New Zealand Government

BOWEL CANCER QUALITY IMPROVEMENT PLAN

2020

This document is available at **health.govt.nz**

CONTENTS

List of Figures

BACKGROUND

Improving cancer service quality and consistency

This document sets out Te Aho o Te Kahu (the Cancer Control Agency) quality performance indicators (QPIs) actions for improvement for bowel cancer care in New Zealand.

The driving motivations for setting up a national cancer control agency were to facilitate and support improvements in cancer care, to ensure consistency of care around the country and to eliminate unexplained inequities in care. Te Aho o Te Kahu is committed to developing sound quality improvement processes and working with district health boards (DHBs) to develop effective quality improvement plans.

QPIs underpin Te Aho o Te Kahu quality improvement programme. They represent an internationally accepted approach to driving quality improvement in cancer care. They provide a standardised, evidence-based measure of health care quality. The process of implementing QPIs involves several steps, discussed in detail in an earlier report[1] released by the Ministry of Health. Briefly:

1. Te Aho o Te Kahu identifies optimal QPIs for each cancer site that are evidence-based, are clinically important, can drive quality improvement in that they are amenable to changes in systems and/or clinical practice, support the goal of achieving equity in cancer care and are measurable. The structured process of identifying QPIs involves substantial input from expert working groups, review of evidence and sector consultation.

2. Te Aho o Te Kahu measures the performance of DHBs against each QPI, undertaking equity-focused reporting at each step. It will provide reports to each DHB for the DHB's review and consideration.

3. Where possible, Te Aho o Te Kahu will hold cancer-site-specific quality forums to support DHBs to improve their performance by sharing quality improvement initiatives. These forums will include a wide range of clinical and non-clinical attendees.

4. Te Aho o Te Kahu will then develop quality improvement plans for each cancer to clarify actions that DHBs can take to improve the quality of their cancer care and to address unwarranted variation.

---

[1] Ministry of Health. 2019. *Bowel Cancer Quality Improvement Report*. Wellington: Ministry of Health. URL: **https://www.health.govt.nz/publication/bowel-cancer-quality-improvement-report-2019** (accessed 27 July 2020).

5.   DHBs will develop and implement quality improvement plans based on their specific context, and on the information provided by Te Aho o Te Kahu. Where a DHB is not performing at the level Te Aho o Te Kahu expects, they should investigate the causes of this and address them.

6.   Te Aho o Te Kahu will incorporate quality improvement expectations into the DHB Annual and Regional Services planning cycle. It will monitor improvements and review data every two years.
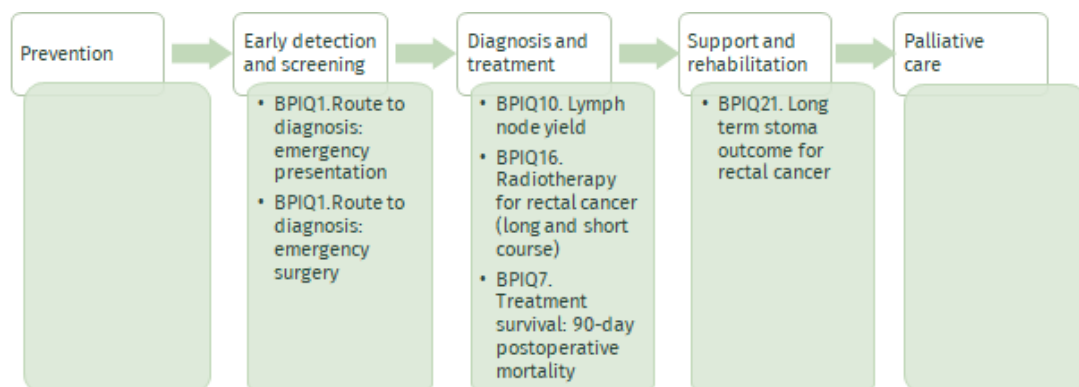
THE PROCESS OF DEVELOPING THE BOWEL CANCER QUALITY IMPROVEMENT PLAN

During 2017 and 2018, the Ministry of Health's Cancer Services team (the functions of which were transferred to Te Aho o Te Kahu on 3 December 2019) and the National Bowel Cancer Working Group (NBCWG) worked together to develop a set of QPIs for bowel cancer (see step 1 above).[2] The initial report on the performance of DHBs against those indicators was released in 2019 (see step 2 above: this Plan refers to this as the 'monitoring report'). A Bowel Cancer Quality Performance Indicators Forum was held in Wellington in September 2019 (see step 3 above). The NBCWG facilitated the event, which was led by Professor Ian Bissett and supported by the Ministry of Health, the Cancer Services team and the Regional Cancer Networks (the functions of which were transferred to Regional Hubs on 1 July 2020).

Te Aho o Te Kahu then developed this Bowel Cancer Quality Improvement Plan (the Plan), drawing on gathered evidence and on outputs from the forum (see step 4 above).

The Plan's bowel cancer QPIs are assigned their identification number in the 2019 Bowel Cancer Quality Performance Indicators: Descriptions report.[3] Figure 1 sets out the five bowel cancer QPIs and their alignment with the cancer control continuum.

Figure 1: Outline of bowel cancer QPIs aligned along the cancer control continuum

---

2   Ministry of Health. 2019. *Bowel Cancer Quality Performance Indicators: Descriptions*. Wellington: Ministry of Health. URL: **https://www.health.govt.nz/publication/bowel-cancer-quality-performance-indicators-descriptions-2019** (accessed 27 July 2020).

3   Ministry of Health. 2019. *Bowel Cancer Quality Performance Indicators: Descriptions*. Wellington: Ministry of Health. URL: **https://www.health.govt.nz/publication/bowel-cancer-quality-performance-indicators-descriptions-2019** (accessed 27 July 2020).

HOW TO USE THIS DOCUMENT

DHBs should take the 'Recommended actions' set out here where they have found that their performance against the relevant indicator varies significantly compared with other DHBs and apply quality performance principles to planning for improvement. We note that some DHBs are already undertaking quality improvement work, and that this Plan does not preclude additional actions. Te Aho o Te Kahu will use this Plan to guide their work programmes.

BOWEL CANCER QUALITY PERFORMANCE INDICATORS

BQPI1. Route to diagnosis: emergency presentation

Measure description

Proportion of people with colorectal cancer who are diagnosed following a referral to clinic, screening or presentation at emergency department (ED).

Problem statement

Emergency presentation of bowel cancer is generally an indication of late presentation. Those who present as an emergency typically have an acute complication such as with obstruction or perforation. These are associated with more advanced cancer and poorer prognosis. Internationally, in England and Wales it was found that 19 percent of colorectal cancer patients were diagnosed after emergency admission.[4]

Late presentation of cancer may be due to lack of symptoms, failure to recognise symptoms (or the significance of symptoms) by the patient or a primary care practitioner, or barriers to access to diagnostic procedures that may include prolonged waiting times, lack of transport (or other practical barriers), lack of suitable appointment times, or fear/embarrassment resulting in patients not attending appointments.

Current New Zealand research is investigating gaps in primary care and diagnostic services.

Key findings from monitoring report

The full monitoring report is available on the Ministry of Health's website.[5] In brief, one-quarter (26 percent) of patients were diagnosed with bowel cancer following presentation to an ED.

People aged younger than 50 years or 75 years and older, women, Māori and Pacific people, and people living in areas of higher social deprivation all were more likely to be diagnosed after presenting to an ED.

---

4   National Bowel Cancer Audit. 2018. *National Bowel Cancer Audit: Annual Report 2018*. URL: **https://www.nboca.org.uk/reports/annual-report-2018/** (accessed 16 July 2020).

5   Ministry of Health. 2019. *Bowel Cancer Quality Improvement Report*. Wellington: Ministry of Health. URL: **https://www.health.govt.nz/publication/bowel-cancer-quality-improvement-report-2019** (accessed 27 July 2020).

The proportion of cases diagnosed after presenting at an ED varied greatly between DHBs (from 15 percent to 35 percent). Some patients who were diagnosed after emergency presentation had previously been removed from wait lists after not attending an outpatient appointment.

Nationally, 3 percent of people were diagnosed with bowel cancer via screening. However, Waitemata was the only DHB providing publicly funded screening services during the reporting period. Of people in Waitemata DHB who were diagnosed with colorectal cancer in this period, 22 percent were diagnosed following screening.

Recommended actions

Te Aho o Te Kahu

1. Continue to review diagnosis of colorectal cancer following emergency presentation, including inequities in the proportion of patients presenting to ED, and report to DHBs two-yearly. Report and review more regularly for those DHBs whose results lie outside the 99.8 percent limit above the mean.

2. Develop educational resources for primary care providers on symptoms and appropriate management of patients, including direct access to colonoscopy referral for patients with symptoms consistent with bowel cancer.

3. Consider work to improve public understanding of symptoms of bowel cancer, with a focus on groups disproportionately affected by emergency diagnosis.

4. Establish a primary care advisory group to Te Aho o Te Kahu to provide advice on the factors occurring at primary care level that support or act as barriers to the early diagnosis of cancer including bowel cancer. This might cover pre-diagnosis and referral measures, as well as post-diagnosis primary care management and support.

5. Support the ongoing roll-out of the National Bowel Cancer Screening Programme.

District health boards

1. Review referral pathways to identify unwarranted variation or delays in the referral process. This may include consideration of the processes for direct referral from primary care, and a review of patients who have been diagnosed following acute presentation, to identify barriers that may have prevented earlier diagnosis.

2. Establish robust 'Did Not Attend' processes that ensure patients are not removed from a waiting list until several attempts have been made to contact them, both in writing and by phone. Consider established outreach processes. No patient should be removed from a waiting list until a clinician has reviewed the referral and approved the removal, and the DHB has formally notified the patient referrer that the patient could not be contacted. Encourage further attempts to contact the patient through primary care.

3. Encourage and promote the use of educational resources to primary care providers and priority populations.

BQPI7. Treatment survival: 90-day post-operative mortality

Measure description

Proportion of people with colorectal cancer who died within 90 days of surgery.

Problem statement

Treatment-related mortality is a marker of the quality and safety of the whole service provided by a cancer care multidisciplinary team (MDT). Internationally, the 90-day mortality rate following surgical was 2.3 percent in Scotland[6] and 3.3 percent in England and Wales;[7] there is notable variation across the different health trusts.

Some patients are at higher risk of post-operative mortality because of poor nutritional or performance status or severe comorbidity. Clinicians need to balance the risk of surgery against the risk of poor outcomes of curative procedures.

Key findings from monitoring report

In people with colon and rectal cancer, 4.8 percent and 1.3 percent respectively died within 90 days of their surgery. Patients who underwent emergency procedures were more likely to die within 90 days than those undergoing planned procedures. There was a wide variation in post-operative mortality across DHBs in total (elective and emergency), and for elective procedures. Māori patients had the highest 90-day mortality following elective colon surgery among ethnic groups.

Recommended actions

Te Aho o Te Kahu

1. Continue to review 90-day mortality following colorectal cancer surgery, including inequities in this outcome, and report to DHBs two-yearly. Report and review more regularly for those DHBs whose results lie outside the 99.8 percent limit below the mean.

2. Determine whether there is a need for a nationally consistent and validated preoperative risk score (such as the Physiological and Operative Severity Score for the Enumeration of Mortality and Morbidity (POSSUM) or NZ RISK score).

[6] Public Health Scotland. 2017. *Colorectal Cancer Quality Performance Indicators*. Edinburgh: Public Health Scotland. URL: **https://www.isdscotland.org/Health-Topics/Quality-Indicators/Publications/** (accessed 16 July 2020).

[7] National Bowel Cancer Audit. 2018. *National Bowel Cancer Audit: Annual Report 2018*. URL: **https://www.nboca.org.uk/reports/annual-report-2018/** (accessed 16 July 2020).

3. Provide DHBs advice to ensure pathways include robust preoperative assessment and physiological optimisation strategies (nutrition, cardiorespiratory fitness, etc).

District health boards

1. Where a patient dies within 90 days of colorectal cancer surgery, facilitate a proactive audit and feedback process to identify and address factors that may have been preventable.

2. Ensure that a robust preoperative assessment covers patients' nutritional, functional and comorbidity status, and provide support preoperatively to those who need it. Consider delaying definitive surgery while undertaking preoperative assessment and intervention where the clinical setting allows.

3. Use 'enhanced recovery after surgery' (ERAS) protocols.[8] This may include the use of specialist nurses to provide pre- and post-surgical support and education.

4. Consider surgical options including stenting and de-functioning colostomy for high-risk patients and/or those with advanced disease before embarking on major tumour resection.

5. Provide culturally appropriate preoperative support for Māori and Pacific patients and their whānau to avoid delays from missed appointments and to generally improve patient journeys and outcomes.

BPIQ10. Lymph node yield

Measure description

Proportion of people with colon cancer who undergo surgical resection where ≥ 12 lymph nodes are pathologically examined.

Problem statement

Maximising the number of lymph nodes resected and analysed enables reliable staging, which positively influences treatment decision-making and patient outcomes. A lymph node harvest of a minimum of 12 nodes is considered best practice in New Zealand and internationally. Internationally, a 2017 study in England found that 83 percent of patients had 12 or more lymph nodes examined.[9]

---

8 Ministry of Health. 2015. *Enhanced Recovery After Surgery*. Wellington: Ministry of Health. URL: **https://www.health.govt.nz/our-work/hospitals-and-specialist-care/enhanced-recovery-after-surgery** (accessed 10 August 2020).

9 RCPA. 2016. Colorectal cancer structured reporting protocol. URL: **https://www.rcpa.edu.au/Library/Practising-Pathology/Structured-Pathology-Reporting-of-Cancer/Cancer-Protocols** (accessed 14 July 2020).

Key findings from monitoring report

Overall, 82 percent of patients had 12 or more lymph nodes examined, but this varied considerably by DHB (from 54.9 percent to 95.3 percent). There was little difference between Māori and non-Māori patients (for whom the figures were 80.0 percent and 81.5 percent respectively).

Hospitals that used structured pathology reporting were more likely to have pathologically examined ≥ 12 lymph nodes of relevant patients. The Royal College of Pathologists of Australasia (RCPA) recommends structured pathology reporting for all colorectal cancer resection specimens.

Recommended actions

Te Aho o Te Kahu

1. Continue to review lymph node harvest following colorectal cancer surgery, including inequities in this outcome, and report to DHBs two-yearly. Report and review more regularly for those DHBs whose results lie outside the 99.8 percent limit below the mean.

2. Investigate implementing a structured pathology reporting project with key stakeholders including the RCPA and DHB chief operating officers (COOs) aiming to incorporate structured reporting as a requirement in laboratory contracts. This would include seeking agreement on which structured report should be used.

3. Work with stakeholders to develop a structured histology request form for colorectal cancer specimens, ensuring that pathologists are fully aware of each patient's key surgical, anatomical, radiological and clinical staging details.

4. Ensure any process developed is mandated by International Accreditation New Zealand standards.

District health boards

1. Develop a quality improvement programme to improve the harvesting, examination and reporting of lymph node yields. This should involve discussions within MDMs and should incorporate an audit cycle to review and monitor progress.

2. Ensure that there is clear understanding among relevant staff (surgeons and pathologists) of the importance of a lymph node harvest of at least 12 nodes.

3. Implement a system whereby, if there are fewer than 12 lymph nodes identified in a surgical sample, a repeat review is requested. Pathology assistants may be able to assist with this.

4. Ensure that clinical staff and laboratory service providers support the implementation of the nationally agreed structured pathology reporting project and structured histology request form.

BQPI21. Long-term stoma outcome for rectal cancer

Measure description

Proportion of people with rectal cancer who undergo major surgery and are free of a stoma at 18 months.

Problem statement

Effective MDT planning and surgical technique may lower the rate of permanent colostomy and ileostomy. The 18-month stoma-free survival indicator is a composite surrogate marker of the success of sphincter-preserving surgery in rectal cancer surgery. Stoma-free survival is an important outcome and quality-of-life measure.

Key findings from monitoring report

Overall, 54.7 percent of people who had major surgery for rectal cancer were stoma-free at 18 months. The lowest stoma-free survival rate by age group was for people aged 75 years and over (42.5 percent). There was no difference between rates for Māori (51.9 percent) and European/Other (53.8 percent).

There were substantial variations in stoma-free survival rates across DHBs, ranging from 14.3 percent to 80.2 percent.

A local audit of DHB data identified that there were inaccuracies in the data nationally because of variations in accuracy of coding across DHBs and lack of identification of some patients with stoma.

Recommended actions

Te Aho o Te Kahu

1. Continue to review stoma-free survival following rectal cancer surgery, including inequities in this outcome, and report to DHBs two-yearly. Report and review more regularly for those DHBs whose results lie outside the lower limit of the 99.8 percent confidence intervals for this indicator.

2. Review the algorithm used to identify patients with stoma and ensure there is a clear definition of the appropriate denominator.

District health boards

1. DHBs that remain as outliers once clinical coding has been corrected should investigate the drivers of variance within their DHB.

2. For patients in whom stoma closure is appropriate, ensure that closure is timely and occurs once clinically appropriate well within 18 months of the primary surgery.

3. Prioritise stoma closure, especially in patients for whom stoma management is particularly difficult (such as elderly or disabled patients).

BPIQ16. Radiotherapy for rectal cancer (long and short course)

Measure description

Proportion of people with rectal cancer who receive short-course radiotherapy or long-course radiotherapy pre-operatively.

Problem statement

Pre-operative radiotherapy reduces the risk of pelvic recurrence of rectal cancer, but also results in morbidity, so appropriate patient selection for this treatment is important.

The current New Zealand guidelines for the management of early colorectal cancer recommend either preoperative short-course radiotherapy or preoperative long-course chemoradiation for people with rectal cancer who are at risk of local recurrence. Preoperative long-course chemoradiation is recommended for people who have a low rectal cancer or a threatened circumferential resection margin. Short-course radiotherapy is more convenient for patients, has fewer short-term side effects and uses fewer health resources, so it should be considered for patients at increased risk of pelvic recurrence, who are not at risk of positive resection margins.[10]

Key findings from monitoring report

Just over half (54 percent) of patients who underwent publicly funded surgery for rectal cancer received preoperative radiotherapy treatment. Of these, 27.7 percent received short-course radiotherapy; there was wide variation in this proportion across DHBs; the figure ranged from 12 to 54 percent. There was also wide variation across DHBs in the proportion of patients who received no publicly funded pre-operative radiotherapy. Māori were more likely to receive preoperative

10 Ministry of Health. 2019. *Bowel Cancer Quality Improvement Report*. Wellington: Ministry of Health. URL: **https://www.health.govt.nz/publication/bowel-cancer-quality-improvement-report-2019** (accessed 27 July 2020).

radiotherapy (65 percent) than European/Other (55 percent), but this may indicate more advanced disease in the Māori cohort.

A recent survey of all colorectal MDTs across the country confirmed wide variation in the use of radiotherapy among rectal cancer patients. Individual MDTs based their decisions on recommendations from differing clinical guidelines, which vary in terms of the advice they give relating to short- versus long-course chemoradiation.[11, 12, 13, 14]

Recommended actions

Te Aho o Te Kahu

1. Continue to review radiotherapy use preceding rectal cancer surgery, including inequities in this outcome, and report to DHBs two-yearly. Report and review more regularly for those DHBs whose results lie outside the lower limit of the 99.8 percent confidence intervals for this indicator.

2. Work with the Radiation Oncology Working Group and NBCWG to develop standardised indications for long and short course radiotherapy.

District health boards

1. Implement and monitor standardised indications for long- and short-course radiotherapy, once developed.

[11] National Institute for Health and Care Excellence. 2020. *Colorectal cancer NICE guideline [NG151]*. URL: **https://www.nice.org.uk/guidance/ng151/chapter/Recommendations#management-of-local-disease** (accessed 27 July 2020).

[12] National Comprehensive Cancer Network. 2018. *Guidelines for Patients: Rectal Cancer*. URL: **https://www.nccn.org/patients/guidelines/cancers.aspx** (accessed 27 July 2020).

[13] New Zealand Guidelines Group. 2011. *Management of Early Colorectal Cancer: Evidence-based Best Practice Guidelines*. Wellington: New Zealand Guidelines Group. URL: **https://www.health.govt.nz/publication/management-early-colorectal-cancer** (accessed 27 July 2020).

[14] Glynne-Jones R, Wyrwicz L, Tiret E, et al. 2017. Rectal cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Annals of Oncology* 28: iv22–iv40.