Template 1: General Budget Track Initiative Template

Section 1: Overview and Context

Vote: Health

Responsible Minister: Hon Dr David Clark, Minister of Health

Initiative title: Maintaining the Electives Health Target

Initiative description: This funding will maintain elective surgical activity at 2017/18 volumes and provide for a price increase to perform those surgeries.

Workstream: BGA/Social/Capital/Other

Responsible Vote Analyst: [Please provide your name and extension number]

1.1 EXECUTIVE SUMMARY

A. Short summary of the proposed initiative and expected outcomes.

The initiative seeks funding of $31.5 million to maintain elective surgical delivery at 2017/18 levels. The funding is for cost and volume pressures in the separate, nationally-contracted elective surgery initiative. It will fund cost pressures associated with about 48,000 nationally-funded discharges (25% of total discharges and $18 million). It will also enable delivery of 2,227 bariatric and general surgery and orthopaedic surgeries ($15.5 million), currently provided from time-limited funding which ends in 2017/18.

Elective surgery has clear benefits, economically and in terms of individual health outcomes. Curing or improving health conditions through surgeries has positive flow on effects such as reductions in GP visits and ED admissions, and improved quality of life. Elective surgery can reduce pain and anxiety, restore people’s independence, enable them to return to full time work and delay the need for people to enter residential care. Elective surgery can save people’s lives, or can allow them to live longer in good health.

Wellness allows New Zealanders to maximise their potential and contribution to society and limit dependence on social services, welfare and aged care services. It also reduces the ongoing cost burden to the health system of untreated conditions.

<table>
<thead>
<tr>
<th>Funding Sought ($m)</th>
<th>2017/18</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
<th>2021/22 &amp; outyears</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>Operating</td>
<td>-</td>
<td>$31.5</td>
<td>$31.5</td>
<td>$31.5</td>
<td>$31.5</td>
<td>$126 Through to 2021/22-</td>
</tr>
<tr>
<td>Capital1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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[If your proposal requires time limited funding until the year 2020/21 please delete the ‘& outyears’ from the table. If your proposal requires time limited funding beyond 2020/21, please add new columns to the table to reflect the profile of funding sought.]

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<td>Capital</td>
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<tr>
<td>Three components required:</td>
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<tr>
<td>See Vote Analyst Assessment Guidance.</td>
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<tr>
<td>1. [Support in full/Do not support/Partial support and Scale/Defer]</td>
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1 The first 10 years of capital investment is counted against the capital allowance. Additional FY columns are to be added to funding table above to reflect the full capital costs of an initiative.
2. [Please provide a two sentence summary to explain your recommended above].
   This will be entered into CFISnet and used in the supporting comment next to initiative assessments in advice to Ministers and Panels.
3. [Provide a succinct overall assessment which outlines the key judgements which support your two sentence summary (above)].
   This will be used in the Treasury moderation process and package development stages.

| Degree of Government Commitment | [Pre-commitment/manifesto commitment/discretionary] |

### 1.2 CONTEXT

<p>| | |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td>A. Has the initiative been previously considered by Cabinet or been through previous Budgets?</td>
<td>Y</td>
</tr>
<tr>
<td>B. Has the initiative been jointly developed with other agencies?</td>
<td>N</td>
</tr>
<tr>
<td>C. Have you attached the supporting Better Business Case, Regulatory Impact Assessment, etc (if applicable)?</td>
<td>N</td>
</tr>
<tr>
<td>D. Would this initiative still go ahead if not funded in Budget 2018?</td>
<td>N</td>
</tr>
<tr>
<td>E. Does this initiative contain an element of funding for cost pressures?²</td>
<td>Y</td>
</tr>
<tr>
<td>F. Were these cost pressures signalled in your most recent Table 2A and 2B submission?</td>
<td>Y</td>
</tr>
</tbody>
</table>

### G. If required, please provide additional information to support your answers above.

#### Cabinet and previous Budget information (Part A)

Cabinet approved funding to increase elective surgery and introduced the Elective Surgery Health Target in 2007/08. Successive Budgets have continued to invest in elective surgery

1. This initiative has previously been considered by Cabinet in September 2006, CBC (06) 238 and CBC Min (06) 16/23.
2. Previous budget bids have been put forward to support this initiative for past years:
   - Budget 16 – requested and received £12m year on year to support DHBs to increase the level of elective surgery being delivered by approximately 4,000 discharges a year
   - Budget 17 – requested £14m (£12m to increase volumes, £2m to support cost pressures), received £6m.

#### Contextual Information to support the question ‘Would this initiative still go ahead if not funded in Budget 2018?’ (Part D)

If the requirement remains to maintain elective surgery at 2017/18 levels and the funding requested is not provided then DHBs would need to use their Population Base Funding (PBF) to maintain existing levels of surgery. See section 2.1 C, below, for a discussion of alternatives. These options would increase the financial burden on the DHBs.

² Cost pressure initiatives cover existing services and outputs that are funded from within baselines but which are facing wage, price, volume and/or other pressures and where an agency considers it cannot continue to deliver the same level and/or quality of service within its baselines.
Section 2: Problem / Opportunity & Strategic Alignment

2.1 PROBLEM DEFINITION OR OPPORTUNITY

A. Describe the problem or opportunity that this initiative seeks to address.

Elective surgery can help to address a range of conditions, from cancer and heart failure, through to loss of sight or functional movement, and includes:

- Curative surgery – surgical treatment that will/can ‘cure’ a condition. For example, surgery that eliminates a malignant tumour, or bariatric surgery that reverses diabetes.
- Life enhancing surgery – treatment that improves a person’s function, enabling better quality of life and personal contribution. For example, plastic surgery following a serious burn or hip replacement for debilitating osteoarthritis.
- Palliative surgery – minimising pain and discomfort for those living with incurable conditions. For example, surgery to ease pain, disability or other complications that come with advanced disease including cancer. Surgery may improve quality of life, but not cure the condition.

Demand for elective surgery is continuing to increase. This partly reflects population ageing, as people are living longer lives with complex long-term health conditions throughout their lifetime. It also reflects rising public expectations of the health service and innovations which have, over time, widened what can be cost-effectively treated.

Although the provision of elective surgery has been rising since 2008, there still remains significant public concern around the level of ‘unmet need’, with many professionals advising that the level of need is still outweighing current publicly-funded resourcing allocations. This is communicated in sector feedback, private research findings, developmental National Patient Flow data, Ministerials and complaints, HDC and HGSC cases, and by community and social groups.

Partly in order to get better information about unmet need, a developmental national data collection, National Patient Flow, has been implemented. Over time as the data quality improves this collection will provide information on the number of referrals made to hospitals that aren’t able to be accepted due to capacity and funding constraints (termed ‘unmet referred demand’).

B. What inputs will the preferred option buy and why?

This initiative requests a total of $31.5 million to maintain planned delivery from 2017/18, broken down by:

- $15.5 million to purchase 2,227 surgical discharges (currently provided by time limited funding and reprioritisation, which ends June 2018).
- $16 million for cost pressures in centrally funded elective surgery.

**Maintaining volumes where funding is time-limited ($15.5m)**

In 2017/18, 2,227 discharges were fully funded through time limited initiatives or from reprioritised Vote Health funding. These discharges and associated funding are required to maintain existing levels of delivery on an ongoing basis and they contribute to delivering the Electives health target discharges.

This is broken into three components:

- $2.5 million from the Bariatric Surgery Initiative, time limited established in 2009/10 and then rolled over for four years in Budget 14. This funding purchases 127 bariatric surgery procedures ‘care packages’ per year, comprising of First specialist assessment, Follow ups, Psychology assessment, dietetics and surgical procedure at an average value of $3.00 Case Weighted Discharge (CWD). A full care package is necessary for the provision of bariatric surgery as this requires a more complex surgery selection processes and support to ensure that surgery results to long term weight loss.
• $7 million from the Additional Orthopaedics and General Surgery Initiative.

While $10 million was provided in 2017/18 from time limited funding from Budget 15, $7m is deemed sufficient to purchase the same amount of discharges with a different mix of procedures. In 2017/18, the $10m in funding purchased approximately 1,100 procedures which are a mix of major joints replacements, other orthopaedic procedures (such as spinal or wrist procedures), and general surgery procedures. The revised $7 million funding would purchase the equivalent volume, but across a wider scope of specialities. Funding has been scaled based on lower average CWD value across the wider specialities.

• $6 million to match one-off reprioritisation within Vote Health in 2017/18.

To support 1,000 additional elective discharges and meet the electives health target, funding was reprioritised to meet the shortfall in the Budget 17 bid (allocation of $6 million against a bid of $12 million for volumes).

Cost pressures in Nationally Funded Elective surgery ($16 million)

This initiative has received increases in funding through successive Budgets to purchase increases in elective surgery discharges. This initiative requires $16 million to support the cost pressure of continuing to purchase the existing contracted delivery level, and represents a 5% increase of the 2017/18 budget. A number of factors are contributing to the need to recognise cost pressures, including:

• Annual increases in national prices (for which DHBs have compensated with annual increases in Population Based Funding)
• Shifting of low complexity surgical activity to community settings (so no longer funded through this initiative) meaning remaining activity is more complex and generally has a higher casemix value
• Increased health complexity and morbidity leading to higher value procedures
• Emerging technology servicing patient cohorts that may not have been able to be treated previously, but often with higher cost procedures (such as TAVI)

National prices have increased on average 2-3% per year. While the national pricing arrangements for 2018/19 are yet to be agreed, initial indications are that national prices will increase between 3% and 5%. This national price increase needs to be applied to the existing initiative 47,744 centrally funded discharges in 2017/18 in order to maintain the current planned contract level of delivery.

Past budgets have not funded price pressures. Some DHBs have therefore met their volume targets by increasing their throughput of lower complexity (lower cost) cases. While there remains need for lower complexity cases, access to care should always be on the principle of fairness giving priority to those having the greatest need and ability to benefit. Over time, if funding does not keep up with cost pressures, the public health system will need to respond through reducing delivery, or constrained access to higher cost procedures.

NOTE:

Past budget bids have provided additional funding to support growth of 4,000 elective surgical discharges per year. Past growth has been achieved through a 1:1 investment with DHBs where 2,000 discharges of the growth is centrally funded and 2,000 was achieved through DHB baseline funding. This bid is not seeking investment to support further growth, through centrally held funding. This has been scaled back to maintain investment (with cost pressure) to 2017/18 levels and to deliver increased activity of 2,000 discharges through DHB baselines.
### C. What alternative options were considered and why did you choose your preferred option?

1. Disestablish the initiative, and instead of holding funding centrally, devolve funding to DHBs via the usual PBFF mechanism and rely on DHBs to effectively prioritise and deliver at existing levels, with performance management support from the Ministry. This option has been discarded as past trends have shown that without effective performance and funding levers in place, DHBs will prioritise access to services based on immediate demand and resource availability. This may mean acute demand takes priority over elective services, and inequities may increase, with DHBs delivering more services where specialist workforce and capacity availability exists, rather than based on local population need. There is also risk that local DHB financial pressures may impact on delivery.

2. Scaling back the initiative by reducing the amount of funding sought and/or by extension, reducing the number of elective surgeries delivered. This bid has already been scaled back to focus on maintaining centrally held investment and is not focused on growth of centrally funded discharges.

3. Using marginal pricing instead of the National Price. Marginal pricing in this context would be where the price paid for a procedure includes just the costs required to provide the surgical intervention, with none of the overhead costs that are included in the National Price. This option has been discarded for the following reasons:
   - DHBs are likely to prioritise fully funded activity ahead of marginally funded activity, reducing any incentive to increase elective throughput and meet population need.
   - A change to marginal pricing would require a very complicated inter-district pricing approach to address variation in capacity and marginal cost across providers. DHBs also use various outsourced providers including both public and private facilities adding to the complexity of using marginal pricing.
   - Marginal pricing would be very difficult to administer. It would require a significant annual process to identify a marginal pricing framework, consult on changes to marginal pricing, and make payments via marginal pricing. This annual process would also need resourcing to a similar level of the current national pricing programme (which is commitment of Departmental Expenditure in FTE time and resources) from both DHBs and Ministry of Health.
   - Electives activity is not at the moment identified separately in national collections, so there would be a significant time lag and investment required before marginal pricing could be introduced.

### D. Counterfactual analysis.

If there was a significant reduction in the volume and/or complexity of elective surgery, the impacts would include:

- Increase in the number of people living with complex or debilitating health conditions which impacts on their ability to lead a normal life, with pain and disability limiting their contribution as employees, as family members, or as members of society
- Increased burden on health services including primary care providers, with an increase in acute presentations and potential growth in complexity and morbidity and, often, an increase in the average cost of each procedure
- Increased demand for other social services including welfare and aged care services
- Economic impacts and poorer personal outcomes arising from reduced participation in employment and education.
Evidence of impact of elective surgery is outlined in section 3.2 and is outlined in the attached Impact templates for the four surgical case studies provided.

**VOTE ANALYST COMMENT**

Has the problem or opportunity been clearly described and does it support a compelling case for investment?

- Has the agency clearly outlined what the initiative will be buying, for who (if applicable), and what it is intended to achieve?
- What is the cost to deliver this proposal and is it comparable to other ‘like’ costs? Has the agency provided detail on the different components making up these costs?
- Is clear information provided on the alternative options and counterfactual?

*If you do not have sufficient information, please follow up with your agency as these are key ingredients for the package development and bilateral advice.*

### 2.2 STRATEGIC ALIGNMENT AND COLLABORATION

<table>
<thead>
<tr>
<th>A. How does this initiative fit with your agency’s strategic intentions as outlined in your most recent Statement of Intent, Four Year Plan and Long Term Investment Plans?</th>
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<tbody>
<tr>
<td>This initiative directly supports the New Zealand Health Strategy’s focus on “live well, get well, stay well”, enabling people to live normal and independent lives, without pain and disability limiting their contribution as employees, family members, or within our society. This aligns with other Government priorities, as wellness allows New Zealanders to maximise their potential contribution to society. This relates across social services, such as welfare, employment, education and aged care services. The strategic intent of this initiative is evident in the Ministry of Health’s Statement of Intent. Self-assessment score is 3 = Strong alignment.</td>
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<table>
<thead>
<tr>
<th>B. Description of engagement with other agencies impacted by this initiative (if applicable).</th>
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<tbody>
<tr>
<td>This is a long standing initiative (in place since 2007/08). No specific consultation has been undertaken this year in relation to the initiative. While there has not been formal consultation, stakeholders who have been engaged in relation over the life time of this initiative have included:</td>
</tr>
<tr>
<td>- District Health Boards</td>
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<tr>
<td>- The Office of the Auditor-General</td>
</tr>
<tr>
<td>- The Treasury</td>
</tr>
<tr>
<td>- Accident Compensation Corporation</td>
</tr>
<tr>
<td>- Ministry of Social Development</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>C. How does this initiative relate to current activity undertaken by your agency and/or by others across the State Sector?</th>
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<tbody>
<tr>
<td>This initiative aligns well with other Health priorities, supporting activity across Cancer, Bowel Screening, Health of Older People, Children’s Action Plan, Radiology Waiting Times, acute demand and emergency department management and cardiac care. This initiative also supports other state sector activities, including social welfare initiatives (returning to employment, reducing disability allowances, support for Older People etc).</td>
</tr>
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</table>

### VOTE ANALYST COMMENT

[Please rate this initiative’s alignment with Government priorities on a scale from 0-5]

- What strategic intentions [outlined in the Four Year Plan] does this initiative align with?
- Is the strategic intent of this initiative clear?
- If multiple agencies are involved, is there a clear sense of how the initiative will be delivered collaboratively?
- Do they have a clear understanding of how this initiative will fit in with existing activity across the State Sector?]
### A. What are the policy settings and cost drivers creating the pressure or risk?

Delivery of the electives health target requires delivery of 196,286 discharges in 2017/18. The Ministry directly purchases 25% (47,744 discharges) of the total planned delivery, but uses the centrally held funding to directly and indirectly leverage the additional delivery from within DHB's baselines. Past increases of 4,000 discharges have been delivered through a 1:1 investment with Ministry centrally funding 2,000 discharges matched by DHBs investment of 2,000 discharges. DHB must deliver agreed baseline discharges before they can access the centrally held funding.

Additional funding for elective services has been provided in successive budgets to increase surgical delivery, and DHBs have match this investment from their funding envelope each year (with the exception of time limited funding).

The drivers for price pressure include:

- Annual increases in national pricing
- Shifting of low complexity surgical activity to community settings (i.e. no longer funded through this initiative) meaning remaining activity is more complex and generally has a higher casemix weight value
- Increased health complexity and morbidly leading to higher cost procedures
- Emerging technology servicing patient cohorts that may not have been able to be treated previously, but often with high cost procedures (such as TAVI).

This has already been scaled, with investment for 2,000 growth not factored in. The planned growth profile in 2018/19 will be 2,000 discharges expected through DHB baseline investment.

### B. What are the assumptions underpinning the pressures?

New Zealand’s population is ageing and growing, with more people living longer, 45% of all elective surgery was provided for patients aged over 65 years in 2017/18, this is an increase of 6% since 2007/08 and is in line with population growth. As the population ages, new models of care shift low complex care to alternative settings, and the complexity of health conditions increased, the cost for this activity also increases.

While the national pricing arrangements for 2018/19 are yet to be agreed, initial indications are that national prices will be a significant increase between 3% and 5%, compared with past increases of on average 2-3% per annum. If current delivery is to be maintained, this national price increase needs to be applied to the existing initiative 47,744 centrally funded discharges in 2017/18.

Current funding supports an average cost of $6,800 per procedure. In order to purchase the same level of delivery in 2018/19 the average cost of surgery based on a mix of estimated national price increase (of between 3% and 5%), and an increase in procedure complexity, the cost in 2018/19 will be approximately $6,150 per procedure.

This cost pressure increase reflects a rising cost profile, given the strategic intent of the Electives health target focusing on the cost of future service delivery rather than based on the cost of past delivery, which contains an element of lower cost activity.

This cost pressure bid is also related to changes in the National Price, through the national pricing programme. The National Price reflects a fair and efficient price for hospital based activity and is based on actual costs. The National Price is developed using DHB average costs (fully absorbed cost) for activity. The National Price is a common price that is used to consistently and fairly manage Inter District Flows of activity between DHBs.
### 2.3 COST PRESSURE INITIATIVE SECTION [IF APPLICABLE]

<table>
<thead>
<tr>
<th>C. What options have been identified to address the cost pressures?</th>
<th>Over time, if funding does not keep up with cost pressures, the public health system will need to respond through reducing delivery, or constrained access to higher cost procedures. While there remains need for lower complexity, lower cost cases, access to care should always be on the principle of fairness with priority given to those having the greatest need and ability to benefit. The level of complexity of surgery is partly related to population need: as the population grows and ages the level of complexity will also be expected to grow. The flow on impact of DHBs delivering lower-complexity surgeries would be far reaching for both patients and the wider health and social sector. An example of this would be an increased use of age residential care and Disability Support Services as outlined in the evidence in the impact templates for surgical examples.</th>
</tr>
</thead>
</table>
| D. What is the efficiency, effectiveness and productivity of this cost pressure area? | While the Elective initiative directly funds elective surgery, this is part of a wider strategy for elective surgery. The strategy is centred on the principles of fairness, timeliness, clarity and quality for patients. Support has been provided to DHBs since the initiative was introduced in 2008, including but not limited to service improvement work in the following areas:  
- Production Planning  
- Patient Focused Booking  
- Experience Based Design  
- Ophthalmology Service Improvement (including management of follow ups and clinical care models across workforce groups)  
- Enhanced Recovery After Surgery (ERAS)  
- Streamlined preadmission processes  
- Reducing unnecessary follow ups  
- Clinical Prioritisation  
This work helps support DHBs to build efficient models of care which are also aligned to support patients in receiving care and which have wider benefits to the whole hospital.  
This work programme is complex and dynamic with a long term priorities. The intended approach going forward is to build on the existing foundations and to focus on:  
- Support DHBs to grow elective surgery as appropriate given changing population needs  
- Support DHBs, regions, and clinical networks to develop models of care, ‘right treatment, right setting’, including use of primary and secondary care. This also includes maximising capacity (building and workforce) across community and secondary settings  
- Better understanding of ‘unmet referred demand’, who is not accepted for elective care, and why? Using information from the National Patient Flow initiative  
- Early intervention programmes, in communities to prevent the need for surgery  
- Working across the system to support professional bodies to consider pathways, and guidelines/standards to ensure appropriate test, diagnostics and assessments (e.g. the Choosing Wisely Campaign)  
- Further build sector capability in understanding and embedding principles of patient flow, including capacity and demand planning, production engineering, holistic service planning, booking and scheduling. |

Please note section 3.4 of this template is also a critical aspect for cost pressure initiatives.
**VOTE ANALYST COMMENT**

What are the choices around the policy settings and/or where is the requirement specified?

How credible are the assumptions which underpin the identified pressures? How do these compare to the market rates, Statistics NZ data and previous forecasts?

These are critical elements for prioritisation of cost pressures and bilateral advice. Finance Ministers expect to see better information on the underlying cost drivers, assumptions and impact of these cost and volume pressures.

What actions have been taken to manage or address these pressures (including in previous years) and how credible are the proposed strategic responses?

What is your view on the implications of not funding/partially funding these pressures?

How accurate has the agency been with its previous forecasts?

Advice to Finance Ministers will need to set out how these pressures align with the agency’s medium to long-term strategic direction and the effectiveness of funding provided through previous Budgets.
Section 3: Value for Money and Impacts

3.1 EXPECTED IMPACTS

A. What are the costs and benefits of this initiative compared to the counterfactual? Builds on section 2.1.C and 2.1.D of this template.

The CBAx modelling has been done on four types of elective surgery. These have been selected examples to show the different types of benefits that may result from an elective procedure. They do not necessarily provide the highest NPV. Details about the costs and benefits of each are presented in the accompanying templates.

The mix of procedures that are delivered each year will change depending on population needs. Electives policy is that access to publicly-funded treatment is provided to those people who have the greatest level of need, and the most ability to benefit. Clinical prioritisation of patients is used to help determine who gets access. For this reason, the Ministry does not look to directly control the mix of procedures, even if the NPVs are different. The principle of ‘fairness’ should apply, whereby New Zealanders can be confident that they are being treated equitably with others, rather than based on their condition.

The strategic intent of the initiative is to maintain elective surgery at the contracted level of discharges as in 2017/18. While the exact composition of these discharges varies, we demonstrate in the table below the value of representative discharge volumes able to be supported with maintaining delivery from the time limited and repositioned funding of $15.5 million and the price pressure funding of $16 million.

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<thead>
<tr>
<th></th>
<th>Hip and Knee Surgery</th>
<th>Cataract Surgery</th>
<th>Cholecystectomy Surgery</th>
<th>Cancer-Related Surgery</th>
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<tbody>
<tr>
<td>Net Present Value (NPV) - 50 year</td>
<td>$3,124M</td>
<td>$423M</td>
<td>$395m</td>
<td>$802m</td>
</tr>
<tr>
<td>Benefit Cost Ratio (BCR) - 50 year</td>
<td>35.9</td>
<td>21.0</td>
<td>30.0</td>
<td>10.6</td>
</tr>
<tr>
<td>Return on Investment (ROI) – Societal Total - 50 year</td>
<td>35.9</td>
<td>21.0</td>
<td>30.0</td>
<td>10.6</td>
</tr>
<tr>
<td>Return on Investment (ROI) – Government - 50 year</td>
<td>4.9</td>
<td>6.1</td>
<td>1.6</td>
<td>0.6</td>
</tr>
</tbody>
</table>

VOTE ANALYST COMMENT

[Please rate this initiative on a scale from 0-5 to reflect Value for money. Please explain your rating and provide a short comment on the quality of the cost-benefit analysis and the reliability of the inputs. See section 3.2.2 of the guidance.]

Has a compelling counterfactual been provided? Or if not, have the risks and implications been made clear?

The prompts above should be completed at a minimum by the agency to ensure a consistent assessment across initiatives.

3.2 ASSUMPTIONS AND UNDERLYING EVIDENCE

A. Outline the assumptions underpinning the impacts described above.

There are a range of impacts from elective surgery. In addition to health benefits, wider social and economic impacts of surgical interventions have been considered. Sources of evidence used for each of these impacts are referenced at the end of this section.

Health

Clear health benefits exist, from a cost-savings point of view, and in terms of individual health outcomes, as supported by a strong and wide-ranging international
evidence base. If people can have their health condition cured or improved through elective surgery, flow on effects include reduced GP visits, lower pharmaceutical costs, a reduction in acute presentations with associated reductions in emergency department, radiology, laboratory, hospital bed-day and outpatient costs. It can improve people’s day to day living, reducing the need for home help, nursing support, and caregiver assistance. Reduced pain and anxiety can relieve depression, and reduce reliance on medication (or other substances). Restoring independence can mean people defer their entry into aged residential care, or their need for other support infrastructure. Elective surgery can save people’s lives, or can allow them to live longer in good health.

Other

Children who are healthy are more likely to participate effectively in learning and educational environments. Surgery may relieve children of, or lessen the burden of, image related anxiety due to physical deformities. Adults who are well are more likely to be employed, take less time off work, and rely less on social welfare benefits including jobseekers benefit and disability allowances. Older people who are well are more likely to be able to remain employed (and contributing to their personal superannuation savings), support their families by being caregivers or by providing home support while younger adults work. Regardless of age, those who are physically well are more likely to have the income and the inclination to travel, participate in the community, volunteer, visit tourist facilities, and spend at retail outlets. There is significant cost to society for people over 65 who have not saved for their retirement, and rely solely on National Superannuation. If more people had to pay privately for elective surgery, this would undermine personal savings, retirement savings, and impact on people’s ability to afford adequate housing and day to day living needs.

According to the Health Funds Association of New Zealand, health insurance coverage as at March 2013 was approximately 30% of the New Zealand population. This is 4% less than at December 2008. There will be a proportion of patients who, if they could not access publicly-funded elective surgery, would still receive the care they need through their private insurance provisions. We are not currently able to determine how many public patients had private health insurance, so cannot quantify this as a potential displacement, however it is worth noting as an ongoing contributor to the overall context. Anecdotally, feedback suggests that improvements in access for publicly-funded surgery are having an effect of contributising to a switch from private insurance to greater reliance on the public system, which will in turn, increase demand for services.

Specific surgery examples:

The cost and benefits of each surgical procedure is hard to quantify, as it depends on the impact that a health condition is having on an individual patient, and what the treatment may enable them to do. The precise mix of surgical treatments offered will also vary from year to year and across DHBs according the population’s level of need and ability to benefit. To demonstrate some of the benefits, we have provided examples of typical patient stories, and how elective surgery may improve their outcomes. We have also provided information on how this initiative supports other health priorities, or relieves pressures on other parts of the social system. Quality Adjusted Life Years (QALYs) are one internationally recognised way of identifying health impacts of certain interventions. Many of the benefits that make up QALYs are non-financial, and instead are linked to the overall impact on someone’s life. These have been noted in the impact assessment where appropriate.

General Surgery – approximately 18% of elective surgery
General surgery treats conditions affecting the oesophagus, stomach, small bowel, colon, liver, pancreas, gallbladder, bile ducts, the thyroid gland, and the breasts. An example of a procedure is cholecystectomy surgery (approx. 2% of elective surgery in 2010/17), removing the gall bladder for people with cholecystitis. Cholecystitis is an inflammatory disease, with very painful acute episodes often flaring up on a regular basis. When left untreated, cholecystitis can lead to serious, sometimes life-threatening complications, such as gallbladder rupture. Removal of the gallbladder removes the cause and cures the condition. Aside from the personal impacts for affected people, repeat presentation with cholecystitis has financial impacts due to an increase in acute workload. A recent project undertaken by Hawke’s Bay DHB suggests that undertaking a cholecystectomy sooner (electively or acutely) will reduce emergency department presentations and admissions, at a cost of over $1,000 per presentation (assuming one overnight surgical bed = $510, one ED presentation = $334 and one Outpatient Clinic visit = $250).

Hernia repair is another common general surgery procedure (approx. 4% of elective surgery in 2016/17).

Approximately 25%-30% of all elective general surgery is cancer related. Surgery is a vital treatment option and the principal treatment choice for people with cancer. Ministry of Health data shows that in the 12-month period to September 2016, surgery is the first treatment in the majority of cancer cases (52%). Surgery for cancer has a range of benefits, spanning return to work, mental health, and mortality. The increasing prevalence and complexity of cancer related surgery means that it will displace ‘other’ general surgery unless overall services continue to grow.

Orthopaedics – approximately 14% of elective surgery

Orthopaedic surgery includes hip and knee replacements, shoulder, foot, ankle, hand and spinal surgery. Orthopaedic conditions tend to be painful and limit a person’s ability to carry out usual day to day activities. Depending on the nature of the condition, this may result in restricting a person’s ability to walk, or participate in exercise, or carry out minimal employment obligations. These restrictions frequently result in extended sick leave, disability allowances, and a reduction in independence for older people requiring earlier entry to aged residential care. For those who do not, or cannot access publicly-funded treatment, patient stories include increased drug dependency for management of pain, or the need to re-mortgage (or sell) property to pay for private treatment. Hip and knee replacement surgery is a common procedure (approx. 6% of elective surgery in 2016/17).

Orthopaedic surgery can also assist children born with disabling conditions such as scoliosis, cerebral palsy or club foot, enabling them to ambulate or move physically in ways that were not possible without surgical intervention.

Ophthalmology – approximately 13% of elective surgery

Ophthalmology surgery supports people with eye conditions. For many, their condition means their sight is impaired, or for some, lost entirely. This may mean that their ability to work is limited, they require home help or family support to complete regular daily tasks (e.g. driving, shopping), and their risk of falling is much higher. Cataract surgery is a common procedure (approx. 9% of elective surgery in 2016/17), which can help to restore failing sight. A 2012 New Zealand study notes that “Expedited first eye cataract surgery reduces falls by 34% compared with remaining on the waiting list”. The same study determined a fall cost of $11,801 per fall at NZ

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2008 prices. There are other elective interventions, such as intraocular eye injections (approx. 5% of electives health target in 2016/17) which are used to manage and reduce the impact of macular degeneration on vision, often retaining enough sight to remain independent.

**Plastic surgery & Burns – approximately 6% of elective surgery**

Evidence clearly links body image with general function, mental health and wellness. Plastic surgery can assist children born with a cleft palate or ‘prominent ears’. It can help people of any age who are impacted by deformities or disfigurement, from burns, congenital defects, or as a result of cancer related trauma, e.g. a breast reconstruction following mastectomy, or head and neck surgery reconstruction after cancer surgery. Examples of impacts that have been linked to these conditions include bullying, depression, marital relations breakdown. These have flow on effects on productivity and family strength and impacts negatively on use of social services.

**Cardiothoracic – approximately 1% of elective surgery**

While cardiac surgery makes up a relatively small proportion of the initiative, past experience in New Zealand’s health system shows that if access to surgery does not keep up with demand, then there will be direct impact on people’s mortality (http://www.health.govt.nz/system/files/documents/publications/cardiac-surgery-services-in-nz-oct08.pdf). Moreover, many patients are severely impacted with chest pain, shortness of breath, poor effort tolerance which may be relieved by surgery. Cardiac surgery is closely managed and monitored as a sub-set within the electives portfolio, and remains a priority area for ongoing investment and focus.

**Ear, Nose and Throat – approximately 11% of elective surgery**

Better hearing, breathing and swallowing are just a few examples of outcomes that can be achieved through ENT surgery. Ongoing middle ear infections, or throat infections in children have been linked to poorer educational outcomes, and even IQ loss. Some studies have gone further to link these educational outcomes to later behavioural issues and increased risk of obesity, hypertension, cancer and mental health issues. Grommets (approx. 3% of elective surgery in 2016/17) and removal of Tonsils and Adenoids (approx. 4% of elective surgery in 2016/17) can help relieve these infections.

**Efficiency gains for DHBs**

A key impact of this initiative is its indirect effect on DHBs. While the initiative is to maintain contracted to delivery at 196,286 discharges, only 25% (47,744 discharges) are funded from centrally held funding, with DHBs expected to deliver the remaining through funding from their baseline PBFF funding envelope. To do this DHBs must maximise capacity and resources, make improvements in productivity and efficiency, and streamline care models. Efficiency gains have been modelled as a 25% cost saving reflecting that fixed costs and overheads represent about 50% of the fully absorbed procedure cost and that DHBs are able to avoid a proportion of that amount due to the centrally held funding.

**B. What evidence supports the assumptions and impacts stated in section 3.2.A?**

For all procedures, data on 2016/17 elective surgery delivery was used to form assumptions on proportions of surgery, and age groups. This information was sourced from the National Minimum Dataset. Extracts on surgical volumes were extracted in August 2017.

**Hip and Knee assumptions:**


The Effect of Total Hip Replacement on the Employment Status of Patients Under the Age of 60 Years: [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1964053/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1964053/)


Feedback from Mr Allan Panting, former Director, Surgical Affairs, Royal Australasian College of Surgeons, and retired Orthopaedic Surgeon (2015)

Feedback from Mr John Cullen, Director, Elective Surgery Centre, Waitemata DHB, and retired Orthopaedic Surgeon (2015)

Cataract assumptions:


Road accidents: General population risk of 0.2% of being involved in a crash causing injury or death from transport.govt.nz (Reported injury crashes 2014 section 1 Historical Excel file). 3% of road accidents are fatal, 1.1 fatality per fatal accident (transport.govt.nz: Motor Vehicle Crashes in New Zealand 2014). 1%/3% = 0.003% risk of fatal car accident in which 1.1 statistical lives are lost. Surgery reduces risk of road accidents (assumed all types of road accidents) by 13% (from Karmel, M. New Data Focus on Safety, QOL and Cost Benefits of Cataract Surgery. [www.aao.org](http://www.aao.org)). 13% reduction in 0.003% risk means post intervention risk of 0.00261%.


Cholecystectomy assumptions:


High level assumptions on work impacts: [http://www.biomedcentral.com/1471-2458/7/164](http://www.biomedcentral.com/1471-2458/7/164)

Impact on social activities: [http://www.biomedcentral.com/1471-2458/7/164](http://www.biomedcentral.com/1471-2458/7/164)

Cancer-related surgery assumptions:

Rejecting cancer treatment – what are the consequences:
https://www.sciencemedicine.org/rejecting-cancer-treatment-what-are-the-consequences/

Data on the proportion of cancer patients for whom surgery is the first treatment option based on results of the 31-day Faster Cancer Treatment indicator for the period 1 April to 30 September 2016.

QALYs:
Mastectomy: http://co.ascopubs.org/content/21/6/1139.full
Life expectancy: stats.govt.nz "How long will I live?"

VOTE ANALYST COMMENT

Provide an assessment of the assumptions and judgements related to the expected returns. Are these clearly stated and reasonable and appropriate given the proposal’s intended outcomes?

Does the evidence (qualitative and/or quantitative) provide reasonable certainty and confidence? Why/why not?

3.3 SENSITIVITY ANALYSIS

A. Provide examples or scenarios to show how impacts change with different assumptions or policy settings.

<table>
<thead>
<tr>
<th>Net Present Value (NPV) - 50 year</th>
<th>Discount rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6% real (default)</td>
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<tr>
<td>Hip and Knee Surgery</td>
<td>$3,124m</td>
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<tr>
<td>Cataract Surgery</td>
<td>$423m</td>
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<tr>
<td>Cholecystectomy Surgery</td>
<td>$395m</td>
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<tr>
<td>Cancer-Related Surgery</td>
<td>$802m</td>
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</table>

<table>
<thead>
<tr>
<th>Benefit Cost Ratio (BCR) - 50 year</th>
<th>Discount rate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>6% real (default)</td>
</tr>
<tr>
<td>Hip and Knee Surgery</td>
<td>35.9</td>
</tr>
<tr>
<td>Cataract Surgery</td>
<td>21.0</td>
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<tr>
<td>Cholecystectomy Surgery</td>
<td>30.0</td>
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<tr>
<td>Cancer-Related Surgery</td>
<td>10.6</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Return on Investment (ROI) - Societal Total - 50 year</th>
<th>Discount rate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>6% real (default)</td>
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<tr>
<td>Hip and Knee Surgery</td>
<td>35.9</td>
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<tr>
<td>Cataract Surgery</td>
<td>21.0</td>
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<tr>
<td>Cholecystectomy Surgery</td>
<td>30.0</td>
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<tr>
<td>Cancer-Related Surgery</td>
<td>10.6</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Return on Investment (ROI) - Government - 50 year</th>
<th>Discount rate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>6% real (default)</td>
</tr>
<tr>
<td>Hip and Knee Surgery</td>
<td>4.9</td>
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<tr>
<td>Cataract Surgery</td>
<td>6.1</td>
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<tr>
<td>Cholecystectomy Surgery</td>
<td>1.6</td>
</tr>
<tr>
<td>Cancer-Related Surgery</td>
<td>0.6</td>
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</tbody>
</table>
**3.4 FUNDING IMPLICATIONS**

<table>
<thead>
<tr>
<th>A. Provide option(s) for scaling, phasing and/or deferring this initiative. Builds on information provided in section 2.1.B of this template</th>
<th>Under this initiative, DHBs would be fully funded to maintain the discharges from the time limited funding and one off funding which will end in 2017/18, they would also be funded for cost pressure due to increase in national price and procedure complexity for centrally funded discharges. Scaling this bid would mean a per capita reduction in Elective Surgery, or transferring additional expectations to DHBs.</th>
</tr>
</thead>
</table>
| B. Describe the implications on service delivery and risks/trade-offs for each of the scaled, phased or deferred scenarios section 3.4.A. | Scaling the initiative further or reducing the amount of additional funding sought would reduce the number of elective surgeries able to be supported and cause:  
  - delivery falling below 2017/18 levels and a reduction in access to elective surgery for the population, with increase in 'unmet need'  
  - a reduction in the complexity of procedures delivered to accommodate the lower level of funding  
Scaling (i.e. reductions), phasing or deferring would have a negative impact on elective services delivery. |

**VOTE ANALYST COMMENT**

Have credible choices and implications been set out? If this initiative is prioritised down or scaled to fit within the draft package, do you have sufficient information to make these judgements? At a minimum, can you provide to Ministers:  
- What are the most valuable components  
- What is the do-minimum point at which no worth doing?  
- What are the risks or impacts of scaling?  
The development of the Budget package will require trade-offs and prioritisation across initiatives. Advice to Ministers will need to set these choices (and the risks/consequences) out.
## 4.1 IMPLEMENTATION AND RISKS

### A. How will this initiative be delivered?

The management and implementation of the Initiative would be undertaken by the Elective and National Services team within Service Commissioning in the Ministry of Health. The team has close engagement with DHBs, which enables clear expectation setting, setting of commitments in line with policy, allocation of funding, and related performance conversations. Conversations include senior clinical and management staff.

Centrally-held funding allows the Ministry of Health to set target, and monitor DHB performance and is effective in ensuring DHBs continue to prioritise access to elective services. DHBs receive payment following patients’ receipt of surgery and achievement of quality performance measures (i.e. a payment for performance approach, and maintaining quality standards).

As with previous years, expectations for elective surgery delivery would be agreed as part of the annual planning cycle, and formalised as a Crown Funding Agreement variation.

The 2,227 discharges that will maintain planned delivery will remain where the allocations already exist across DHBs. Cost pressure funding will be distributed by DHB to maintain existing delivery, and complexity levels.

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Impact or Consequences</th>
<th>Likelihood</th>
<th>Severity</th>
<th>Overall Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHBs are unable to deliver the agreed discharges.</td>
<td>If DHBs do not deliver their agreed discharges then they will not be eligible for the centrally held funding. This would also impact on the level of delivery for patients which could result in reduced access for patients. Some DHBs may deliver to the full agreed target but actual delivery may reduce. This is due to past delivery exceeding planned levels. Where this happens DHBs are required to fund over delivery from their baseline funding envelope.</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
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<tr>
<td>Theatre capacity</td>
<td>If DHBs do not deliver their agreed discharges then they will not be eligible for the centrally held funding, and patient access to elective services will be constrained and may reduce.</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
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</tr>
<tr>
<td>Workforce</td>
<td>This could limited DHBs ability to deliver planned volumes for specific services</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>National Bowel Screening Programme</td>
<td>Earlier identification of bowel-related disease or cancer will have a flow on effect, increasing the number of people being referred for</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
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<tr>
<td>Private Insurance market</td>
<td></td>
<td></td>
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<td>---------------------------</td>
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<tr>
<td>As New Zealanders reduce coverage or uptake of private insurance, the health costs are likely to transfer to the public system.</td>
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<tr>
<td>Increased demand for publicly funded elective services will continue to grow.</td>
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<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td></td>
<td></td>
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<tr>
<td>No mitigation or control identified</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Accident Compensation Corporation</th>
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</thead>
<tbody>
<tr>
<td>Ongoing interactions between the work of the Ministry of Health and that of ACC.</td>
</tr>
<tr>
<td>ACC initiatives, such as their current ‘falls’ programme, will help support a reduction in acute hospital presentations, support those with musculoskeletal conditions, and ultimately reduce costs. Conversely, decisions by ACC about the types of condition that they will cover will impact on other public health demand. For example, ACC recently updated advice on shoulder conditions with most now not being covered as they are considered by ACC to be degenerative in nature. Declined ACC cases are generally referred for consideration for public funding as an alternative.</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>No mitigation or control identified</td>
</tr>
</tbody>
</table>

**VOTE ANALYST COMMENT**

Please provide a brief comment on the agency’s capability to deliver the initiative and ensure that the expected outcomes are achieved.

Has your agency set out the potential barriers or roadblocks expected in implementing the initiative and whether a plan exists to mitigate these? (This could include, for example, limited supply in the market for resources required to deliver the initiative, access to the target population/self-selection issues, and/or ability of agency to contract with providers)

[Please rate this initiative red, amber or green according to your assessment of risks associated with the delivery of this initiative. Consider the size of the proposal relative to the agency’s activity, any cross agency impacts, and impacts to front-line service delivery.]
### 4.2 LEGISLATIVE AND REGULATORY IMPLICATIONS

**A. Please detail any legislative implications and whether the Regulatory Impact Assessment (RIA) requirements apply.**

No legislative implications anticipated.

### VOTE ANALYST COMMENT

[Provide an assessment of the regulatory impacts of this proposal in consultation with the Regulatory Quality team.]

### 4.3 PERFORMANCE MONITORING AND EVALUATION

**A. Performance measures/indicators.**

This initiative will be monitored through the Electives health target and the Elective and Ambulatory Initiative.

**B. Outline how the implementation and performance of the initiative will be regularly monitored.**

The Ministry’s monitoring framework evaluates DHB performance against the Electives health target on a monthly, quarterly and annual cycle. Reporting is also completed against the Crown Funding Agreement outlining the agreement for funded discharges and caseworked discharges. Results are generated directly from National Collections, and take a cumulative year-to-date view of performance against plan. Currently the Health Target performance information (as well as other key areas of focus) are reported to the Director-General of Health, and the Minister of Health regularly. Also on a quarterly basis, year to date performance against plan is examined and performance monitoring information is provided as part of the quarterly monitoring framework. DHBs report performance to their Governance Board monthly. As with all health targets, results are publicly reported by DHB.

Funding is paid quarterly on a payment-for-performance model, based on delivery of elective surgical caseworked discharges, by DHB of Auckland as per the Crown Funding Agreement.

**C. Describe the method proposed to evaluate the impact of the initiative [if appropriate].**

Evaluation activities outside of achievement of the Electives health target include:

- Quality evaluation, with existing measures around timeliness of access, patient communication, and equity of access.
- Strategy and policy reviews of specific interventions to update advice on care models and benefits (review of particular procedures or new technology)
- Development of National Patient Flow collection: as data quality is improved this collection will evolve to provide information on the number of people who are referred for a First Specialist Assessment or elective treatment, who are considered appropriate for surgery, and who don’t get access due to funding and resourcing constraints.
- The Office of the Auditor-General has evaluated Electives performance in 2011, 2013 and 2015. Reports are available on the OAG website.


### VOTE ANALYST COMMENT

Please provide a brief comment on the proposed performance monitoring and evaluation.

Will it capture the expected outcomes are achieved?
Is there a clear and quality plan for how the success of the initiative will be measured and at which points or milestones?
Appendix 1  One-page Intervention Logic

Intervention

Maintain delivery of elective surgery
Cost of $31.5m, $15.5m to maintain delivery at 2017/18 levels, and $16m for cost pressure for existing funded delivery

Maintaining delivery of elective surgical activity
Examples:
Maintain delivery of:
- hip and knee replacements
- cataract procedures
- cancer-related surgery
- cholecystectomy

Outputs

Reduced reliance on health system

Outcomes

Reduced need for social support

Impacts

Value relative to counterfactual

• Less community nurse visits
• Less GP visits
• Less people entering rest homes
• Less people fall
• Less ED presentations
• Less hospital in-patient visits
• Less ambulance call outs
• Less pharmaceutical costs
• Less hospice care

CBAx Outputs

Total NPV: $5,423 million
Societal RoI/BCR: 27.1 / 27.3