Bowel cancer screening: program expansion would reduce Medicare and PBS costs – and save lives

Proposal

- Government to announce a plan for the full implementation of the National Bowel Cancer Screening Program within the 2011-12 federal budget cycle
- The plan to be based on a shift within the next four years from one-off testing to biennial re-screening of eligible individuals
- People turning 60 and 70 to be added to the program from 1 July 2011 as an interim measure for maximum mortality and cost-saving benefit.

Why?

- Australia’s annual bowel cancer bill is set to exceed $1 billion in 2011, with a recent spike in MBS and PBS costs set to sharpen unless cost offsets from screening begin to accrue
- Only 3% of annual bowel cancer expenditure is invested in screening, despite the documented economic and social returns
- Treatment costs would be reduced by early detection through screening with low-cost faecal occult blood test (FOBT)
- FOBT is a cost-effective alternative to MBS-funded colonoscopy as a screening tool
- Continual re-screening is fundamental to any proper screening program
- Adding 60 and 70-year-olds is the best interim investment in lives saved
- A fully implemented program would prevent up to 30 deaths each week
- Implementation plan long overdue; uncertainty of National Bowel Cancer Screening Program’s future a serious concern to independent cancer control sector and jurisdictions.

Estimated investment

- $45 million per annum over the next two financial years – $30m to retain testing of people turning 50, 55 and 65; $15 million to add 60 and 70-year-olds
- Shift to biennial re-screening of participants from 2013-14, incrementally working towards full coverage by 2015-16 at a maximum cost of $140 million per annum thereafter.

Projected offsets

- Substantial reductions in PBS, MBS and public hospital expenditures, estimated in one study to reduce net annual costs of NBCSP over 10-year period to as little as $60 million.

Overview and detailed rationale follow.
Overview

Expanding the National Bowel Cancer Screening Program (NBCSP) is by far the most clinically and economically effective investment available to government at the federal level in terms of reducing Australia’s cancer disease and cost burden in both the immediate and longer term.

On recent trends, Australia’s annual bowel cancer bill is projected to exceed $1 billion in 2011, making bowel cancer the nation’s most costly malignancy in economic terms. Bowel cancer is also the second most costly neoplasm in terms of mortality, claiming more Australian lives than any other cancer except lung cancer. So, with no published budget funding for the NBCSP beyond this financial year, the nation is at a critical juncture in the future of the Commonwealth’s most important cancer control program in terms of potential social and economic benefits.

Cancer Council Australia usually recommends a range of evidence-based, cost-effective cancer control initiatives to Treasury each year, but due to the NBCSP’s unprecedented importance at this point in time, its expansion is the sole focus of our 2011-12 pre-budget submission.

There is a compelling evidence-based case for announcing a plan for full program implementation within a four-year budget cycle commencing 2011-12 and adding 60 and 70-year-olds to the program from 1 July 2011 to reduce disease burden and PBS/MBS costs in the interim. (We expect that funding constraints and some concerns about colonoscopy capacity will preclude Treasury from supporting the program’s full implementation from next financial year.)

The oncology community, public health sector and consumer groups are thus urgently awaiting an implementation plan for the National Bowel Cancer Screening Program within the next budget cycle. Three years since any expansion from the program’s tentative beginnings, interim inclusion of additional age groups is also urgently required, with 60 and 70-year-olds representing the best investment.

Cost and cost effectiveness

Estimates for the annual cost of a fully implemented national bowel cancer screening program have ranged from $39 million to $140 million.1,2,3

Even at the higher end, the program is by international benchmarks a strong public health investment.4 Multiple studies, both in Australia and internationally, have demonstrated the cost-effectiveness of bowel cancer screening.5 These estimates are likely to be conservative in Australia in particular, due to recent increases in the costs of not screening the recommended age cohort, as documented here.

One of the most comprehensive reports, released in 2008 by the Cancer Institute NSW, showed that biennial population screening of Australians aged 50 to 74 with faecal occult blood testing (FOBT) was a strong public health investment.6 For context, while Cancer Council Australia emphatically supports the demonstrated benefits of current screening programs for cervical and breast cancer, the NSW Cancer Institute study showed that bowel cancer screening is an even stronger investment in cost-effectiveness terms.7

A study published in the Medical Journal of Australia in October 2009 reported that, even in its current nascent form, the National Bowel Cancer Screening Program was highly effective in identifying early-stage tumours that are easier and far less expensive to treat.8
Data published since the release of these reports and in a study awaiting publication shows the cost offsets available through a fully implemented NBCSP have increased substantially. Key drivers of these potential offsets include the listing of new high-cost drugs for advanced bowel cancer, which in most cases would not be required in patients whose cancer or precancerous condition is detected through screening and treated in earlier stages.

A report developed for the Commonwealth Department of Health and Ageing, having been peer-reviewed and currently being prepared for publication, estimates that the potential cost offsets available to the program over 10 years could reduce the annual new investment required for full implementation to as low as $60 million – only $30 million in addition to the current allocation.

The cost-effectiveness case for an expanded NBCSP from 2011-12 is as follows.

Checking a blow-out in medical expenditure

The cost of bowel cancer to Australia’s health system is expected to reach $1 billion in 2011, a four-fold increase over the past decade.

There are a number of reasons for this, including population ageing (equating to increased bowel cancer incidence), the listing of new high-cost drugs for advanced bowel cancer and a continuing spike in colonoscopy usage. A substantial cost component is also incurred in the public hospital sector.

It is important to note that the NBCSP’s introduction is not reported as a contributor to the increased costs. As this submission shows, the program’s expansion has the potential to check a number of the identified trends for the escalating health system expenditure.

For example, PBS subsidy of drugs such as Bevacizumab, Oxaliplatin and Irinotecan totalled $70 million in 2009-10, part of a 50% increase in overall PBS costs for bowel cancer drugs over the past three financial years. The majority of early-stage bowel cancers and all precancerous conditions detected through FOBT screening require no high-cost chemotherapy.

Expanded screening therefore offers substantial PBS savings, with benefits expected to accrue as projected increases in bowel cancer incidence and associated PBS costs are checked. The NBCSP, despite its limited availability, is already detecting double the number of early-stage cancers as those presenting in symptomatic patients.

On an individual basis, recent estimates suggest that the lifetime costs of care for metastatic bowel cancer in Australia have increased from $6000 to more than $70,000, which includes a substantial PBS and Medicare component.

Screening reduces the proportion of people incurring the bulk of these costs (those with metastatic disease at diagnosis) from 18% to 3% and increases the proportion of those with local disease (Dukes Stage A) from 17% to more than 40%. On this basis, with around 9000 cases of bowel cancer expected in 2010 in people aged 50-74, even a 10% conversion from advanced disease to local disease could be expected to save $27 million in medical costs.
In addition, by detecting precancerous conditions requiring only surgical rather than medical intervention, screening decreases overall bowel cancer incidence by 10-20%, also substantially reducing the number of patients likely to require high-cost PBS drugs.

**Inappropriate colonoscopy use drains budgets, capacity**

Medicare expenditure for colonoscopy without polyp removal – the MBS service most commonly used as a high-cost screening tool instead of FOBT – was more than $71 million in 2009-10. This is almost double the $31.6 million in MBS expenditure for this item 10 years ago, with the trend projected to continue on an increasingly upward curve. This figure does not include related additional Medicare expenditure for anaesthetists providing sedation/anaesthesia – which adds around $260 per insured patient and $150 for non-insured patients.

Importantly, the NBCSP is unlikely to be the cause of this increase. As noted in a draft review recently released by the Department of Health and Ageing, the spike in MBS colonoscopy expenditure had been observed in age groups outside the NBCSP specific age targets; and the trend also began before the NBCSP commenced.

An expanded and properly run NBCSP would cut unnecessary Medicare colonoscopy costs, with estimates that around 15% of MBS-funded colonoscopy services are being utilised inappropriately as a screening tool. (Colonoscopy, at around $1350 per service, is in economic terms an inappropriate screening tool in asymptomatic people compared with a $30 FOBT kit.)

More than 500,000 colonoscopies are performed each year in Australia, with the majority occurring in adults 50-74. The number is increasing by 40,000 annually. While there are some concerns about colonoscopy capacity meeting the needs of a complete NBCSP, more appropriate use of current colonoscopy services – adhering to NHMRC surveillance guidelines – would reduce the risk of lengthy waiting lists of people testing positive for FOBT.

In recognition of the need to review MBS colonoscopy utilisation, the Commonwealth Department of Health and Ageing is conducting an evidence-based analysis of literature relevant to MBS colonoscopy item numbers 32090 and 32093, to clarify the role of the services in view of current clinical practice. A fully implemented NBCSP would provide greater clarity and enable the application of guidelines for colonoscopy use that would free up capacity for the program and cut unnecessary Medicare expenditure.

**Reducing hospital costs**

Bowel cancer accounts for by far the largest proportion of hospital inpatient costs of any cancer diagnosed in Australia. Data from 2006-07 shows that 52% of 30,000 bowel cancer hospital admissions for that year were in the public system.

Given the substantial cost differential between treating early and late-stage bowel cancer, there are significant opportunities for the Commonwealth and state-territory governments to pre-empt high-cost taxpayer-funded bowel cancer hospital expenditures through an expanded NBCSP. For example, removing a precancerous polyp detected through screening costs around $1350, while treatment at a public hospital for cancers that develop from polyps can cost more than $23,000 per case.
Announcing a plan and expanding the target age range

Under the WHO principles of screening, the National Bowel Cancer Screening Program is not valid until it moves from one-off faecal occult blood testing to continual (biennial) screening for the indicated age group – which for the NBCSP is everyone aged 50 and over. A plan for full implementation is therefore urgently required to uphold the program’s integrity and protect its long-term future.

However, in recognition that full implementation is unlikely to be deemed achievable within the next two years and that maximum lives saved must be the interim priority, we call on Treasury to provide funding for the program’s continuation in its current form and include 60 and 70-year-olds from July 1 2011, while planning for long-term implementation.

Our analysis of the current program’s effectiveness based on large studies indicates that adding 60 and 70-year-olds to the target group would detect at early stage 632 cancers (417 in 70-year-olds and 206 in 60-year-olds) each year, added to the 527 cancers the program is detecting among its established age cohort. In addition, participation in the NBCSP is substantially higher in 65 year-olds compared with 55 and especially with 50 year-olds – and it should be equally high in 60 and 70 year-olds. Also, prevalence of cancer increases progressively with advancing age. In combination, these two factors make it most appropriate to add the two older age groups to the program. (These figures do not include the substantial economic and social gains that would also be derived from removing potentially cancerous polyps in 60 and 70-year-olds.)

With the chances of surviving bowel cancer around 87% if it is detected early through FOBT, compared with as low as 12% for advanced cases, expansion to the program is an urgent life-saving priority. This differential in survival is also reflected in PBS and hospital costs. There are few public health investments capable of this level of immediate return, particularly in a cost-effective program that government has already committed to fully implementing. Lives and money saved are entirely a matter of timing and investment; the evidence is clear.

With only 3% of annual bowel cancer expenditure invested in screening, and the NBCSP awaiting renewed funding, the 2011-12 federal budget provides an opportunity for the Australian Government to demonstrate its commitment to reducing the impact of cancer in Australia by expanding its most important cancer initiative in the current policy environment.

Responsibility for the content of this pre-budget submission is taken by the Chief Executive Officer of Cancer Council Australia, Professor Ian Olver.

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References


5 Ibid.


15 Unpublished data, Biogrid Australia.


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29 Clinical practice guidelines for the prevention, early detection and management of colorectal cancer, National Health and Medical Research Council, 2006.