialists. This is also the case in many DHBs within New Zealand, including Christchurch, Hawkes Bay, Tauranga, Waitemata and most recently Counties-Manakau and Wellington. This trend is likely to increase over the next 2-3 years with the introduction of complicated

triple therapy regimens against HCV with protease inhibitors/pegylated IFN/ribavirin (approved by FDA this month). These will be accompanied by the complex issues of resistance and toxicity, analogous to the issues ID physicians have faced for many years in the management of their patients with HIV infection.

Option 3: Increased use of nurse-led clinics.

New Zealand already has several centres with nurses specializing in Hepatitis. These Clinical Nurse Specialists currently supervise antiviral therapy for patients with chronic HCV. In some centres, these Nurse Specialists also perform initial assessment of new referrals (Wellington, multiple Prison shared-care programmes). This role could be expanded to include the long-term management of patients with cirrhosis, including regular surveillance for complications of portal hypertension and hepatocellular carcinoma) can be protocol-driven and can also be performed in nurse-led clinics, provided strict criteria are adopted for physician referral (deteriorating liver synthetic function, onset of ascites/encephalopathy/renal dysfunction).

Option 4: Increased shift of management of viral hepatitis back into primary care.

The current Ministry of Health HCV Project is aimed at increasing the GP's and practice Nurse's role in testing, counseling, life style modification and assessment of suitability for treatment. In the long-term (5+ years), antiviral therapy for HCV is likely to evolve towards short course (<12 weeks), well tolerated, combination oral therapy which could be administered safely within primary care situation—general practice, methadone clinics, and within prison services.

Option 5: Increased Number of Gastroenterologists

The current inequity of access to gastroenterologist expertise means gastroenterologist numbers will need to increase at least in some areas of New Zealand as a baseline before other options can succeed.

Option 6: Increased Use of Technicians

Liver disease is monitored by blood tests and technicians will increasingly be required for this. Algorithms for diagnosis could be utilised by laboratories.

Option 7: Health Care Assistants

Healthcare assistants and/or enrolled nurses can be involved at a community level to improve adherence to surveillance, education and treatment.

Option 8: Increased Nurse Specialisation

Nurses can be trained in treating and monitoring patients to reduce demand on outpatient clinic appointments. New Zealand already has several centres with nurses specializing in Hepatitis and there is now an opportunity to expand this role to other centres and to expand the breadth of involvement of nurses in hepatitis management.

Option 9: Non Specialist Endoscopy

Not applicable.

Option 10: Disruptive Technology

Fibroscans can be used for early diagnosis of cirrhosis. Already in use but an increased role required. This is being addressed by the current Ministry of Health HCV Project

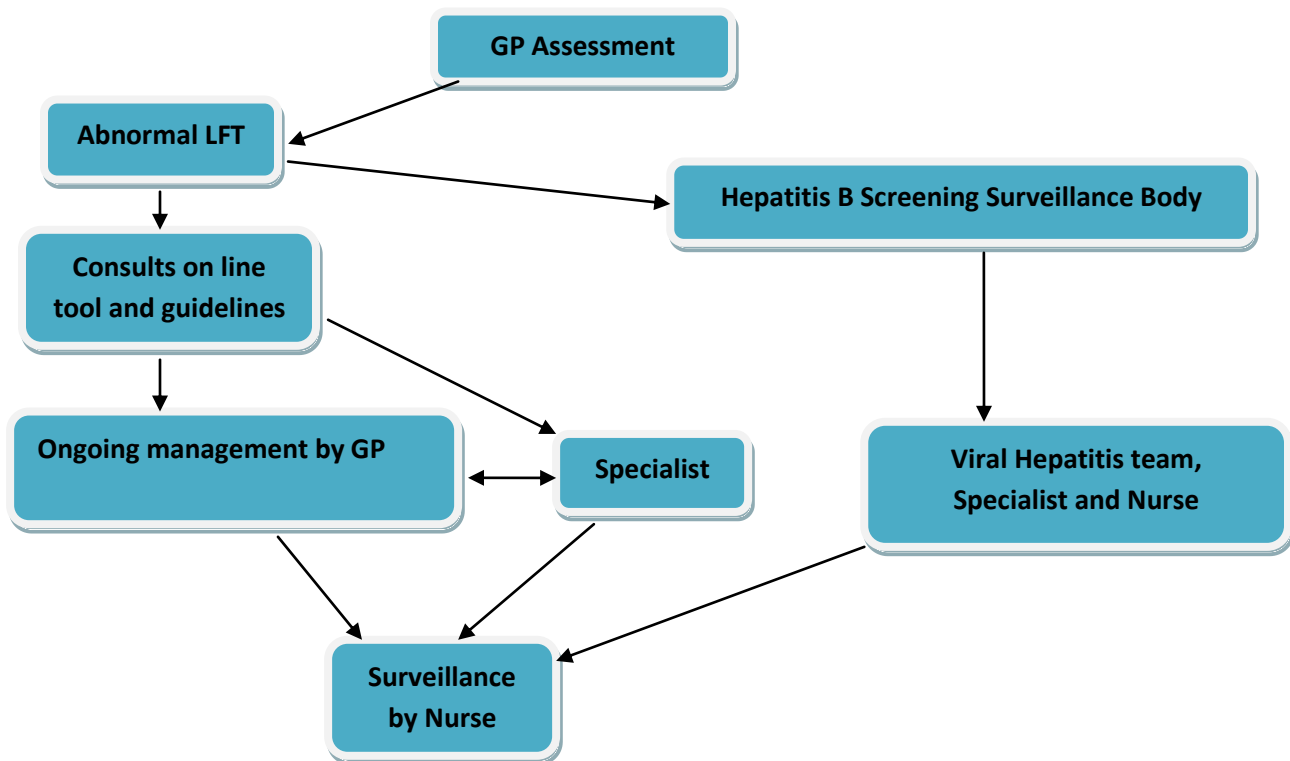
For several new pharmaceutical managements it is well established that there is prevention of progression to cirrhosis in some diseases and therefore reduced demand for ongoing surveillance.

Liver transplant advances leading to an increased pool of patients able to be transplanted. At present numbers of transplants limited by donor numbers.

Preferred Options: Abnormal Liver Function Tests

1. Increased screening for hepatitis B through GP awareness and possibly restarting the National HBV screening programme targeting Asian, Maori and Pacific Island New Zealanders over the age of 25 (universal vaccination instituted in 1986/7) with subsequent recruitment into long-term follow-up in the Hepatitis Foundation national HBV surveillance programme. This will facilitate early detection of active liver disease and liver cancer, allowing early referrals for treatment to improve outcomes and prevent costly complications from cirrhosis such as liver failure and liver transplantation.
2. Increased public and GP awareness of hepatitis C through current Ministry of Health HCV project. This will increase diagnosis and management including both lifestyle modification and referral to secondary care for antiviral therapy.
3. Increased use of Infectious Diseases specialist for antiviral therapy of patients with either chronic HBV or HCV infection.
4. Substantially increase the role of general practitioners, using nationally acceptable, comprehensive on-line algorithms to investigate abnormal liver function tests and manage liver conditions with specialist advice as required.
5. Increase specialist hepatitis nursing roles in hepatitis clinics, with roles including coordination of infectious hepatitis screening, treatment and follow-up of hepatitis B and C, and to coordinate follow-up and adherence to surveillance protocols (for hepatocellular carcinoma and oesophageal varices) for patients with cirrhosis, all under the supervision of a gastroenterologist.

Patient Pathways: Abnormal Liver Function Tests



Demonstration Sites:

1. Auckland DHB, Contact: – Prof Ed Gane
2. CCDHB & Lakes DHB, Contact: – Dr Stephen Gerred & Dr John Wyeth
3. Canterbury DHB, Contact: - Dr Catherine Stedman and Dr Michael Burt
4. Hepatitis Foundation, Contact: - John Hornell

5. Screening and Surveillance for Colorectal Cancer

NZ has the highest rate of colorectal cancer in the world. Early detection of either pre-malignant lesions or early cancers improves survival. There are some bowel diseases, such as inflammatory bowel disease, which increase the risk of bowel cancer and these patients need regular surveillance.

A screening program will increase demand for colonoscopy and services involved in managing colorectal cancer. The reduced incidence of colorectal cancer expected from a screening program may not be evident for at least five years.

Screening for colorectal cancer will depend on high quality colonoscopy services being available. Problems will arise in delivery of care to rural and remote areas.

Option 1: Status Quo

A 50% increase in colonoscopy demand by 2020, requiring similar increases in colonoscopists and endoscopy nurse numbers.

Option 2: Increased Number of Gastroenterologists

The current inequity of access to gastroenterologist expertise means gastroenterologist numbers will need to increase at least in some areas of New Zealand as a baseline before other options can succeed.

Option 3: Increased Use of Technicians

Technicians can be utilised in cleaning and maintenance of equipment to reduce demands on clinical staff.

Option 4: Health Care Assistants

Use in the colonoscopy room as already mentioned to reduce requirement for nurses.

Healthcare assistants, under the supervision of a gastroenterologist, can also be used in the assessment of patient files to determine suitability of ongoing surveillance. As an example, if a patient has polyps removed, a healthcare assistant could review the findings and using best practice guidelines make a recommendation for when the next surveillance procedure should be considered. Many patients are on a surveillance recall program and being recalled too frequently or recalled when best practice guidelines suggest ongoing surveillance is no longer indicated. Research could be funded to help determine optimal follow-up times.

Option 5: Increased Nurse Specialisation

A nurse could do the file review as noted above to optimize referrals for colonoscopy. A patient in a surveillance program will need counselling and education about the procedure and the reasons it is being considered. This role will also extend to relatives as many of the conditions followed will be genetically linked. In Christchurch, following colon polyp removal, a nurse reviews the polyp histology, previous polyp history and family history to triage future colonoscopy according to an agreed protocol and with gastroenterologist guidance when required. This has resulted in standardization and reduced wastage of colonoscopy resource.

Option 6: Non Specialist Endoscopy

Colonoscopy service for screening and surveillance requires the highest level of practice. The potential for non-medical or non-specialists to be involved is probably limited. The value of using this alternative workforce is in freeing up the specialist endoscopists/colonoscopists to perform the high level procedures.

Option 7: Disruptive Technology

Capsule endoscopy is being developed for screening for colorectal cancer.

CT colonography and MRI are being used in the diagnosis of colorectal cancer. This may reduce demand for procedures but if a lesion is found, colonoscopy would still be required for diagnosis and treatment.

A blood test to diagnose colorectal cancer at a very early stage has been developed and may be in clinical use by 2020. Similarly, faecal tests are evolving for this purpose. This would alter referral patterns. Colonoscopy would probably still be required to localise the tumour and obtain histology to confirm the diagnosis.

Demonstration Site:

There is already a pilot site for colorectal cancer screening.

1. Waitemata DHB, Contact: – Mr Mike Hulme-Moir

Training Implications

As discussed, the number of gastroenterologists required by 2020 will need to increase, which requires both an increase in training positions around New Zealand and a strategy to recruit and retain consultant gastroenterologists. The current vacancies show that current employment conditions are not sufficient.

For surgeons, even with agreed increased numbers of gastroenterologists, a significant proportion of endoscopies in the smaller centres (for example, Timaru, Greymouth, Gisbourne, Whangarei) are still going to be done by surgeons. Given that these centres will struggle to recruit and retain adequate numbers of specialist gastroenterologists, work needs to be done by the specialist societies and the Conjoint Committee on ensuring that surgeons being trained to work in these areas have adequate access to high quality endoscopy training. This training will usually be in the main centres. This is probably more important for colonoscopy than upper GI endoscopy and will mean that the surgeons who, for the foreseeable future, will be required to work in these centres can continue to provide high quality endoscopy services.

The 2009 NZSG Gastroenterology Services review showed that training positions could be increased by at least double the current number if required and if funding was available.

To help deal with inequities in smaller centres, having more senior gastroenterology trainees rotate through training positions in smaller centres throughout New Zealand offers several potential benefits including:

- exposure of trainees to smaller centres so that they are more likely to choose to return to this environment as consultants
- helping with service provision in these centres
- sharing of trainees recently gained knowledge with the local doctors.

In addition to gastroenterologists, four main workforce groups are implicated in the examination of the training/education workforce requirements for gastroenterology health towards 2020. These include registered nurses, enrolled nurses, technicians/healthcare assistants and general practitioners. Workforce implications for gastroenterology specialists, general physicians and general surgeons require retention and recruitment strategies alongside current training programmes.

Major emphasis will need to be placed on the training needed and partnerships between providers, professional bodies and key stakeholders to achieve the desired workforce mix.

If nurse endoscopy is to be considered, registered nurses performing endoscopy procedures will need a unified, standardised course that covers all aspects of endoscopy and sits under their scope of practice. Formal recognition through credentialing underpinned by appropriate remuneration, support and ongoing education and training is also required. The infrastructure is in place for registered nurses to undertake training for this role. There may be no cost savings in the public health system with this approach however as the cost of the endoscopist represents a very small fraction of the cost of the procedure and particularly because experienced doctors subsequently appear to evaluate patients more economically than nurse Endoscopists.² Therefore, there would need to be other reasons for this approach, such as inability to attract medical trainees into gastroenterology. In addition, doctors need to agree to training and overseeing nurse endoscopists, which is a barrier currently.

² MINuEt Trial, UK. <http://www.hta.ac.uk/fullmono/mon1040.pdf>

Similarly, enrolled nurse training is now being offered throughout New Zealand by tertiary providers. Endorsement of their enrolled nurse status with a further short course on the requirements for them to undertake the endoscopy assistant is possible.

Formal training such as the development of unit standards for technicians and healthcare assistants working in endoscopy offers not only further strategies to free registered nurse time, but a nationally recognised qualification for this workforce group.

General Practitioners need clear succinct guidelines to manage people who present with gastrointestinal problems. An on-line or software tool designed to assist in their decision making will improve referral rates. They will need a short course and ongoing support from specialists to use such a tool.

Regional courses with identified preferred providers will assist in avoiding duplication of programmes and unnecessary overload of courses throughout the country. Key to the success of any future training is cooperation between the profession, the provider, the regulatory bodies and funders (see Attachment II for Conceptual Workforce Frameworks).

Implications for Commission of New Services

Inevitably many of the measures described above are innovations which have already been implemented in New Zealand or overseas. It is incumbent on the current workforce to critically assess the impact of change by collecting data that shows whether it has been successful, and to share those successful changes with other services. It is inevitable in the timeframe described that there will be further novel approaches to workforce use, new medical treatments, and both new device technologies and novel uses of current technologies. The most important asset for the coming twenty years will be robust independent mechanisms that assess changes in practice, measure the evidence that they provide value-based medicine, and implement funding when appropriate.

Expert guidelines for new or contentious areas of treatment are certain to be increasingly required as healthcare is delivered within the expected limitations. Guidelines will clarify expert opinion, condense data on the size of patient benefits from individual treatments, and guide decisions not to offer escalation of specialty treatment. Examples of such bodies in New Zealand would include the work of Pharmac, New Zealand Guidelines Group, guidelines from specialist societies, and independent committees that sit within individual health boards (for example the Clinical Practice Committee to assess innovation with resource implications at ADHB). Overseas, the work of the United Kingdom National Health Service National Institute for Clinical Excellence and clinical practice guidelines from HMO bodies in the United States are important models.

Robust audit of quality measures across all walks of gastroenterology is an aspect of professional duty that does not become entrenched unless it is fostered. Carefully designed audit programs not only address quality and safety, but also appropriateness and a range of patient centred outcomes. Their importance increases as health care resources are limited or unevenly distributed. The workforce needs to grow in an environment where data collection is part of routine practice, and there must be an investment in appropriate information technology so that data collection about clinical practice is automatic and informative. Examples of such investment is the purchase by three Auckland DHBs of an endoscopy data-basing and reporting software, that allows city-wide audit of endoscopy practice and access to reports; and Ministry of Health funding of a pilot of Global Rating Scheme in four centres in

New Zealand. The latter is a web-based rolling audit of practice in endoscopy units which promotes and guides quality improvement initiatives, and shares successful strategies between endoscopy units.

Finally, organisational and economic healthcare reform over the last twenty years has seen many countries piloting structures that transfer responsibility for budget and purchasing towards primary care. Such choices have the potential to see primary care groups influencing budget decisions between high and low value services. Workforce planning therefore must take into account the political environment in which the healthcare system will be functioning.

Summary

In their discussions review group members identified four areas that capture the overall climate of gastroenterology. These are workforce, service delivery, technology and costs.

A key need to increase medical specialist numbers was identified in the NZSG Workforce Report. Medical specialist time could also be freed up to an extent with greater use of nurses and technicians/healthcare assistants in various roles. Following initial assessment by medical personnel, there are clear roles for nurse specialists running outpatient clinic services in inflammatory bowel disease, hepatitis monitoring and treatment programs, colorectal cancer screening and surveillance programs, colon polyp follow-up triage, and organ transplant follow-up. Some DHBs already have experience with setting up some of these roles, with the ability to pass this knowledge onto other DHBs.

To cope with the predicted growing demand for endoscopy services, the ways in which endoscopy services are delivered will need to be changed. Currently the endoscopy workforce comprises of specialist medical personnel, nurses (registered and enrolled) and non specialist staff (technicians and healthcare assistants). The number of Consultants will need to be increased and patient demand can be better managed with improved guidelines and pathways.

A unified approach is needed with leadership and oversight for assessment, treatment and follow up provided by specialist medical staff. To free up specialist medical staff to do the high level procedures, further consideration will need to be given to nationally recognised training for nurse endoscopy and agreement between the profession and the service provider on support needed to train and sustain nurses in this role. However, there are significant barriers to overcome.

There is scope for reconfiguring service delivery provided there is cooperation between service providers. There is a possibility for mobile clinics and teams to address some of the access issues for rural areas and smaller centers with limited capacity and capability. O'Brien & Russell (2010b) suggest models of care that are accessible, provided in a timely manner and at the lowest possible cost. Exploration of specific contemporary models of care in selected countries will assist to inform the evolution of endoscopy service delivery in New Zealand. This requires an increased workforce in the larger centres to provide the added service in rural areas without compromising the larger centre services, and there are costs associated with travel downtime.

High bandwidth telecommunication can partly address the inequities and lack of gastroenterology skill-base faced in rural areas. High definition television-quality videoconferencing allows doctor-patient and doctor-doctor consultation with specialists in larger DHBs, avoiding costs and downtime of travel. Specialists could conduct full clinics this way, with appropriate coordination between centres. The doctors and nurses in the smaller centres would gain valuable knowledge, training and experience from such encounters.

Increased use of and new technology such as Capsule and robotic endoscopy has the potential to speed up diagnosis and allow patients who live remotely access to endoscopy. Although there will be costs associated with this in the short term, the long term benefits will ease pressure on the health budget.

Ideally, the future workforce model for gastroenterology involves health professionals working across the primary, secondary and tertiary health settings.

A framework for helping coordinate and advise on processes needed to advance workforce training in gastroenterology can be found in Attachment II, Conceptual Framework of Gastroenterology Training and Education Relationships. This framework also provides the voice for these professional groups to engage in the critical area of workforce planning.

Recommendations

The following recommendations, based on the clinical scenarios in this report and the NZSG Workforce Report, 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 centers to address the inequities faced by the public in these areas – the exact number of vacancies needs to be clarified with HWNZ.

2. Increase in Gastroenterology Posts

Once these vacancies are filled, it is estimated that an additional ten to fifteen full-time 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.

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 3 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.

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 practicing in endoscopy, to identify nursing issues with shortages, retention, extended practice and other significant gaps in practice and patient care.

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.

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.

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.

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.

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.



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 workforce³ and an ageing work force⁴. 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 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.⁵ 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 workforce⁶ has revealed wide variations in numbers of

³ 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

⁴ 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?*, OCED

⁵ Ibid

⁶ New Zealand Society of Gastroenterology and Ministry of Health workforce survey done in 2008.

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 2010.⁷ Obesity has reached epidemic proportions in New Zealand⁸ 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 placed on SMO's to be involved in clinical leadership thus taking them away from his/her clinical practice.⁹
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.¹⁰ 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 Zealand¹¹ 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.¹² 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:

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

⁸ 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

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

¹⁰ Royal College of Physicians, 2005, *Doctors in society: medical professionalism in a changing world*, uk

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

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

- 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.
- 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.¹³

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 posts¹⁴ 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 SAC¹⁵. 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:

- Auckland - 1-2 additional posts
- Hamilton -1
- Palmerston North- 1

¹³ Estimates based on the GSNZ data.

¹⁴ Data from the Royal Australasian College of Physicians

¹⁵ 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.

- 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.¹⁶ 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.

In order to deliver these services the non-specialist workforce would need to be trained and supervised¹⁷. 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.

¹⁶ Personal communications from the BSG

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

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%.¹⁸

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.¹⁹

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.

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.



Dr John Wyeth, FRACP
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¹⁸ In 2010 Ministry of Health's Pilot CRC Screening Implementation.

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

Appendix A: GASTROENTEROLOGY GRADUATES FROM 2000 TO 2009²⁰

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

²⁰ Data from the Royal Australasian College of Physicians ,sourced June 2010.

APPENDIX B

As outlined below it will take time and resources to build workforce capacity within the non-specialist workforce.

Procedure	Time taken to reach desired level of competence	Additional Comments
routine gastroscopy	12-18 months	independent sedation & resuscitation skills also needed
flexible sigmoidoscopy including ability to perform simple polypectomy	18-24 months	require oversight of a gastroenterologist to manage larger polyps.
colonoscopy and independent polypectomy	3 years	
satisfactory level for colonoscopy screening	5 years	caecal intubation and high quality polypectomy skills. Training equivalent to a gastroenterology registrar

Attachment II:

Conceptual Framework of Gastroenterology Training and Education Relationships



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