

Screening at 45

With no one left behind

Third Edition Model | July 2026

Bowel Cancer
NEW ZEALAND



Contents

Figures 4

Tables 4

Foreword to the Third Edition 5

Executive Summary 6

Introduction 7

Approach to Modelling 8

Step-by-Step Model 10

A. Population to be screened 10

B. Invitation to screen, participation and returned screening tests 11

C. FIT test positivity and colonoscopy requirements 12

D. Immediate direct benefits of screening age extension 13

E. Costing the expanded screening programme 16

F. Estimating benefits from screening 18

G. The new FIT for Symptomatic pathway frees up the capacity needed 19

H. Financial resources freed up make screening at 45 affordable 20

Limitations to inform further research 21

References 22

Appendix 1.
NICE and Health New Zealand FIT for Symptomatic pathway to colonoscopy 23

Figures

Figure 1. Benefits missed from below-lifetime-horizon analysis of screening policy **8**

Figure 2. NICE impact model pathway with percentages (Source: NICE, BCNZ analysis) **23**

Figure 3. Health New Zealand FIT for Symptomatic pathway (Source: Health New Zealand, BCNZ analysis) **23**

Tables

Table 1. 2023 Census by age and ethnicity (Source: Stats NZ) **10**

Table 2. 2023 Census by age and ethnicity with 55–59 age band split (Source: Stats NZ, BCNZ analysis) **10**

Table 3. 2025 Resident population by age band with 2026 growth estimate (Source: Stats NZ, BCNZ analysis) **10**

Table 4. 2023 Census ethnicity age band split applied to 2026 total population (Source: Stats NZ, BCNZ analysis) **11**

Table 5. Screening invitations and returned FIT tests (Source: BCNZ modelling) **11**

Table 6. Positive FIT results and public colonoscopy requirements by age band (Source: BCNZ analysis) **12**

Table 7. Cancers detected and prevented (Source: NBSP Monitoring Report, BCNZ analysis) **14**

Table 8. Unit costs (Source: Sapere Business Case 2016, Treasury CPI, Health New Zealand reference prices) **16**

Table 9. Modelled annual screening programme costs for each age cohort **17**

Table 10. NZ bowel cancer treatment cost by stage at 2026 prices (Source: Sapere Business Case, BCNZ analysis) **18**

Table 11. Colonoscopy output and demand (Source: Te Whatu Ora NBSP Colonoscopy Shinyapp, BCNZ analysis) **20**

Table 12. Financial impact of FIT for symptomatic patients (Source: BCNZ analysis) **20**

Foreword to the third edition

In late 2024 Bowel Cancer New Zealand (BCNZ) secured consideration of a 13,000-signature petition by Parliament to lower the bowel screening age from 60 to 45 and ensure equal screening benefit for Māori and Pacific peoples, who have an 8% lower five-year survival rate than other New Zealanders.

In early 2025 we submitted evidence to the petitions committee from patient, clinician, public health and health economics perspectives which included a costed model of the additional resources including colonoscopies required to implement the lower screening age from age 60. As part of this we modelled the impact of also implementing FIT testing for symptomatic patients on colonoscopy demand and costs, and how the money already allocated by the previous government could be used to deliver screening at 45 along with 10 year earlier screening for Māori & Pacific peoples affordably, feasibly, and rapidly from 2026 if the right steps were taken in 2025.

The proposals were provided to, and discussed in person with, the Health Minister in early March 2025 and subsequently the modelling, its assumptions, and approach were tested with senior officials from the screening programme, National Public Health Service and Ministry of Health Public Health Agency.

The second edition of our modelling incorporated five key areas of update:

- The screening age now starting at age 58 as the base case following screening policy changes enacted from October 2025 and completed in March 2026.
- The balance of funding set aside by the previous government for screening age reduction for Māori and Pacific peoples now having been committed to other purposes.
- Confirmation of the implementation of FIT for Symptomatic pathway and the recognition of the impact on colonoscopy demand by the Minister and Health New Zealand.
- Addressing areas of feedback from the testing with officials that took place during 2025 where BCNZ assumptions were considered to be overly conservative and as a result overstated the colonoscopy requirements from beginning screening at an earlier age.
- A roll forward of the population to 2026 levels and prices to 2025 levels.

This third edition of our modelling incorporates two further areas of update:

- Screening from age 56 as the base case following changes announced in Budget 2026.
- A roll forward to 2026 prices now that CPI changes are known.

The minister's 2025 announcement of a reduction to age 58 was accompanied by microsimulation modelling undertaken by Erasmus University, with a report released at the time of the announcement. The commissioning of this evidence is welcome, although the failure to involve patient groups has been a missed opportunity. As a result, that publication left important questions unanswered which if addressed would have strengthened the evidence and public confidence.

BCNZ was assured by officials in mid-2025 that screening at 45, along with other options, would now be modelled by Erasmus. The Minister expected this evidence in late 2025 to inform a decision in early 2026 on further reductions to the screening age, reiterating the government's commitment to match Australia's screening age.

Whilst the Erasmus report is still not available, we are making our third edition modelling available now, as a contribution to transparency.

We look forward to the Erasmus research evidence being published to improve public understanding of the lives that can be saved and the exceptional value-for-money bowel screening provides. This is especially timely ahead of November's election as political parties make clear when and how they will fulfil the pledge to match Australia's screening age made to New Zealanders in 2023.

Peter Huskinson



Chief Executive
Bowel Cancer New Zealand

Executive Summary

Bowel cancer is New Zealand's second-deadliest cancer, claiming over 1,200 lives each year and is the leading cause of cancer death in Kiwis under fifty. 550 of these deaths are recognised by public health experts as avoidable.

Bowel screening is incredibly effective. It prevents cancers, detects cancers at earlier, more survivable stages, reduces cancer incidence and reduces cancer deaths. While the National Bowel Screening Programme is set to cover individuals aged 56–74, evidence supports screening at or below age 45 to align with best international practice and reduce preventable deaths.

Labour and National party leaders in the 2023 election campaign committed to lower the screening age to match Australia which already screens from 45. Australia is a useful comparator as there are 410 excess bowel cancer deaths in New Zealand each year compared to Australia. This is greater than the total number of lives lost on New Zealand's roads every year.

Te Tiriti O Waitangi commits the Crown to active protection for Māori with bowel cancer, yet the evidence shows bowel cancer cases peak 10 years earlier for Māori than non-Māori. A one-size-fits-all starting age for screening for all ethnicities contributes a stark inequity: If diagnosed with bowel cancer, Māori are 46% more likely to die from the disease than non-Māori.

BCNZ has undertaken modelling to inform policymakers about the feasibility and affordability of honouring the commitment to universal screening for all New Zealanders from age 45, as well as screening from age 35 for groups with a younger age profile and worse survival outcomes to ensure all groups benefit equally from screening protection (hereafter 45/35).

Compared to screening from age 60, that change would mean over 1.1 million more Kiwis become eligible for screening protection. So far, the reduction in screening age to 56 covers over 250,000 more New Zealanders than screening from age 60. This modelling helps quantify the cost, capacity impact, and health gain for covering the remaining 877,000 New Zealanders.

Making FIT testing available for people with bowel cancer symptoms frees up colonoscopy capacity. FIT testing as a first-line investigation for people with symptoms targets colonoscopy more effectively, making possible a more comprehensive screening programme without big additions to funding, capacity and workforce.

The co-ordination of these two complementary changes – FIT for Symptomatic pathway and earlier screening – provides a rare opportunity that should not be wasted. We estimate the costs and capacity impact of these changes.

Our modelling of this change compared to screening from age 56 estimates that each year:

- 877,000 more New Zealanders are covered by the screening programme.
- 366 more cancers are detected earlier through screening, prior to symptoms developing.
- 102 are shifted to Stage 1 from later stages resulting in the highest survival and lowest cost to treat.
- 4,487 more Kiwis get preventative benefit from precancerous polyps removed.
- 218,531 more New Zealanders get reassurance from a true negative FIT test.

Before considering savings, to achieve this change involves a total cost of $33.8m per annum:

- $13.8m in invitation costs and $6.6m in FIT testing costs.
- 5,776 additional colonoscopies at a cost of $13.4m.

FIT for Symptomatic pathway is estimated to reduce colonoscopy demand by 17,690 procedures per year (range 9,829 to 21,949) addressing the capacity constraints needed to screen at 45.

Reduced colonoscopy demand from using FIT for symptomatic patients saves $39.0m at 2026 prices, making the combined impact of symptomatic and screening changes a $5.2m per annum saving (range +$13 to -$15m). Additional savings of at least $91,000 per cancer prevented, and $34,000 per cancer now diagnosed at Stage 1 further strengthen the affordability case.

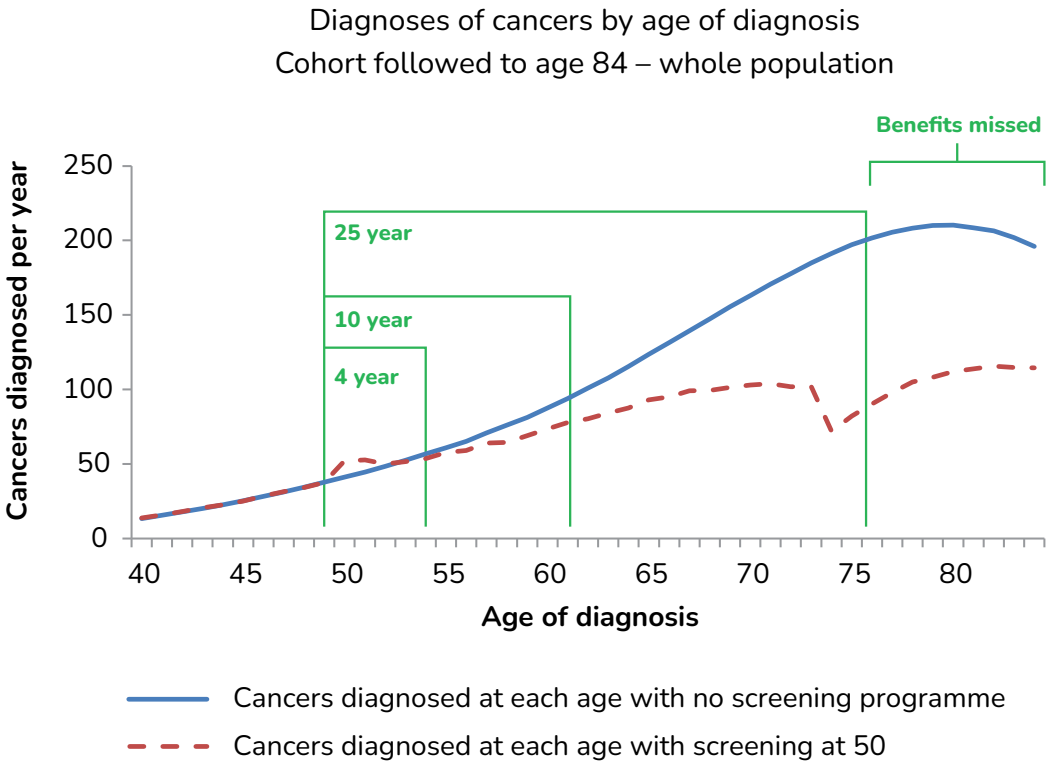
Introduction

1. New Zealand has one of the highest rates of bowel cancer in the world, ranking 6th among 185 countries *(World Health Organisation, 2022)*.
2. Cancer causes a third of all deaths in New Zealand. For New Zealanders, bowel cancer is the second-leading cause of cancer death. 1,200 people die from the disease every year. Health New Zealand estimates 550 of these deaths – ten deaths per week – are both premature, and avoidable *(Health New Zealand, 2024)*.
3. New Zealand's death rates from bowel cancer are 33% higher in men and 25% higher in women than Australia translating to 410 excess deaths per year, a far bigger difference than any other type of cancer *(Aye et al., 2023)*.
4. Despite being no more likely to develop the disease, Māori diagnosed with bowel cancer are 46% more likely to die from it than non-Māori (Gurney et al., 2020). Pacific peoples diagnosed with bowel cancer are 60% more likely to die than other New Zealanders *(Gurney et al., 2023)*.
5. While the National Bowel Screening Programme is set to provide access for people aged 56–74, evidence supports lowering the screening age to 45 to reduce preventable deaths in line with guidelines and practice in Australia, the United States of America, Japan, Austria, Italy, and parts of China *(Waddell, Keenan, et al., 2024)*.
6. Both major party leaders made a commitment in the 2023 election campaign to lower the screening age in line with Australia (which now offers screening from 45). Despite this, and widespread public support including three petitions in the last 2 years with thousands of signatures, progress to date is limited to two further rounds of screening, reducing the starting age from 60 to 56 from September 2026.
7. BCNZ submitted evidence to the petitions committee in early 2025, with the following recommendations:
    a. Lower the National Bowel Screening Programme starting age of screening to 45 without delay, aligning with Australia and international best practices.
    b. Re-introduce targeted screening 10 years earlier for high-risk populations, such as Māori and Pacific peoples, to reduce health inequities.
    c. Commence implementation planning in 2025, with the goal of full rollout at maximum pace in 2026, to prevent further avoidable deaths.
8. The evidence was informed by a costed model of the impacts of reducing the screening age from 60 to 45 for all New Zealanders and screening 10 years earlier for Māori and Pacific peoples, together with introducing FIT for Symptomatic pathway for people with bowel cancer symptoms which frees up the colonoscopy capacity required.

Approach to Modelling

9. Applying a screening policy has a cumulative impact over time, with the full effect of screening realised over the lifetime horizon of the youngest age cohort newly eligible at the time the policy is changed compared to their lifetime outcomes if the policy was not changed.
10. For the screening age reduction to 58, the Ministry of Health published modelling of aggregate impacts over 4-, 10- and 25-year horizons. Whilst useful for some purposes these all reflect a time horizon which ends prior to capturing the lifetime benefit of a population fully screened from the earlier starting age. This is illustrated by applying these shorter horizons to the original 2016 Ministry of Health screening business case which modelled the impact of screening on cancers diagnosed per year over a 34-year horizon:

Figure 1: **Benefits missed from below-lifetime-horizon analysis of screening policy**



Source: Love (2016 The cost-effectiveness of Bowel Screening in New Zealand. Annotations by the author.

11. Fixed multi-year horizons, whether 4, 10 or 25 also make it challenging to estimate annualised impacts or return on investment because the profile of costs and savings over time from the model is not explicit.
12. While lifetime horizon multi-year modelling with annually itemised effects is the ideal, this also requires assumptions about changes in incidence and prevalence of bowel cancer to be explicit and informed by current trends, including New Zealand's fast growth in early-onset bowel cancer of 26% per decade and 36% per decade for Māori *(Waddell, Pearson, et al., 2024)*.

13. Recent Canadian research shows that screening from age 45 compared with age 50 is both cost-saving and health-improving, and screening from age 40–45 is exceptionally cost effective (*Kalyta et al., 2023*). Bowel screening by this measure is also exceptionally cost effective compared to other health interventions that New Zealand routinely funds for other conditions.

14. The purpose of our modelling is to inform budgeting and operational capacity impact analysis, Vote Health budget planning and appropriation, so we model an annualised impact of the change in screening policy on the 2026 population, recognising that this will understate longer term benefits which will be quantified by further microsimulation modelling from Erasmus University commissioned by Health New Zealand.

15. The key steps of our approach are:

    a. We use the 2023 Census population breakdown by ethnicity and age to quantify five-year cohorts of Māori, Pacific peoples, and other ethnicities. We use Stats NZ 2026 age cohorts and total Māori population to produce 2026 population estimates by age and ethnicity, splitting the 55–59 age group into three to reflect the shift to 58 and to 56.

    b. We use the current screening programme, and the original pilot which included populations down to age 50 and ethnicity effects, as an evidence source, as well as international published data about age-specific rates of key modelling variables below 50 including:

        i. Screening participation.
        ii. FIT positivity.
        iii. Publicly funded colonoscopy uptake from FIT-positive patients.
        iv. Positive predictive value for cancers detected and precancerous adenomas removed.

    c. For costs, we take a similar approach to Erasmus – applying CPI to the 2016 business case costs of invitation, and of FIT testing. We use and uprate using CPI Health New Zealand's 2024–25 published colonoscopy purchase unit pricing for colonoscopy costs for a more precise estimate of this key variable.

    d. For the impact of the FIT for Symptomatic pathway on colonoscopy capacity and demand.

        i. We take published GP-referred annual colonoscopy output net of annual changes in waiting lists to confirm the non-urgent colonoscopy demand baseline.
        ii. We apply assumptions provided by Health New Zealand for the hospital-based FIT for Symptomatic pathway and compare these with the resource impact model used by NICE for the NHS when FIT for Symptomatic pathway was introduced in the UK, which provides modelling for a primary care-led model.
        iii. These assumptions identify the freed-up colonoscopy capacity from this change which can be used initially to reduce waiting lists, but after a few months is available recurrently to cover the additional colonoscopy requirements from screening at 45.
        iv. The key assumption underlying this approach is that, prior to consideration of FIT test pathway changes the government is expected to fulfil its duty to plan and fund capacity to meet the rising demand for colonoscopy that results from the ageing and growing population, and the rising incidence of early-onset bowel cancer. The alternative would be that government uses the FIT changes to reduce frontline capacity growth in colonoscopy services (and further, to cut back on frontline services) to make short term cost savings, rather than reinvesting in addressing the avoidable deaths and treatment costs from bowel cancer.

Step-by-Step Model

A. Population to be screened

16. We restate the original population model taken from the Stats NZ Census used in our first edition model that informed the evidence to Parliament in January 2025:

Table 1: **2023 Census by age and ethnicity** *(Source: Stats NZ)*

Population (2023 Census)	<20	20–34	35–39	40–44	45–49	50–54	55–59	60–74	Over 75	Total
Non Māori Non Pacific	731,295	703,971	266,976	245,730	234,717	254,952	243,945	647,889	334,323	**3,663,798**
Māori	345,762	204,576	52,188	46,518	46,116	47,559	42,114	83,010	19,650	**887,493**
Pacific	179,877	113,199	26,373	23,517	21,387	20,124	18,015	31,449	8,691	**442,632**
NZ total	1,256,934	1,021,746	345,537	315,765	302,220	322,635	304,074	762,348	362,664	**4,993,923**

17. First, we apply a split to the 55–59 age group. The latest Stats NZ estimated resident Māori Population by year at the end of 2025 suggests a split within this age group for age 55, age 56–57, and age 58–59 of 21.0%, 40.7% and 38.2% respectively. For the population as a whole the same split is 20.9%, 40.5% and 38.6%. In the absence of specific Pacific resident population estimates in this dataset we apply the Māori proportion as a proxy.

Table 2: **2023 Census by age and ethnicity with 55–59 age band split** *(Source: Stats NZ, BCNZ analysis)*

Population (2023 Census)	< 20	20–34	35–39	40–44	45–49	50–54	55	56–57	58–59	60–74	Over 75	Total
Non Māori Non Pacific	731,295	703,971	266,976	245,730	234,717	254,952	50,864	98,677	94,403	647,889	334,323	**3,663,798**
Māori	345,762	204,576	52,188	46,518	46,116	47,559	8,886	17,140	16,088	83,010	19,650	**887,493**
Pacific	179,877	113,199	26,373	23,517	21,387	20,124	3,801	7,332	6,882	31,449	8,691	**442,632**
NZ total	1,256,934	1,021,746	345,537	315,765	302,220	322,635	63,551	123,150	117,373	762,348	362,664	**4,993,923**

18. Next, the Stats NZ June 2025 resident population projection of the total population by five-year age band for 2025 is taken and the Stats NZ stated annual growth to 2026 of 1.0% for total population, 1.2% for total Māori population and 2.1% for total Pacific population is applied.

Table 3: **2025 Resident population by age band with 2026 growth estimate** *(Source: Stats NZ, BCNZ analysis)*

Year to June	Under 20 Years	20–24 Years	25–29 Years	30–34 Years	35–39 Years	40–44 Years	45–49 Years	50–54 Years	55–59 Years	60–64 Years	65–69 Years	70–74 Years	75–79 Years	80–84 Years	85 Years and over	Total all ages
2025	1,325,600	327,760	344,080	401,820	401,290	357,420	316,820	326,640	313,260	309,870	272,530	225,340	185,530	117,040	99,700	5,324,700
2026	1,338,856	331,038	347,521	405,838	405,303	360,994	319,988	329,906	316,393	312,969	275,255	227,593	187,385	118,210	100,697	5,377,947

19. Finally, the proportionate share by age band for Māori and Pacific populations are applied to the total 2026 Stats NZ figures, which then generates the residual non-Māori non-Pacific population by age band by deducting the Māori and Pacific population at each age from the Stats NZ total population at that age band:

Table 4: **2023 Census ethnicity age band split applied to 2026 total population** *(Source: Stats NZ, BCNZ analysis)*

Census	35–39	40–44	45–49	50–54	55	56–57	58–59	60–74	Under 35 + over 74	All ages
Non Māori Non Pacific	320,220	285,145	246,958	256,761	52,413	101,688	97,302	692,276	1,884,875	**3,937,639**
Māori	55,466	49,440	49,013	50,546	9,444	18,217	17,098	88,224	605,789	**943,237**
Pacific	29,617	26,409	24,017	22,599	4,269	8,234	7,728	35,317	338,992	**497,071**
NZ total	405,303	360,994	319,988	329,906	66,126	128,139	122,128	815,817	2,829,545	**5,377,947**

B. Invitation to screen, participation and returned screening tests

20. In line with two-yearly screening the model applies an invitation to 50% of each age and ethnicity cohort. An age-specific participation rate for the total population is applied to ages above 45 with a further 5% drop-off to 45% participation in Māori and Pacific cohorts age 35–44. This broadly aligns with *Kalyta et al (2023)* who use a 43% uptake for populations under 45 years based on published data.

Table 5: **Screening invitations and returned FIT tests** *(Source: BCNZ modelling)*

Population	35–39	40–44	45–49	50–54	55	56–57	58–59	60–74	Total to screen	56–74	45–55	35–44	Total new
Non Māori Non Pacific	320,220	285,145	246,958	256,761	52,413	101,688	97,302	692,276	**1,447,398**	**891,266**	556,132	–	**556,132**
Māori	55,466	49,440	49,013	50,546	9,444	18,217	17,098	88,224	**337,448**	**123,539**	109,003	104,906	**213,909**
Pacific	29,617	26,409	24,017	22,599	4,269	8,234	7,728	35,317	**158,190**	**51,279**	50,885	56,026	**106,911**
NZ total	405,303	360,994	319,988	329,906	66,126	128,139	122,128	815,817	**1,943,036**	**1,066,084**	716,020	160,932	**876,952**
50% Invited each year	42,541	37,925	159,994	164,953	33,063	64,070	61,064	407,909	**971,518**	**533,042**	358,010	80,466	**438,476**
Participation	45%	45%	50%	55%	55%	55%	55%	57%					
Returned FIT tests per year	19,143	17,066	79,997	90,724	18,184	35,238	33,585	232,507	**526,444**	**301,330**	188,905	36,209	**225,114**

21. The modelling shows that the current screening programme now extended to age 56 will complete approximately 301,000 FIT tests per year up by 69,000 from the 60–74 programme. Extending to age 45 would add a further 189,000 FIT tests, and equal benefit for Māori and Pacific populations would require a further 36,000 FIT tests, increasing the total programme by 75% from 301,000 to 526,000 returned FIT tests.

C. FIT test positivity and colonoscopy requirements

22. Our first edition model used a standard 3.73% FIT positivity rate regardless of age based on the most recent data published by the National Bowel Screening Programme. This was flagged by Health New Zealand subject experts as being likely to overstate FIT positivity rates for younger age groups. An age-group-specific FIT positivity rate has been applied informed by the following evidence:
    a. FIT-positive by age group in NBSP Monitoring report shows 3.4% for 60–64 compared to 3.7% for 65–69. Thus 3.4% used for 58–59.
    b. A 2024 US study showed a 0.4% reduction in positivity for patients age 45–49 compared to patients aged 50–54 with no differences in rates of advanced adenoma or colorectal cancer detected *(Lee et al., 2025)*.
    c. When considering Māori and Pacific peoples aged 35–44 there is likely to be both an age effect which reduces FIT positivity rates but also an ethnicity effect which increases positivity rates: The NBSP monitoring report 2022 found 5.3% FIT positivity rate for Māori and 4.5% FIT positivity rate for Pacific peoples compared to 3.9% for all ethnicities. Based on these two offsetting effects a single rate is used for all populations under 50.
23. Our first edition model made the highly conservative assumption that everyone with a positive FIT test would undergo a publicly funded colonoscopy. The Waitematā screening pilot found that 86–88% of people had a public colonoscopy or CT colonography, with a further 8% having a privately funded procedure. The guidance used by Erasmus was to model for 85% uptake.
24. However, we note from a 2016 Ministry of Health publication that Māori are 50% less, and Pacific peoples 40% less likely to have health insurance than non-Māori non-Pacific peoples. We therefore assume 95% uptake for Māori and Pacific peoples aged 35–44 with a positive FIT screening test.

Table 6: **Positive FIT results and public colonoscopy requirements by age band** *(Source: BCNZ analysis)*

2026 Population	35–39	40–44	45–49	50–54	55	56–57	58–59	60–74	Total to screen	56–74	45–55	35–44	Total new
Non Māori, Non Pacific	320,220	285,145	246,958	256,761	52,413	101,688	97,302	692,276	**1,447,398**	**891,266**	556,132	-	**556,132**
Māori	55,466	49,440	49,013	50,546	9,444	18,217	17,098	88,224	**337,448**	**123,539**	109,003	104,906	**213,909**
Pacific	29,617	26,409	24,017	22,599	4,269	8,234	7,728	35,317	**158,190**	**51,279**	50,885	56,026	**106,911**
NZ total	405,303	360,994	319,988	329,906	66,126	128,139	122,128	815,817	**1,943,036**	**1,066,084**	716,020	160,932	**876,952**
50% Invited each year	42,541	37,925	159,994	164,953	33,063	64,070	61,064	407,909	**971,518**	**533,042**	358,010	80,466	**438,476**
Participation	45%	45%	50%	55%	55%	55%	55%	57%					
Returned FIT tests per year	19,143	17,066	79,997	90,724	18,184	35,238	33,585	232,507	**526,444**	**301,330**	188,905	36,209	**225,114**
Positive FIT results	2.3%	2.5%	2.7%	3.1%	3.3%	3.3%	3.4%	3.7%					
Colonoscopy demand	440	427	2,160	2,812	600	1,163	1,142	8,673	**17,417**	**10,978**	5,572	867	**6,439**
Public colonoscopy uptake	95%	95%	95%	85%	85%	85%	85%	85%					
Public colonoscopy required	418	406	2,052	2,390	510	989	971	7,372	**15,108**	**9,332**	4,952	824	**5,776**

25. Our modelling estimates colonoscopy levels for the 60–74 age bracket at 57% participation in 2026 would require circa 7,400 colonoscopies, around 5% above the reported screening colonoscopy rates by the National Bowel Screening Programme in 2025.

26. Incorporating the 56–59 age group takes the existing programme to an annual screening colonoscopy requirement of just over 9,300. Implementing screening at 45 together with reinstating equal benefit for Māori and Pacific peoples requires around 5,800 additional colonoscopies taking the total annual public sector screening colonoscopies to 15,100.

27. Whilst the additional colonoscopies from moving to age 45/35 are a 61% increase in screening colonoscopies above the 56–74 programme, the increase represents 9% of the 63,833 total colonoscopies across screening, surveillance and symptomatic care (excluding inpatient acute care) provided by Health New Zealand in 2024–25.

28. The modelled requirement of 5,776 colonoscopies for screening at 45/35 is significantly below Version 1 of our model both because of the move from standard to age specific FIT positivity rates and removal of the 100% publicly funded colonoscopy uptake assumption in line with the feedback from Health New Zealand subject experts, as well as 989 additional screening colonoscopies per year for 56 and 57 year olds now within the base case.

29. To test sensitivity of this estimate to assumptions, we apply a 55% participation rate to younger populations, a 3.4% FIT positivity rate to younger ages, and a 95% public colonoscopy uptake rate at all ages. This would provide an upper estimate of public colonoscopy required once the age extension is fully implemented of 7,789 additional procedures compared to our modelled estimate of 5,776 additional procedures.

D. Immediate direct benefits of screening age extension

30. As set out in the "Approach to Modelling" section above, a lifetime horizon for everyone affected by the new policy is needed to capture the full cumulative benefits of a reduction in starting age but is beyond the scope of this modelling approach.

31. Consistent with the single-year snapshot taken in this model we estimate solely that portion of the total benefits that will be identified with immediate effect and repeat annually, focusing on four key health benefits from screening:

    a. **Cancers diagnosed during screening** – evidence suggests substantially lower mortality rates for cancers – even at the same stage, where detected through screening rather than via symptoms or emergency presentation *(Brenner et al., 2015)*.

    b. **Stage shift from earlier detection** – we draw on evidence from the New Zealand screening programme that 4 in 10 cancers detected by screening are at Stage 1 compared to 1 in 10 symptom-detected cancers

    c. **Precancerous advanced polyps removed** – larger (>10mm) polyps have a higher chance of turning into cancer overall and this typically occurs within 4–6 years as reflected in the MISCAN microsimulation model used by Erasmus. *(Kuntz et al., 2011)*.

    d. **Non-advanced polyps removed** – smaller (<10mm) polyps detected have a chance of turning into advanced polyps and this typically occurs within 2–4 years, so overall 6–10 years to turn into cancer as reflected in the MISCAN microsimulation bowel cancer model.

32. The prevention effect of removing precancerous polyps is significant. Research showed a reduction in bowel cancer incidence of between 76% and 90% for people whose polyps were removed compared to people of comparable age and gender over a 5.9-year average follow up period. *(Winawer et al., 1993)*.

33. To estimate these benefits, we draw on evidence about the positive predictive value of cancer detection, polyp and polyp and advanced adenoma and removal from the National Bowel Screening Programme monitoring report. We draw on differences by ethnicity, and by age band within the current screening programme and apply assumptions to the PPV for each new age and ethnicity cohort protected by the expanded policy of screening non-Māori, non-Pacific people from 45 years, and Māori and Pacific populations from 35 years.

    a. **For cancers detected** – we use the overall PPV for the screening programme monitoring report for the Age 60–74 population. We use the PPV for cancer for the youngest age group covered by the screening programme – age 60–64 and apply this to people aged 45–59. For Māori and Pacific populations aged 35–44 we use the PPV for Māori and Pacific populations from the screening programme overall, as the most granular publicly available data. We note from a US study (*Lee et al., 2025*) that CRC detection rates were similar in the 45–49 age group as to those aged 50–54.

    b. **For precancerous polyps** – we again use a PPV for the 60–64 age group, noting that PPV for adenoma and advanced adenoma does not decline significantly across the 3 five-year age groups in the National Screening Programme. Again, we use PPV for Māori and Pacific peoples from the overall screening programme for those aged 35–44.

34. The findings are set out in Table 7 below:

Table 7: **Cancers detected and prevented** *(Source: NBSP Monitoring report, BCNZ analysis)*

Population (2023 Census)	35–39	40–44	45–49	50–54	55	56–57	58–59	60–74	Total to screen	56–74	45–55	35–44	Total new
Non Māori, Non Pacific	320,220	285,145	246,958	256,761	52,413	101,688	97,302	692,276	**1,447,398**	**891,266**	556,132	-	**556,132**
Māori	55,466	49,440	49,013	50,546	9,444	18,217	17,098	88,224	**337,448**	**123,539**	109,003	104,906	**213,909**
Pacific	29,617	26,409	24,017	22,599	4,269	8,234	7,728	35,317	**158,190**	**51,279**	50,885	56,026	**106,911**
NZ total	405,303	360,994	319,988	329,906	66,126	128,139	122,128	815,817	**1,943,036**	**1,066,084**	716,020	160,932	**876,952**
Public colonoscopies delivered	418	406	2,052	2,390	510	989	971	7,372	**15,108**	**9,332**	4,952	824	**5,748**
PPV Cancer	5.9%	5.9%	6.4%	6.4%	6.4%	6.4%	6.4%	7.8%					
PPV advanced adenoma	18.0%	18.0%	23.9%	23.9%	23.9%	23.9%	23.9%	24.0%					
PPV adenoma	60.1%	60.1%	61.1%	61.1%	61.1%	61.1%	61.1%	62.1%					
Cancers detected p.a.	25	24	131	153	33	63	62	575	**1,066**	**700**	317	49	**366**
Shift to Stage 1 (39% v 11%)	7	7	37	43	9	18	17	161	**298**	**196**	89	14	**102**
Advanced polyps removed	75	73	490	571	122	236	232	1,769	**3,570**	**2,238**	1,184	148	**1,332**
Non-advanced polyps removed	251	244	1,254	1,460	312	604	593	4,578	**9,296**	**5,776**	3,026	495	**3,521**
Total precancerous polyps removed	302	293	1,613	1,879	401	777	763	5,772	**11,800**	**7,313**	3,892	595	**4,487**

35. Our model shows 575 cancers per year detected in the existing age 60–74 programme when updated for the 2026 population, from 7,372 colonoscopies. The screening programme announced that by June 2024 it had seen 2,495 cancers detected, and one year later announced more than 3,000 cancers detected, which suggests this model's outputs are close to observed results by the National Bowel Screening Programme.

36. The first point to note is the recent age extension from 60 to 56 has a significant effect. Of the 3,300 cancers diagnosed each year, screening is now the route to diagnosis for 700 cancers, up from 575 in the 60–74 programme. An extra 125 screen-detected cancers each year is significant for outcomes with 36 more cancers each year now diagnosed at the most curable stage. An additional 1,541 people each year have precancerous polyps removed, contributing to future cancers prevented over the next 4–10 years.

37. Our modelling shows the additional benefit realised by fully implementing the commitment to match Australia's screening age, and by reinstating equal benefit for Māori and Pacific peoples:

    a. Based on the estimated PPV at colonoscopy applied to each age group, informed by the current screening programme, the baseline programme beginning at age 56 is now expected to detect around 702 cancers per year.

    b. Whilst acknowledging there is some uncertainty about PPV at younger ages, we estimate that a move to 45/35 will lead to the screen detected cancers per year rising to 1068, **a 52% increase of 366 screen detected cancers per year** compared to screening from age 56.

    c. An additional 366 cancers detected have a similar stage profile to the current screening programme, the expanded programme will result in **102 more cancers detected at Stage 1 each year** that would otherwise be detected at more advanced stages through later symptomatic presentation.

    d. Screening at 45/35 will also remove **advanced polyps** that could become cancerous over the following 4–6 years for an additional **966 people**,[2] and **non-advanced polyps** that could become cancerous over the next 6–10 years for an additional **3,521 people**. Thus an additional **4,487 people each year gain preventative benefit** from screening. Research evidence suggests the likelihood of subsequent bowel cancer in this group is reduced by 76–90% *(Winawer et al., 1993)*.

38. These findings are consistent with the findings of three microsimulation models commissioned by the US Preventative services taskforce which found a starting age of 45 to be the most efficient use of colonoscopy capacity as well as achieving greater mortality benefits. They are also consistent with Canadian cost-effectiveness modelling studies showing screening younger ages increases programme impact.

39. It is not modelling studies alone that show substantially greater benefit in extending bowel screening below the age of 50. A large long term empirical study *(Chiu et al., 2025)* found that beginning screening at age 40 compared to age 50 achieved a 25% reduction in incidence and 34% reduction in mortality compared to screening from age 50.

40. Having shown the benefits for New Zealanders to be substantial, our modelling moves to understand affordability – how much would the expanded programme cost, and feasibility – how would we ensure there is sufficient colonoscopy capacity to avoid services being overloaded by the screening colonoscopies required.

[1]The PPV for colorectal cancer at lower age groups is based on reasoned estimates, noting the NZ FIT screening positivity threshold is higher than other screening programmes, which will lead to fewer false positives at FIT testing and so higher PPV for FIT-positive patients at colonoscopy than programmes with a looser FIT positivity threshold.

[2]We subtract Cancers detected from advanced polyps detected from screening programme data on the assumption all cancers are categorised as a finding of advanced cancer.

E. Costing the expanded screening programme

41. The 2024 Erasmus report released by the Ministry of Health uses the same approach to modelling costs as the first edition of BCNZ's model – that is, to take the 2016 Ministry business case costs for invitation, negative FIT, positive FIT, colonoscopy, histology and readmissions and uplift all these cost elements by CPI.

42. For the third edition of our modelling, we have refreshed the costs using CPI to current year prices (2026). To get a more accurate estimate of colonoscopy costs we have applied a weighted average of colonoscopy prices using Health New Zealand reference prices for the MS02007, and MS02014 purchase unit codes, as well as applying a case mix inpatient admission cost for a conservatively estimated 1% of procedures that result in complications. We have uplifted by 3.1% CPI to get to 2026 prices. As a result, we apply a weighted cost of $2,319 per colonoscopy rather than $1,900 used in the Erasmus modelling. The detail is set out in Table 8:

Table 8: **Unit costs** *(Source: Sapere Business Case 2016, Treasury CPI, Health New Zealand reference prices)*

Element from 2016 ministry business case using 2015 prices	CPI uplifted to 2026	2024 estimates used by erasmus	Health New Zealand Reference Prices				3.1% CPI uplift to 2026
Invitation cost	$31.49	not separated					
Negative FIT cost	$25.74	$54					
Positive FIT cost	$153.13	$174					
Weighted colonoscopy cost	$1,037.26	not separated	MS02007	$2,074	80.17%	$1,828	$1,885
Histology cost	$1,287.63	not separated	MS02014	$2,851	10.78%	$338	$348
Cost for 1% readmissions	$71.06	not separated	Casemix IP	$8,291	1%	$83	$85
Total colonoscopy cost	$2,395.95	$1,900				$2,249	$2,319

43. Applying these prices to the screening programme shows the annual costs for each element of the screening pathway and for each age group if full access to screening age extension were implemented on day one of the financial year:

Table 9: **Modelled annual screening programme costs for each age cohort**

2026 Population	35–39	40–44	45–49	50–54	55	56–57	58–59	60–74	Total to screen	56–74	45–55	35–44	Total new
Non Māori, Non Pacific	320,220	285,145	246,958	256,761	52,413	101,688	97,302	692,276	**1,447,398**	**891,266**	556,132	–	**556,132**
Māori	55,466	49,440	49,013	50,546	9,444	18,217	17,098	88,224	**337,448**	**123,539**	109,003	104,906	**213,909**
Pacific	29,617	26,409	24,017	22,599	4,269	8,234	7,728	35,317	**158,190**	**51,279**	50,885	56,026	**106,911**
NZ Total	405,303	360,994	319,988	329,906	66,126	128,139	122,128	815,817	**1,943,036**	**1,066,084**	716,020	160,932	**876,952**
50% Invited each year	42,541	37,925	159,994	164,953	33,063	64,070	61,064	407,909	**971,518**	**533,042**	358,010	80,466	**438,476**
Participation	45%	45%	50%	55%	55%	55%	55%	57%					
Returned FIT tests per year	19,143	17,066	79,997	90,724	18,184	35,238	33,585	232,507	**526,444**	**301,330**	188,905	36,209	**225,114**
Positive FIT results	2.3%	2.5%	2.7%	3.1%	3.3%	3.3%	3.4%	3.73%					
Colonoscopy demand	440	427	2,160	2,812	600	1,163	1,175	8,673	**17,450**	**11,011**	5,572	867	**6,439**
Public colonoscopy uptake	95%	95%	95%	85%	85%	85%	85%	85%					
Public colonoscopies delivered	418	406	2,052	2,390	510	989	971	7,372	**15,108**	**9,332**	4,952	824	**5,776**
Invitation costs	$1,339,705	$1,194,337	$5,038,544	$5,194,713	$1,041,223	$2,017,682	$1,923,032	$12,845,887	**$30,595,123**	**$16,786,601**	$11,274,480	$2,534,042	**$13,808,521**
Negative FIT costs	$481,315	$428,214	$2,003,139	$2,262,406	$452,523	$876,925	$834,924	$5,760,385	**$13,099,830**	**$7,472,234**	$4,718,067	$909,529	**$5,627,596**
Positive FIT costs	$67,422	$65,334	$330,753	$430,676	$91,890	$178,071	$174,860	$1,328,042	**$2,667,048**	**$1,680,972**	$853,320	$132,756	**$986,076**
Colonoscopy inc histology readmissions	$969,227	$941,402	$4,758,022	$5,541,751	$1,182,549	$2,293,218	$2,251,481	$17,093,636	**$35,031,288**	**$21,638,336**	$11,482,323	$1,910,629	**$13,392,952**
Total costs excl. Treatment savings	$2,857,668	$2,629,287	$12,130,458	$13,429,546	$2,768,185	$5,365,895	$5,184,298	$37,027,950	**$81,393,289**	**$47,578,143**	$28,328,190	$5,486,956	**$33,815,145**

44. The key cost-related findings from the model are summarised below:

    a. The modelled annual cost of the 56–74 age programme is **$47.6 million** inclusive of invitation costs ($16.8m), FIT testing costs ($9.2m) and colonoscopy costs ($21.7m).

    b. Fully extending the programme to 45/35 costs an additional **$33.8 million** per year inclusive of invitation costs ($13.8m), FIT testing costs ($6.6m), and colonoscopy costs ($13.4m).

    c. As we have seen the expanded screening programme yields the following benefits:

        i. Detecting an additional **366 cancers** each year conveying a survival benefit with **102 more cancers detected at Stage 1.**

        ii. Providing **preventative benefit to a further 4,487 people** each year with positive FIT tests, with polyps removed.

        iii. Providing **reassurance to 218,531** people each year whose FIT test is a true negative.[3]

    d. The element of this cost to ensure equal screening programme benefit for Māori and Pacific peoples and help address the current 8% lower five-year survival rate for these populations is $5.5 million per year inclusive of invitation costs ($2.5m), FIT testing costs ($1.0m), and colonoscopy costs ($1.9m).

[3] 225,114 additional returned FIT tests yields 6,439 FIT positive and 218,675 FIT negative. 366 additional cancers detected at 78.1% sensitivity, thus 144 cancers undetected. 218,531 FIT tests are true negative.

F. Estimating benefits from screening

45. Quantifying the full lifetime health benefits of screening is beyond the scope of a one-year snapshot model. It requires a lifetime horizon to avoid underestimating cumulative health gain and savings from better bowel cancer outcomes, as discussed above.
46. Nonetheless we can note that the 2016 screening business case estimates a health gain equivalent to adding 68 life years in perfect health per 1000 screening participants.
47. Screening at 45 with equity means a further 225,000 screening participants each year make substantial health gains, with even greater average life expectancy gains per participant than those at older ages who benefit from the current programme.
48. In addition, we can get a sense of the magnitude of healthcare savings from cancers prevented or detected earlier, drawing on the Ministry business case for bowel screening updated to current prices:

Table 10: **NZ bowel cancer treatment cost by stage at 2026 prices** *(Source: Sapere Business Case, BCNZ analysis)*

Cancer stage at diagnosis	2026 cost (CPI)	Weighted	Saving for stage shift to:		
			Stage 1	Stage 2	Stage 3
Stage 1	**$61,353**	$8,366			
Stage 2	**$94,005**	$28,842	$32,651		
Stage 3	**$118,686**	$33,718	$57,333	$24,681	
Stage 4	**$73,946**	$20,167	$12,592	**($20,059)**	**($44,740)**
Unstaged					
Total		**$91,094**			

NB savings are shown as positive figures, cost increases are shown in brackets

49. Each cancer averted through removal of precancerous adenoma will save over $91,000 in excess lifetime healthcare costs on average.
50. Each cancer detected at Stage 1 as a result of screening rather than at later stages will save over $34,000 on average (range $12,592 – $57,333) in healthcare costs.
51. These savings from prevention and early detection are benefits averaged across patients of all ages, but the business case identified that savings for earlier detection are far greater in younger than older age groups, an important consideration in reducing the screening age.
52. Note: the share of cases by stage is based on the distribution of cancers by stage in the New Zealand population without screening. Applying CPI is highly conservative: In practice health cost inflation is well above CPI. Additionally, the costs of late-stage cancers have risen significantly due to high-cost drug treatments for metastatic bowel cancer not available in 2015 including Keytruda and Cetuximab. As new treatments to prolong life for advanced metastatic disease increase, the financial benefits of tackling New Zealand's high levels of late diagnosis, alongside vital survival gains, will continue to rise.

G. The new FIT for Symptomatic pathway frees up the capacity needed

53. Even if the $33.8 million per year cost to match Australia's screening age and address survival disparities for Māori and Pacific peoples were additional spending, without considering savings in cancer treatment costs, there would be an exceptional case to prioritise health investment in bowel screening: The life-years saved per dollar spent is remarkable. $33.8m represents around 0.1% of the Vote Health budget so a case might be made to find the money.

54. However, money is not the only barrier to a more comprehensive screening programme. While there is wide consensus that screening earlier is highly cost-effective, for years in New Zealand the perceived rate limiting constraint has been whether it is possible to commission the capacity and workforce for the additional colonoscopies required. Our modelling shows an extra 5,776 colonoscopies are required for screening at 45/35 compared to screening from age 56.

55. The key to achieving this vital change lies in taking a wider perspective on making best use of colonoscopy capacity. Whilst colonoscopy is key to bowel screening, for every screening colonoscopy taking place in New Zealand more than 8 colonoscopies take place for other reasons. Chief among those is investigating people with bowel cancer symptoms which accounts for five times as many colonoscopies as screening.

56. Recent improvements in symptomatic patient care provide a one-time opportunity to address this challenge through combining the screening and symptom pathway changes: FIT testing people referred with bowel cancer symptoms frees up the colonoscopies and financial resources needed to widen the screening programme.

57. The UK's National Institute for Clinical Excellence (NICE) guidance first incorporated the use of FIT tests in primary care for symptomatic patients in 2017, which had been assessed as a clinically safe and highly cost-effective pathway improvement.

58. Research *(Westwood et al., 2017)* has shown that even at a low FIT test threshold to ensure cancers are not missed, 8 in every 10 referrals from primary care of people with bowel cancer symptoms will FIT test negative. This has subsequently been confirmed in a New Zealand population of non-urgent referrals from a pilot study in Waikato. Health New Zealand is currently rolling out nationwide adoption of this change concluding in 2026.

59. NICE's published resource impact model for symptomatic FIT testing suggests a **67% reduction in colonoscopy demand.** This is based on 10% of patients referred going straight to colonoscopy without FIT testing, 9% of patients not returning the test, and a safety net arrangement that refers for colonoscopy a tenth of patients who either FIT test negative or did not return a FIT test but continue to have symptoms of concern. *(See appendix 1 for further detail).*

60. Health New Zealand's impact assessment for FIT testing symptomatic patients was shared with BCNZ. It is based on a secondary care model, with 15% of non-urgent patients being graded to go straight to colonoscopy rather than NICE's 10%. It assumes 20% of people do not return the test rather than NICE's 9% and – at least in the first year – anticipates all those people are safety-netted to go on to colonoscopy, rather than the 9.9% that NICE estimate. Health New Zealand model for 10% of people with a negative FIT test to continue to have symptoms of concern and be re-referred for colonoscopy. Under these estimates a secondary care led FIT for non-urgent symptomatic patients **reduces symptomatic colonoscopy demand by 54%.** (*See appendix 1 for further detail).*

61. Our assessment is the most likely impact of FIT for symptomatic patients is somewhere between NICE and Health New Zealand's impact assessment, i.e. between 54 and 67% reduction in non-urgent referrals for colonoscopy. More recently the Health Minister has stated Health New Zealand is expecting colonoscopy demand to reduce by a more conservative range of 30-60%. The minister committed to using these freed up resources to further reduce the screening age.

62. With published estimates of 30%, 54%, 60% and 67% based on UK and New Zealand evidence and clinical judgment, for the second and third editions of our model we have taken a 54% reduction as a central estimate, with an upper bound of 67% (NICE) and lower bound as the most conservative Health New Zealand Estimate (30%).

63. For this edition, we re-ran Health New Zealand published data to identify the activity and waiting list for non-urgent colonoscopy using the most recent 12 months data to end October 2024. We re-ran the most recent data on the breakdown of colonoscopy output and waiting lists to get an up-to-date picture of annual non-urgent demand and output:

Table 11: **Colonoscopy output and demand** *(Source: Te Whatu Ora NBSP Colonoscopy shinyapp, BCNZ analysis)*

Type	Year to June 2025	Waiters end June 2024	Waiters end June 2025	Change	Demand
Urgent	7,046	323	364	41	7,087
Non-urgent	31,346	10,847	12,260	1,413	**32,759**
Surveillance	18,434	10,516	11,831	1,315	19,749
Screening	7,007		7,007		7,007
Total	63,833	21,686	24,455	2,769	66,602

64. Applying the central (54%), upper (67%) and lower (30%) bound estimates of the impact of FIT for symptomatic suggests an annual reduction in non-urgent colonoscopies of 17,690 (range 9,828 to 21,949).

65. Even allowing for uncertainty the 5,776 additional colonoscopies required for screening at 45/35 fall well within the lower bound estimate of the capacity freed up by FIT for Symptomatic pathway changes, providing ample capacity to implement the reduced screening age together with headroom for any resulting surveillance colonoscopy increases in future years.

66. If the health gains from cancer prevention and improved survival prove the value or money case for screening at 45/35, and the FIT for Symptomatic pathway changes address the capacity and feasibility question, what remains is the question of affordability. Is it possible to find the $33.8m per annum required given a tight fiscal environment for health spending?

H. Financial resources freed up make screening at 45 affordable

67. We apply the costing of FIT testing and Colonoscopy to calculate the financial impact of the new FIT for Symptomatic pathway using these estimates:

Table 12: **Financial Impact of the FIT for Symptomatic patients** *(Source: BCNZ Analysis)*

FIT for Symptomatic pathway element	Unit cost	Without FIT Symptomatic		Lower bound (HNZ)		Central estimate (HNZ)		Upper bound (NICE)	
Annual non urgent investigation demand			**32,759**		**32,759**		**32,759**		**32,759**
Annual non urgent colonoscopies undertaken			**32,759**		**22,931**		**15,069**		**10,810**
Annual colonoscopy capacity freed up			**0**		**9,828**		**17,690**		**21,949**
Invitation cost	$31.49	0%	–	85%	$876,902	85%	$876,902	90%	$928,484
Negative FIT cost	$25.74	0%	–	54%	$458,621	54%	$458,621	58%	$485,598.83
Positive FIT cost	$153.13	0%	–	14%	$682,239	14%	$682,239	14%	$722,370.39
Colonoscopy cost	$2,319	100%	$75,959,092	70%	$53,171,364	46%	$34,941,182	33%	$25,066,500
Total annual costs			**$75,959,092**		**$55,189,126**		**$36,958,944**		**$27,202,954**
Annual cost difference			–		**($20,769,966)**		**($39,000,148)**		**($48,756,138)**

68. In summary, taking account the vote health funding in place to extend the screening programme to a starting age of 56, the modelled gross cost of screening at 45/35 set out in section E is $33.8m. The central estimate of FIT for symptomatic patients in table 12 above is an annual cost-saving of $39.0 million (range $20.8m to $48.8m) resulting in a **net effect from the two changes of $5.2 million lower expenditure** (range +$13.0m to -$15.0m).

69. Adding in further savings from people whose screen-detected cancers are shifted to Stage 1 ($34,192 per person) or prevented entirely (conservatively $91,094 per person) further strengthen the affordability of this vital change.

70. The primary importance of reducing late stage cancers is survival benefits for patients. As well as this, and any consideration of financial savings, reducing late stage cancers also has a welcome effect to reduce pressure on vital cancer services such as radiation oncology and infusion services for medical oncology. With the burden of cancer as a whole set to rise in New Zealand in the coming years, changes which reduce pressure on these services are particularly important.

71. Provided the resources freed up from these changes remain available to bowel cancer care, not diverted to cost savings and cuts in frontline services, a tight fiscal environment should be no barrier to making this change. The proposed approach redirects existing health funding to where it will do most good, in prevention and early detection. This change will save more lives and tackle New Zealand's rising rates of early-onset bowel cancer. This kind of evidence-based change is great news for patients, for whānau, for clinicians, and for all taxpayers.

Limitations to inform further research

72. All research and all models include simplifying assumptions and have limitations. This model aims to inform more detailed operational assessments which will need to be made by officials within Health New Zealand to get to more precise estimates.

73. This model type, based on publicly available data, is unable to estimate QALY gains, cancers prevented, life years saved or societal impacts including on employment and family income, all of which will enhance the case for screening at younger ages.

74. A one-year horizon model is unable to estimate cumulative lifetime horizon benefits, or the timing of when savings achieved through prevention and earlier detection will fall.

75. Microsimulation models such as those commissioned from Erasmus University by Health New Zealand will provide bottom-up estimation specific to each age and cohort, informing FIT positivity and PPV more precisely. Such models are also able to forecast the future impact of surveillance colonoscopy demand, something out of scope of this model.

76. There will be clinical service considerations to factor into any change of this nature such as supervision and quality assurance requirements arising from a greater proportion of colonoscopies being for screening, ensuring colonoscopy pathways for other health conditions remain planned for, and impacts on future workforce skill mix and training programmes. These are properly matters for Health New Zealand to consider.

77. Notwithstanding these limitations, the central finding from this modelling bears out the central thesis: Implementing the commitment to match Australia's screening and reinstate equal screening programme benefit for Māori and Pacific peoples is operationally feasible and financially affordable. It is highly cost-effective and reduces avoidable mortality and morbidity. Through combining a more comprehensive screening programme with FIT for Symptomatic pathway improvements New Zealand can make the best use of vital colonoscopy capacity to reach more people and save more lives.

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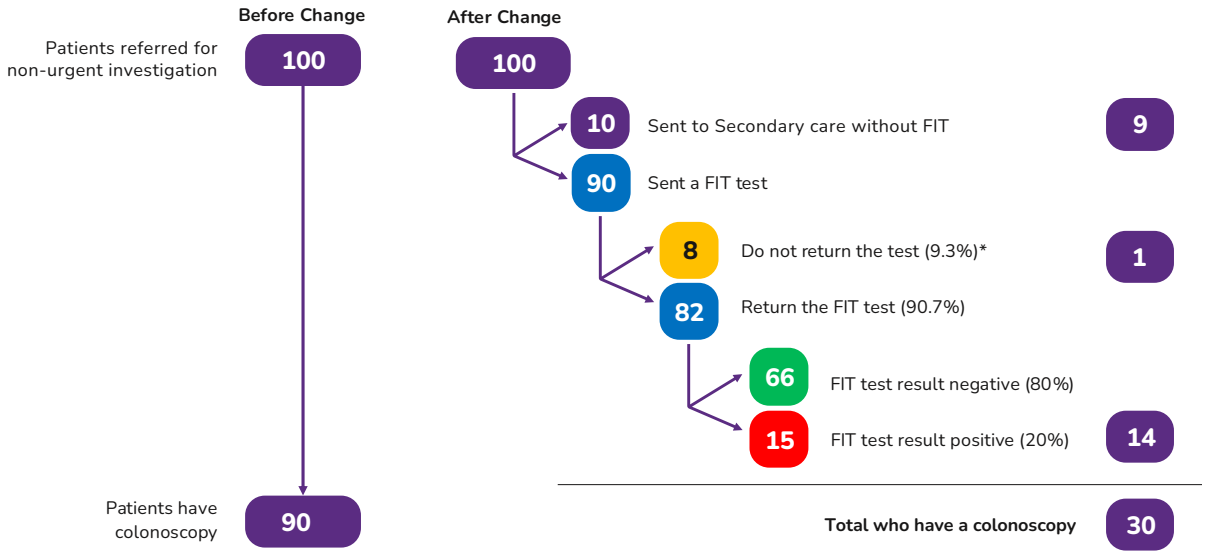
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Appendix 1.

NICE and Health New Zealand FIT for Symptomatic pathway

The following charts set out the steps in the FIT for Symptomatic pathway, and how the estimated impact on colonoscopy demand is derived:

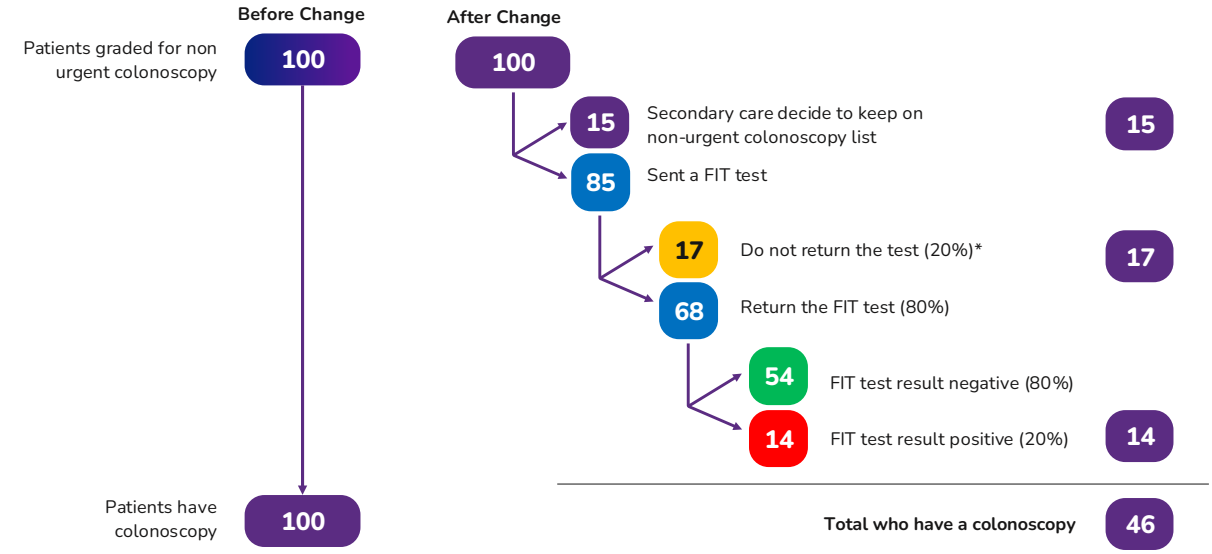
Figure 2: **NICE impact model pathway with percentages** *(Source: NICE, BCNZ analysis)*



NHS practice 90% Colonoscopy, 7.5% CT Colonography 2.5% other tests.

The Health New Zealand pathway currently being rolled out is secondary rather than primary care led. The data below was confirmed by the FIT for symptomatic project team in May 2025:

Figure 3: **Health New Zealand FIT for Symptomatic pathway** *(Source: Health New Zealand, BCNZ analysis)*



NB: NICE models 7.5% of people referred have CT colonography and 2.5% have other tests.

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