

Budget Sensitive

Office of the Minister of Health

Chair, State Sector Reform and Expenditure Control Cabinet Committee

Bowel Screening in New Zealand – Next Steps

Proposal

- 1 I ask the Committee to approve the attached Programme Business Case (the Business Case) for a national bowel screening programme and the timeframes required for a full national roll-out. As part of Budget 2016, Cabinet has approved initial funding to commence the work required for a staged roll-out of a national bowel screening programme subject to receiving this re-stated Business Case.
- 2 The Business Case includes the first phase (Tranche 1) implementation case as well as the procurement approach for the National Coordination Centre.

Executive Summary

- 3 New Zealand has one of the highest bowel cancer rates in the world. Bowel cancer is the second most common cause of cancer death in New Zealand after lung cancer.
- 4 Bowel screening detects cancers at an earlier, more treatable (and less costly to treat) stage, reduces the mortality rate of bowel cancer, and is cost effective. New Zealand is one of the only OECD countries without a national bowel screening programme.
- 5 The national bowel screening programme is well aligned with the updated New Zealand Health Strategy and supports the themes of people-powered, care closer to home, one team, smart system and value and high performance.
- 6 In July 2015 Cabinet agreed that the Ministry of Health (the Ministry) should consult with the health sector on the national service delivery model, service configuration and associated workforce and infrastructure needs, to inform a business case for the delivery of a national bowel screening programme [SOC Min (15) 14/7].
- 7 In December 2015 Cabinet noted that the consultation with the health sector revealed strong support for the introduction of a national bowel screening programme and the need to maintain momentum towards implementing a national bowel screening programme, particularly given government investment in the Waitemata District Health Board (DHB) bowel screening pilot, in reducing colonoscopy waiting lists and in workforce development [SOC Min (15) 0064].
- 8 The Ministry has completed the Business Case which takes account of the consultation findings, data from the Waitemata DHB pilot, international best practice and advice from national and international experts (refer Appendix 1). The Business Case includes the first phase (Tranche 1) implementation case as well as the procurement approach for the National Coordination Centre.
- 9 Budget 2016 allocated \$39.3 million for the national bowel screening programme establishment, subject to the approval of this Business Case [CAB-16-MIN-0189.14]. More

detailed financial information is provided in paragraphs 79-83 of this paper, and in the attached Business Case.

- 10 Once fully implemented, the estimated business as usual annual cost of the programme is [REDACTED] from 2020 onwards.
- 11 The national bowel screening programme will be available to all eligible 60-74 year olds in New Zealand. Once fully implemented the programme will invite over 700,000 people every two years to participate, and will detect up to 500-700 cancers each year during the early rounds of population bowel screening, assuming expected uptake levels.
- 12 The programme will be rolled out across New Zealand over a three year period. This would see an initial two DHBs beyond the Waitemata DHB pilot commencing bowel screening in mid-2017 as Tranche 1 and a full roll-out to all DHBs commencing in 2018. Bowel screening will be fully implemented across New Zealand by December 2019 at the earliest.

Background

- 13 New Zealand has one of the highest bowel cancer rates in the world. Bowel cancer is the second most common cause of cancer death in New Zealand after lung cancer, with approximately 3016 new cases per year and 1283 deaths in 2012. New Zealand has the third highest mortality rate for bowel cancer in the OECD for women and the sixth highest for men.
- 14 A person's risk of developing bowel cancer rises steeply from 0.6 percent at age 50, to 5.6 percent by the age of 75 years. The number of cases diagnosed each year in New Zealand is therefore expected to increase as our population ages.
- 15 There is a strong association between the stage (extent) at which bowel cancer is diagnosed and eventual survival. Those with localised disease (earlier stage) at diagnosis have a 95 percent chance of a five year survival. Those with distant spread (metastases, later stage) have only a 10 percent five year survival rate. New Zealanders are more likely to be diagnosed with advanced stage cancers than people in Australia, the United States of America and the United Kingdom.
- 16 The primary objective of bowel screening is to reduce the mortality rate from bowel cancer, by diagnosing and treating bowel cancer at an early curable stage. An additional objective is to identify and remove pre-cancerous advanced adenomas from the bowel before they become cancerous, which can, over time, lead to a reduction in bowel cancer.
- 17 International evidence shows that organised national bowel screening is cost effective, reduces the number of people who die from bowel cancer, and with time reduces the number of people who are diagnosed with the disease. New Zealand is one of the only OECD countries without a national bowel screening programme.
- 18 A pilot has been running in Waitemata DHB since 2012, which has provided valuable information about screening in the New Zealand context. Budget 2015 provided funding of \$12.4 million to extend the pilot to December 2017. This builds on the \$24 million invested since 2011 in the pilot to date.
- 19 In addition, the Government has invested over \$15.6 million in reducing DHB colonoscopy waiting times since 2013/14, including \$4 million in 2015/16 and another \$4 million in 2016/17. Nationally, the number of New Zealanders waiting longer than clinically recommended for a colonoscopy dropped 65 percent from 6,696 in May 2014 to 2330 in June 2016. The number of colonoscopies performed in May and June 2016 were the highest since the start of data collection in July 2012 (3,963 and 3,881 respectively).

* S9(z)(f)(u)

- 20 The vast majority of DHBs are meeting their colonoscopy waiting time indicator targets and the Ministry is working actively with those that are not meeting targets. This work has been critical in preparing DHBs to deliver a safe, quality national bowel screening programme.
- 21 As part of Budget 2016, Cabinet approved partial funding to commence the work required for a staged roll-out of a national bowel screening programme [CAB-16-MIN-0189.14] subject to a re-stated Business Case. Cabinet agreed that the restated Programme Business Case for the National Bowel Screening Programme must include:
- confirmation from the 20 DHBs that they agree in principle to the programme and that their input has informed the implementation timeframes and financial costings in the Business Case
 - options analysis for the proposed national IT system and an Independent Quality Assurance (IQA) review for the preferred option
 - a letter of support from the Chair of Health Workforce New Zealand confirming that a workforce plan has been provided that will ensure there is sufficient workforce capacity to deliver the programme
 - evidence that the findings from the evaluation of the Waitemata bowel screening pilot support the Programme Business Case.
- 22 As outlined in the Business Case, the benefits of a national bowel screening programme include:
- improved health outcomes with up to 500-700 cancers detected each year in the early rounds of population bowel screening, assuming expected uptake levels (based on 62 percent participation).
 - more cost-effective health care. Analysis shows the proposed programme in New Zealand is expected to be very cost effective, as has been experienced in all other countries with bowel screening programmes.
 - improved service delivery as a result of the required quality standards associated with population screening having a direct follow on to improvement in symptomatic and surveillance bowel cancer services.
 - significant social and economic benefits, including Quality Adjusted Life Years (QALYs) saved, and an increase in the paid workforce (estimated at [REDACTED] * over the 20 year modelled period). The wider contribution to society, for example, from volunteering or acting as caregivers, has been estimated at [REDACTED] * over 20 years.
- 23 There is strong sector and public support for a national bowel screening programme.

Comment

The restated Programme Business Case

- 24 The Business Case has been developed by the Ministry and is attached as Appendix 1. The Business Case outlines the strategic case for a national bowel screening programme, and includes high level economic, commercial, financial, and management cases.
- 25 To address the requests required by Cabinet (refer to paragraph 21) the re-stated Business Case includes:

* 59(z)(f)(iv)

- 25.1 written confirmation from all 20 DHB Chief Executives confirming that they agree in principle to the programme and that their input has informed the implementation timeframes and financial costings in the Business Case (refer Appendix 11 in the Business Case)
- 25.2 Options analysis for the proposed national IT solution and an Independent Quality Assurance review for the preferred option (refer Appendix 7 in the Business Case). This was undertaken by Caravel Group (NZ) Ltd. The review stated:
- "We have concluded that the options analysis, as described to us and as documented, is fit for purpose, within the context of the overall state of the Bowel Screening Programme."¹*
- 25.2.1 Due to the importance of the IT solution, the Ministry has engaged a further independent review of the options analysis, and completion of a market scan to ensure the preferred solution is the most efficient, cost effective, and best meets the context of New Zealand's bowel screening environment (refer to paragraph 65 of this paper).
- 25.3 A letter of support from the Chair of Health Workforce New Zealand confirming that a workforce plan has been provided that will ensure there is sufficient workforce capacity to deliver the programme (refer Appendix 9 in the Business Case and paragraph 47 for detail on some of the workforce actions being undertaken)
- 25.4 Evidence that the findings from the evaluation of the Waitemata bowel screening pilot support the Business Case (refer to Appendix 2 in the Business Case showing the Executive Summary of the final evaluation of the Bowel Screening Pilot).
- 25.4.1 High level evaluation conclusions agree that, based on the learning from the pilot, an organised, high-quality bowel screening programme could be safely introduced into New Zealand. It also found that bowel screening is cost effective and will save lives, with reduced treatment costs of bowel cancer outweighing the costs of bowel screening in the scenario proposed for New Zealand. The final evaluation findings have been received by the Ministry, and are expected to be published following final review.
- 26 As agreed with The Treasury, the Government Chief Information Officer (the GCIO) and the Ministry of Business Innovation and Employment (MBIE), the Business Case includes the Tranche 1 implementation case as well as the procurement approach for the National Coordination Centre. The plan for procurement of the National Coordination Centre will be approved by the Director-General of Health with review by central agencies.
- 27 Ministry officials will develop two further implementation business cases, to be agreed jointly by the Ministers of Health and Finance. The Tranche 2 Business Case, which will be provided in early 2017, will include funding for the development of the IT solution as well as for the DHBs that are commencing screening during 2018. The Tranche 3 Business Case will be provided late 2017 and include DHBs commencing during 2019. The approach to the completion of the two further business cases will allow sufficient time for detailed implementation planning to be undertaken for each DHB concerned, which will inform the cases.
- 28 The Treasury, GCIO and MBIE have been engaged throughout the development of the Business Case. The format and approach were agreed with The Treasury and are in line with Better Business Case requirements. The Business Case and future Tranche 2 and 3

¹ Caravel Report Bowel Screening Programme IT Options Review Final_2 19 July 2016

Business Cases are and will be subject to Gateway Review, which provides an additional, external level of scrutiny over the development of the programme. The first Gateway review took place in December 2015 and the next one is scheduled for April 2017.

- 29 This paper seeks approval of the overarching programme intent and approach and Tranche 1 implementation activities and funding. Based on detailed implementation discussions underway with Hutt Valley and Wairarapa DHBs, and close engagement with the IT vendor for the BSP+ solution (Argonaut) the Ministry is confident in the capability and capacity internally, and within the sector, to meet expected roll-out timeframes for Tranche 1.

Screening test for the National Bowel Screening Programme

- 30 The Business Case outlines an assessment of all tests available for bowel screening. Based on clinical advice (both within New Zealand and internationally) it was determined that the primary test for bowel screening should be the immunochemical Faecal Occult Blood Test (iFOBT) as used in the Waitemata DHB pilot.
- 31 The iFOBT detects microscopic amounts of blood within a faecal sample to determine whether a person would benefit from receiving a colonoscopy. The pilot has shown that iFOBT is effective and acceptable in New Zealand. International studies also show that iFOBT is a cost effective screening tool. Both Ireland and the Netherlands, after rigorous analysis, have recently rolled out bowel screening using the same test. If strong evidence emerges to indicate that a more cost-effective and achievable alternative test is available, the Programme would re-evaluate the preferred approach and, if required, could amend the Programme accordingly.
- 32 In recent times there has been some interest in a procedure called Flexible Sigmoidoscopy (FS) as an alternative test for bowel screening. FS is an invasive endoscopic procedure requiring patients to take bowel preparation before the procedure. No other country has a national population screening programme using a one-off FS. At this time, FS has not met the essential criteria for a national bowel screening programme in New Zealand, and thus was not considered as a shortlisted option in the Business Case.

Parameters of the Programme

- 33 There are fundamental principles that should underpin any screening programme. The core Principles of Screening, as agreed by the National Health Committee, are as follows:
1. The condition is a suitable candidate for screening.
 2. There is a suitable test.
 3. There is an effective and accessible treatment or intervention for the condition identified through early detection.
 4. There is high quality evidence, ideally from randomised controlled trials, that a screening programme is effective in reducing mortality or morbidity.
 5. The potential benefit from the screening programme should outweigh the potential physical and psychological harm (caused by the test, diagnostic procedures and treatment).
 6. The health care system will be capable of supporting all necessary elements of the screening pathway, including diagnosis, follow-up and programme evaluation.
 7. There is consideration of social and ethical issues.
 8. There is consideration of cost-benefit issues.
- 34 Each of these Principles must be evidenced before a screening programme is considered viable, however arguably the most important of these is Principle 5 – benefit must outweigh harm. The majority of the participants in any screening programme are healthy individuals, and potentially exposing this population to unnecessary harm is always a major

consideration. Considerable infrastructure and resource will need to be put in place to ensure the quality of a national bowel screening programme is monitored and kept as high as possible. Safety of participants is of paramount importance. Psychological as well as physical harm must be minimised whilst targeting those most at risk.

- 35 In line with international experience the national bowel screening programme will be implemented in a staged manner to enable a safe manageable roll-out.
- 36 The age range proposed for the national bowel screening programme (60-74 years) is comparable to age parameters for other international bowel screening programmes, and focuses on the population cohort that is most at risk. Of all cancers in the Waitemata DHB pilot, 82 percent were detected in this age range.
- 37 The planned positivity threshold of 200ngHb/ml reduces the harm associated with unnecessary colonoscopies by targeting those most at risk. The iFOBT positivity threshold will be similar to levels used in Ireland and the Netherlands.
- 38 These parameters will result in a national bowel screening programme that:
- brings the number of cancers found per 100 colonoscopies undertaken (also known as the positive predictor value for cancer) in line with international experience²
 - detects the most cancers possible within an appropriate number of colonoscopies (up to 500-700 cancers each year during the early rounds of bowel screening, assuming expected uptake levels)
 - results in over 700,000 people being eligible to participate in bowel screening every two years, once the programme is fully rolled out.
- 39 The age range and positivity threshold parameters will be evaluated and reviewed after screening has been successfully implemented. Changes could be made to these parameters if required, once quality, safety and resource issues had also been assessed and robust evidence for the change had been generated.
- 40 A quality, monitoring and evaluation framework will underpin the Programme. Learnings from other local and international cancer screening programmes (including bowel, cervical and breast screening) will be reflected in the framework development. An iterative approach will be taken to performance monitoring activities as the Programme matures.
- 41 At an overall level, performance monitoring and ongoing evaluation activities will focus on:
- 41.1 Delivery of safe, timely and equitable services
 - 41.2 Maximising participation to ensure that the assumptions that underpin cost benefit modelling are realised
 - 41.3 Ensuring the performance indicators and levers balance the needs of both screening participants and other symptomatic patients requiring services.

Workforce and Facilities to Deliver the Required Colonoscopy Volumes

² The PPV for cancer produced by the Bowel Screening Pilot was at the very lowest end of what has been expected internationally. Altering the age range and positivity threshold increases the PPV, meaning more cancers are found per colonoscopy, and reducing the percentage of colonoscopies that don't find an abnormality.

- 42 In line with Principle 6, a key consideration for the national bowel screening programme is adequate colonoscopy capacity, both in terms of workforce to deliver procedures, and physical space to deliver them in.
- 43 Comprehensive modelling for the programme roll-out has shown that in the year with the greatest colonoscopy demand (2019/20) an additional 8,300 colonoscopies will be needed. Of the total volume of colonoscopies in New Zealand that year, screening colonoscopies will account for 18 percent. This modelling takes in to account:
- current waiting lists for symptomatic and surveillance procedures
 - the ageing population in New Zealand
 - a predicted 20 percent increase in demand in symptomatic colonoscopies (as seen in the Waitemata pilot and overseas)
 - a gradual increase in the use of Computed Tomography (CT) colonography, as capacity allows for clinically appropriate symptomatic investigations.
- 44 Delivery of the additional colonoscopies required for screening will be supported through Programme funding. The Bowel Screening Programme will continue to work across the public and private sectors to maximise available capacity, workforce and other resources, and identify efficiencies to increase the level of delivery.
- 45 Predicted increased volumes for the proposed parameters for each DHB were shared during consultation in 2015. In June 2016 these figures were updated and shared with all DHBs, who subsequently provided information on the local impact of the screening programme. DHBs confirmed that, with sufficient lead in time, they would have adequate workforce available to deliver the estimated increased number of colonoscopies required, while continuing to deliver timely symptomatic and surveillance services.
- 46 The Ministry has monitored colonoscopy waiting times since 2012, and is confident that the workforce is available to deliver a national bowel screening programme, within the proposed parameters. The Tranche 2 and 3 Business Cases will outline each DHB's plan for managing workforce needs, and will be developed in conjunction with Health Workforce New Zealand (HWNZ). The Chair of HWNZ has confirmed that a workforce plan has been developed that will ensure there is sufficient workforce capacity to deliver the programme (refer to Appendix 9).
- 47 A number of initiatives to support the development of the colonoscopy workforce are underway:
- HWNZ is prioritising medical vocational training funding to support gastroenterology and general surgery registrar positions in DHBs
 - HWNZ is working with the relevant professional colleges to promote increased intake of registrar positions
 - an endoscopy training programme for nurses is commencing this year. The first cohort to complete this training will be performing procedures from 2018, releasing more experienced clinicians to perform the more interventional and complex colonoscopies associated with screening
 - discussions have begun with DHBs about expanding their delivery of CT Colonography to deliver clinically appropriate symptomatic investigations in order to free up colonoscopy resource. The feasibility of this will vary between DHBs.

- 48 A limited number of DHBs have indicated that they may require additional facilities to deliver the predicted volumes. DHBs are expected to secure funds through business as usual practices, however the Programme is engaging with the Capital Investment Committee (CIC) to ensure any capital processes are appropriate. The Ministry will be looking for DHBs to find non-capital approaches to managing colonoscopy demand wherever possible, such as outsourcing symptomatic and surveillance procedures to private providers and working regionally. There will be further engagement with the DHBs and CIC as the Tranche 2 and 3 Business Cases are developed to confirm whether additional facilities are required.
- 49 In the initial few years of the programme DHBs will experience a temporary increase in demand for surgical and oncology services to treat bowel cancers detected by the programme. Ongoing demand for bowel cancer treatment services will drop to below current levels as the national bowel screening programme takes effect. DHBs have indicated that they will be able to meet the demand predicted during the temporary increase, and the Tranche 2 and 3 Business Cases will include each DHB's plan for managing referral demand.

The Screening Pathway

- 50 The screening pathway for the national bowel screening programme will be very similar to the successful model trialled in the Waitemata DHB pilot. People in the eligible population will be invited to participate every two years.
- 51 In the preferred option identified in the Business Case, primary care will have a key role in a national bowel screening programme in notifying participants of their positive results, responding to queries and concerns, and referring them for a screening colonoscopy. Primary care will also have a key role in encouraging participation in screening.
- 52 On receiving information that their test is positive, participants will be referred for colonoscopy. At colonoscopy, biopsies will be taken and polyps will be removed and sent to pathology for histological reporting. Appropriate treatment and/or follow up (including surveillance colonoscopy) will then be arranged by the DHB.

The Service Delivery Model

- 53 Consultation with the sector helped to guide the development of the service delivery model for a national bowel screening programme. Table 1 shows the roles that will be carried out at a national, regional and local level.

Table 1: Roles within a National Bowel Screening Programme

| Level | Roles |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ministry of Health | <ul style="list-style-type: none"> • Central leadership and coordination of all aspects of the screening programme, including funding. • Monitoring and evaluating the quality, equity and effectiveness of the programme. • Clinical leadership and governance. • Oversight of infrastructure and systems, including national IT solution for bowel screening and its integration with individual related DHB systems. • Alignment of approach with the New Zealand Health Strategy and other key strategies. • Oversight and development of consumer information. |
| National coordination | <ul style="list-style-type: none"> • National coordination and sending of screening invitations and national awareness raising. |

| | |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| centre | <ul style="list-style-type: none"> • Analysis of all immunochemical faecal occult blood tests (iFOBT). • Monitoring and management of results, including sending letters following a negative result and advising GPs electronically of both positive and negative results. • Providing Bowel Screening Regional Centres with test results. • Targeted actions to drive equitable participation. |
| Bowel Screening Regional Centres | <ul style="list-style-type: none"> • Monitoring of quality standards. • Regional coordination of reporting. • Clinical leadership, equity and quality management. • Management of awareness raising activities. • Where required, notifying GPs/eligible participants of positive results and arranging colonoscopy (regional and/or local). • Fund screening colonoscopy service provision. |
| Local (DHBs and PHOs) | <ul style="list-style-type: none"> • Colonoscopy delivery. • Colonoscopy histology. • Local coordination of awareness raising activities and targeted actions for equitable participation. |

The proposed roll-out of services

- 54 Screening will be rolled out to DHBs progressively, with the first two DHBs (Hutt Valley and Wairarapa) outside of Waitemata beginning in July 2017. Screening will be fully implemented across New Zealand by December 2019 at the earliest.
- 55 The Business Case outlines the proposed year in which DHBs will roll out. This sequence was developed by considering each DHB against certain criteria, including their readiness, the local bowel cancer incidence and mortality rates, distribution of population groups, their capital requirements and IT capability, and their management of symptomatic colonoscopy.
- 56 The proposed phasing may change during the development of Tranche 2 and 3 Business Cases. The Ministry is holding regional meetings and teleconferences in August/September 2016. Once the Ministry has completed these meetings, as well as considering the DHB impact analysis, it may be evident that some DHBs require more time to make themselves ready to deliver a safe screening programme.
- 57 The Ministry is confident in its ability to implement a phased roll-out, but the order of DHBs for Tranche 2 and 3 and timeframes will need to be confirmed following additional engagement activity and readiness assessment. The flexibility to extend the final roll-out date by another year may be required for some DHBs to help mitigate the risks of implementing the programme. The detailed business cases for Tranche 2 and 3 will provide further detail on the implementation, including IT integration, workforce, capacity, capital requirements, impact of supporting treatment services (radiology, surgical, oncology etc.), internal DHB change capability and leadership.

The IT solution

- 58 Good information systems are vital to ensure the optimal and ethical delivery of screening activities. Comprehensive and efficient systems are pivotal to the successful identification

- and invitation of eligible people to participate in screening, as well as underpinning failsafe mechanisms and adequate safety provisions for individual participants. The IT solution to support the National Bowel Screening Programme would provide the workflow checks and processes to support good business processes for ensuring follow up with quality diagnostic testing and treatment for detected bowel cancers.
- 59 An IT solution options analysis was undertaken for the Programme Business Case. Purchasing a commercial off-the-shelf product was considered but no obvious candidates were identified from a preliminary assessment of the market. Other countries, including Australia, the UK and the Netherlands built their own bowel screening IT systems. Consideration was given to viability of these systems being applied in New Zealand. The conclusion at that time was that the systems would not fit current strategic and business needs without considerable resourcing to adapt the systems to the New Zealand context. Given the lapse in time since the preliminary assessment was undertaken, a further market scan is being undertaken to update and confirm this.
- 60 Enhancing the pilot IT system to a national system was also considered however this system was specifically developed for the pilot site, within constraints of costs and timeliness and within the context of the relatively small nature of the pilot. The assessment of the existing pilot system is that it would not be possible to successfully scale, in its current form, to meet the needs of a national roll-out to a further 19 DHBs.
- 61 The Ministry is engaging closely with The Treasury and GCIO on the preferred IT solution option. Engagement will continue throughout the development of the Tranche 2 and 3 Business Cases.
- 62 The preferred option is outlined below, with the programme roll-out delivering the IT solution in two phases:
- i. the existing pilot IT system would be enhanced and extended to enable the solution to support the roll-out to the two additional DHBs. The enhanced and extended bowel screening IT system will be moved to a hosted environment external to the Ministry, and would be rolled out to Waitemata, Hutt Valley, and Wairarapa DHBs.
 - ii. work on the national IT solution for all DHBs would commence. The business requirements, design and architecture, development and testing for the first release of the national IT solution would be completed by December 2017. DHBs commencing implementation at this time would progress with release one. In addition, work on the second release of the national IT solution would commence. The initial release functionality would be reviewed, and the detailed business requirements, design and architecture, development and testing for the second release would be completed. The updated national IT solution would then be rolled out to the DHBs already providing screening services, and the remaining DHBs during 2019 as they start delivering.
- 63 Consideration is being given to whether more than three DHBs can safely use the enhanced and extended pilot system as an interim solution, before moving to the final release of the national IT solution.
- 64 The Business Case includes tagged contingency funding to implement the enhancement/extension to the existing bowel screening pilot IT system, and commence developmental work for the national IT solution. Implementation funding for the national IT solution will be sought via the Tranche 2 Business Case.
- 65 The independent quality assurance of the IT solutions option analysis undertaken by Caravel Group (NZ) Ltd supported the preferred option. However, given the challenging

implementation timeframes and associated risk the Ministry commissioned Accenture New Zealand to undertake an independent external review to confirm the preferred option and to provide assurance to decision makers and investors. This included gathering further market intelligence on other possible solutions. Further detail is provided in paragraph 67.1 of this paper. Final recommendations were received on 17 August, and influenced future decisions on the approach to procurement and confirmation of the recommended delivery approach of the national IT solution.

Stakeholder concerns and areas for additional work

- 66 The Programme Business Case relies on assumptions to inform the indicative phasing of activity, requirements and costs. Assumptions have been formed from information currently available to the programme team, including knowledge, experience and learnings from past programmes (including IT programme implementation), understanding of DHB's current pressures and performance, and feedback provided by each DHB on the local impacts of bowel screening implementation. While this is sufficient to inform the Programme Business Case, it is acknowledged that there is further work required to finalise detailed requirements and approaches to implementation.
- 67 There are two key areas where additional work is required, which have been raised by Treasury, GCIO and are noted as internal dependencies. They are regarded as areas of concern across key stakeholders:
- 67.1 Confirmation of the preferred national IT solution option:
- 67.1.1 As noted in paragraph 65, the Ministry has engaged a further independent review of the IT options analysis and a high level market scan (Accenture). The feedback supports the proposed preferred IT option as a credible solution. The findings suggest that, given the period of time that has lapsed since the options analysis was completed, further work is undertaken to validate the proposed IT solution. This includes a wider international assessment of solutions, and re-visiting some of the evaluation of the existing Waitemata Pilot IT system to determine if any aspects can be re-used in the national solution.
- 67.1.2 In the interests of time, the Programme will progress with planning activity around the IT solution documented in the Business Case, however, concurrent to this, will undertake further review as described above over the next 3 months. A final agreement on any componentry translatable from either international sources or from the Waitemata Pilot IT system will be agreed in consultation with GCIO and Treasury by December 2016, and can be managed through the planned hybrid model approach. Further detail will be outlined in the Tranche 2 Business Case.
- 67.2 DHB capability and readiness:
- 67.2.1 Detailed capital requirements, workforce needs (for the screening programme and any associated flow-on treatment), change management capability, and IT implementation capacity need to be further assessed.
- 67.2.2 The Programme is currently progressing engagement across the sector, and working towards agreement of detailed implementation needs across each DHB.
- 67.2.3 Outcomes of this activity will inform the final phasing for DHB implementation, complemented with advice from an internal Ministry Implementation Advisory Group with representation from across IT, capital, workforce, National Screening Unit, DHB financial performance, elective surgery and radiology teams.
- 68 In addition to these areas for further work, there has been some concern raised by stakeholders about the overall implementation costs for DHBs.
- 68.1 The programme intends:

- to seek [REDACTED] in non-departmental operating funding for DHB IT interfaces, software changes and IT implementation costs.
- to submit a proposal at the next tranche for this funding (Budget 17).
- to make decisions on what specifically is funded in terms of DHB IT implementation following further detailed needs assessment. However, the assumption is that a principles based approach will be taken to determining the allocation of DHB IT implementation funding.
- manage within the existing budget envelope, on the basis that the estimated cost of the IT capital requirement has now reduced from [REDACTED] (indicated and tagged in contingency) to [REDACTED] and the reduction of [REDACTED] may be accessed as non-departmental operating funding in Budget 17.

* SA(2)(f)(iv)

68.2 Flow on costs of elective surgery can be supported through the existing parallel priority of 'Improved access to elective surgery', which has been supported with additional funding through successive budget rounds.

69 The further detailed information will be included within the Tranche 2 and 3 Business Cases.

Addressing Inequalities

70 It will be critical to ensure equitable participation to ensure that Māori and Pacific realise their potential to benefit from the programme. The pilot, and experiences of other screening programmes, have revealed a range of actions that will be put in place to promote equitable participation. These include targeted actions to increase participation in bowel screening for Māori, Pacific and high deprivation groups, local equity plans, national monitoring of participation and outcomes by ethnicity, primary care involvement, a public health campaign and national governance. Further detail is outlined in the Business Case.

Next steps

- 71 The Ministry will continue to work with the Hutt Valley and Wairarapa DHBs who are on track to commence bowel screening in July 2017. The Ministry will work with the remaining DHBs to agree start dates and develop Tranche 2 (DHB implementation commencing in 2018) and Tranche 3 (DHB implementation commencing in 2019) Business Cases to support the roll-out.
- 72 The Ministry will continue to work with the Treasury on the development of the required business cases. As with the attached Business Case, these business cases will be subject to Gateway Review and other independent quality assurance processes. Approval of these business cases resides with myself as Minister of Health and the Minister of Finance.
- 73 The Ministry will strengthen the governance and clinical oversight of the programme, by ensuring that Steering Group membership is fit-for-purpose. It will expand the membership and responsibilities of the Bowel Screening Advisory Group which currently provides clinical oversight and ad hoc operational advice. Both the Steering Group and Bowel Screening Advisory Group will work to ensure that the roll-out is safe and effective. There will be clear responsibilities to ensure that scope and capital expenditure, including that of the IT solution, remains within the envelope presented in this paper. A cross-Ministry focus will be on ensuring that access to hospital services for non-screening patients is not adversely impacted by the introduction of the screening programme.

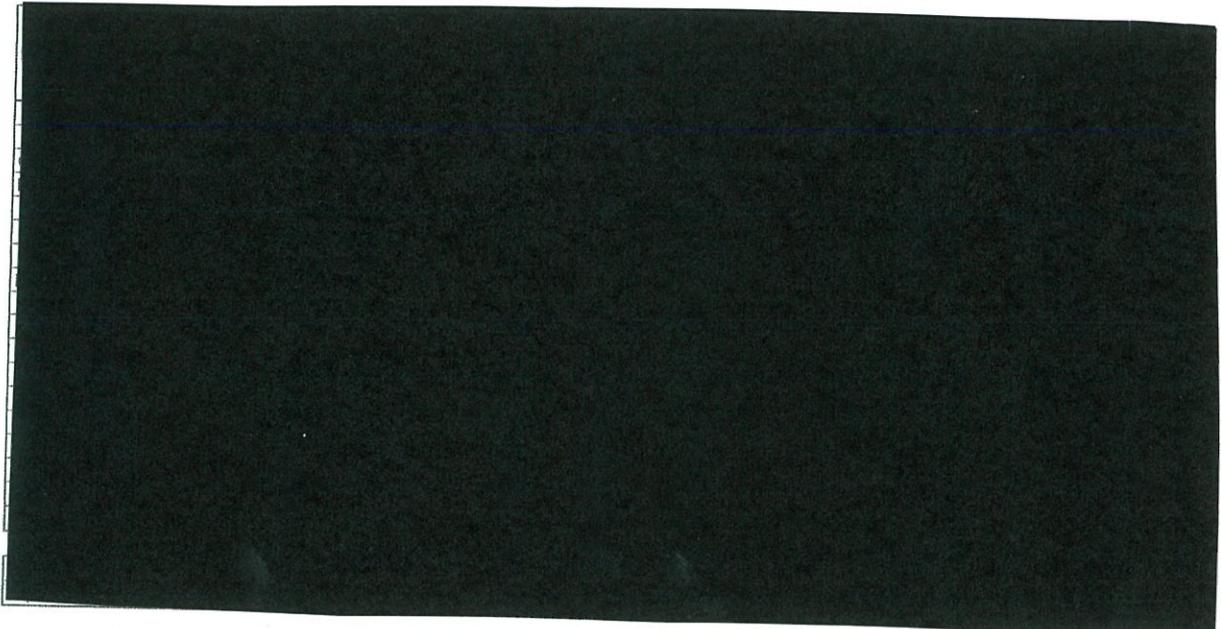
Consultation

- 74 The Treasury, the Office of the GCIO, the Capital Investment Committee (CIC), the Ministry of Business, Innovation and Employment (MBIE), Te Puni Kōkiri, the Ministry for Pacific Peoples, the Ministry of Social Development, and the Department of Corrections were consulted in the development of this paper. The Department of Prime Minister and Cabinet was engaged.
- 75 The Treasury commented:
- 75.1 *The Treasury supports the release of operating funding appropriated in Budget 16 based on the restated programme business case and the commitments in this paper to address concerns raised by stakeholders around the national IT solution and DHB capability, readiness and implementation costs. We will continue to work with the Ministry as further validation is undertaken on the timing and approach to the national IT solution and the tranche two and three business cases are developed.*
- 76 The GCIO feedback was:
- 76.1 *The Ministry will continue to work with the GCIO to validate the proposed long term IT solution including a more effective options analysis and an agreed roll out plan based on a more complete understanding of the long term solution.*
- 76.2 A requirement of GCIO is that an assurance plan for the programme be developed and endorsed by them. This is a mandatory requirement for all IT enabled major projects/programmes.
- 77 CIC reviewed the Business Case at its meeting on 28 July 2016. CIC confirmed its support for the intent of the National Bowel Screening Programme, while noting a number of concerns to be addressed as part of the current programme review. These included IT implications for programme start-up and the full term of the programme; workforce capacity; lead times; diagnostic capacity (laboratory, endoscopy and radiology); unanticipated growth with the flow-on impact of testing outside of the screening programme target population; DHB capability and capacity; and the opportunity for sector review.
- 77.1 The Ministry will continue to engage with CIC as additional work is undertaken (as described in paragraphs 66-69 above) to address outstanding concerns.
- 78 The Ministry supports the feedback from The Treasury, GCIO and CIC and will continue to work with these agencies.

Financial Implications

- 79 Budget 2016 allocated \$39.312 million over four years for the national bowel screening programme establishment, subject to the approval of this Business Case. There is no additional funding for DHB treatment costs, however there are parallel priorities such as elective surgery, which will support additional delivery.
- 80 The proposed funding for the national bowel screening programme cost is shown in Table 2 below and in the attached Business Case.

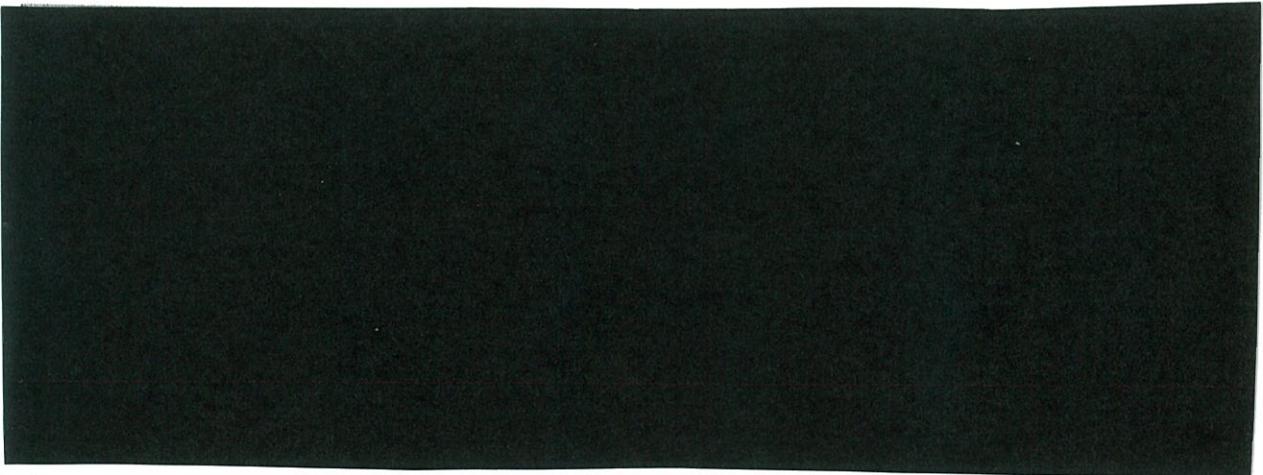
Table 2: Indicative overall costs for implementation of a National Bowel Screening Programme *



81 Budget 16 has approved \$39.312 million for the initial implementation which will enable commencement of the roll-out to two additional DHBs, set up of the National Coordination Centre and four Bowel Screening Regional Centres, enhancement and extension of the bowel screening pilot IT system, training, and overall programme management. Budget 16 also allocated contingency funding of [REDACTED] for IT development. The estimated cost of the capital requirement has now reduced to [REDACTED], although [REDACTED] in operating for DHB IT interfaces, software changes and IT implementation costs may be sought. This will be explored further and a proposal will be submitted at the next tranche for this funding.

82 The proposed funding for Tranche One is shown in Table 3 below.

Table 3: Costs for Tranche 1 *



83 The additional cost in Budget 17, to achieve the full roll-out of the National Bowel Screening Programme, is shown in Table 4 below. This funding is in addition to the funding already allocated in Budget 16 (capital in contingency).

* SQ(2)(f)(iv)

* SQ(2)(f)(iv)

Human Rights

- 84 The proposal does raise issues under the New Zealand Bill of Rights Act (1990) and the Human Rights Act (1993) because of the proposed age criteria. This discrimination is justified on the basis that the majority of cancers are detected in the proposed age band (as observed by the pilot).

Legislative Implications

- 85 There are no legislative proposals in this paper.

Regulatory Impact Analysis

- 86 The Regulatory Impact Analysis requirements do not apply to this paper.

Gender Implications

- 87 There are no gender implications. Bowel screening will be the first screening programme in New Zealand to apply to both men and women in the age-appropriate population.

Disability Perspective

- 88 The design of the bowel screening programme will include provision for people with disabilities who may need assistance to complete tests.

Publicity

- 89 There is significant public and media interest in the bowel screening programme for New Zealand. I will issue media statements as implementation of the programme progresses.

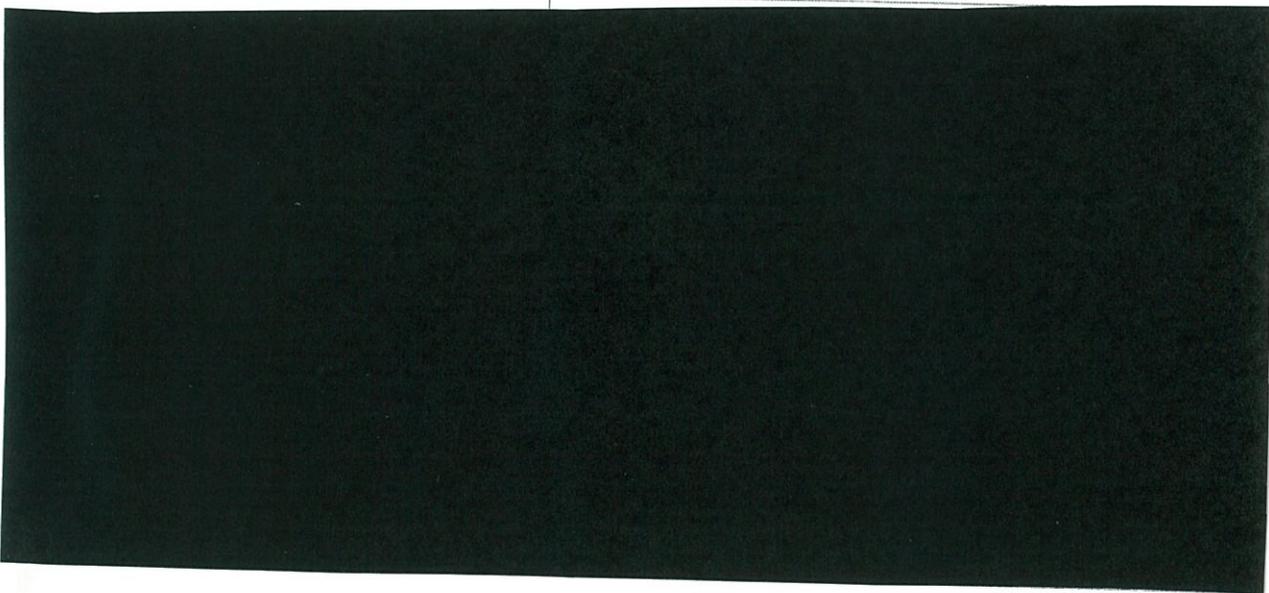
Recommendations

I recommend that the Committee:

1. Note that bowel cancer is the second most common cause of cancer death in New Zealand after lung cancer, with 3016 new cases and 1283 deaths in 2012.
2. Note that New Zealand is one of the only OECD countries without a national bowel screening programme.
3. Note that bowel screening detects cancers at an earlier, more treatable (and less costly to treat) stage, and reduces the mortality rate of bowel cancer.
4. Note that bowel screening has been shown to be cost effective in other countries, and that estimates for the proposed programme in New Zealand are that it will be very cost effective.
5. Note that once fully implemented, over 700,000 New Zealanders will be eligible to participate in the national bowel screening programme every two years, and approximately 500-700 cancers

each year will be detected during the early rounds of bowel screening, assuming expected uptake levels.

6. **Note** that the proposed age range for a national screening programme is 60-74 years, with an increased positivity threshold for the screening test.
7. **Note** that \$39.312 million was approved as part of Budget 2016 for the implementation, including deliverables within Tranches 1, 2 and 3, of a national bowel screening roll-out subject to submission of a restated Programme Business Case to Cabinet which included:
 - confirmation from the 20 District Health Boards that they agree in principle to the programme and that their input has informed the implementation timeframes and financial costings in the Business Case;
 - options analysis for the proposed national IT system and an Independent Quality Assurance (IQA) review for the preferred option;
 - a letter of support from the Chair of Health Workforce New Zealand confirming that a workforce plan has been provided that will ensure there is sufficient workforce capacity to deliver the programme; and
 - evidence that the findings from the final evaluation of the Waitemata bowel screening pilot support the Programme Business Case.
8. **Agree** that this Business Case covers off the above items and to release the funding as per the below profile (as set out in CAB-16-MIN-0189.14). * *



* S9(2)(f) (iv)
* S9(2)(j)
*

9. **Note** that the Budget 2016 funding enables a national bowel screening programme to be established in Hutt Valley and Wairarapa DHBs from July 2017, but operating costs of the programme from 1 July 2017 need to be sought as part of Budget 17.
10. **Note** that [redacted] capital funding for the development of a national bowel screening programme IT solution was placed in contingency in Budget 2016, subject to Cabinet approval of the Implementation Business Case for the preferred option for the proposed national IT system. *

11. **Note** that the estimated cost of the capital requirement has now reduced to [REDACTED], although [REDACTED] in operating for DHB IT interfaces, software changes and IT implementation costs may be sought. This will be explored further and a proposal will be submitted at the next tranche for this funding.
12. **Note** that the Interest, Depreciation and Capital Charge (IDCC) is included in the Health Information Systems Departmental Expenditure appropriation. It will be confirmed in the Tranche 2 Business Case.
13. **Approve** the attached Programme Business Case for the full national bowel screening roll-out which includes the implementation business case for Tranche 1 as well as the procurement approach for the National Coordination Centre.
14. **Approve** the release of the operating funding appropriated in Budget 16, with costs attributed in line with the expenditure set out in the re-stated Business Case.
15. **Note** that the funding for the full roll-out of a national bowel screening programme will need to be considered as part of Budget 17. Indicative costs for Budget 17 are [REDACTED] over four years, comprising [REDACTED] to support Tranche 1 implementation costs not covered through Budget 16; and [REDACTED] for Tranche 2 and 3 implementation.
16. **Note** that the plan for the procurement of the National Coordination Centre will be approved by the Director-General of Health with review by central agencies.
17. **Note** that the Ministry will develop Tranche 2 and Tranche 3 Business Cases for joint approval by the Ministers of Health and Finance.
18. **Note** that the Ministry and central agencies will work together to agree the proposed long term IT solution and engage closely in the development of the Tranche 2 and Tranche 3 Business Cases.
19. **Note** that pending approval of Tranche 2 and Tranche 3 Business Cases and Budget 2017 consideration, bowel screening will be fully implemented across New Zealand by December 2019 at the earliest.
20. **Note** that flexibility to extend the final roll-out date by another year may be required for some DHBs to help mitigate the risks of implementing the programme.
21. **Agree** that this Cabinet paper and minuted decisions be proactively released in due course, subject to any material being withheld as necessary as if a request for release had been made under the Official Information Act 1982.
22. **Note** that the Ministry will release the final evaluation report on the Waitemata DHB bowel screening pilot, at the appropriate time.

* 59(2)(f)(iv)

Hon Dr Jonathan Coleman
Minister of Health

Appendix 1: Business Case