

Original Article

Economic comparison of weight loss programmes versus drug treatment for the management of obesity

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The prevalence of obesity in the Australian adult population has increased from 8.1% in 1981 to 18% in 1995 and 20.5% in 2000. Similarly, the estimated cost of obesity has risen from \$840 million in 1992/93 to \$1,520 million in 2003. This cost includes both the direct health care costs and the indirect costs associated with lost production due to premature death and absenteeism. There are a number of options available in the fight against obesity. One proposal is for a Government policy that supports weight reduction programs. Another method that is likely to gain public support is the use of weight loss pills. This study shows that the weight reduction programs proposal is superior in terms of both economic and budget impacts. Weight reduction programs, such as Weight Watchers, could be supported with a government rebate. This proposal was previously analysed by Econtech in a report of July 2003 and the results are reviewed here. New weight loss pills could be supported through their listing on the PBS. This report analyses this proposal for the first time. For weight reduction programs, the expected social (or total) benefit per enrolment of \$623 is greater than the expected social cost of \$195, implying a social net benefit of \$428, and a social benefit to cost ratio of 3.2. So weight reduction programs easily pass a cost-benefit test. As a point of comparison, for weight loss pills, the expected social benefit per patient of \$397 to \$953 compares with expected social cost of \$840, implying a social net benefit of between -\$443 (net loss) and \$113 (net benefit), and a social benefit to cost ratio of between 0.5 and 1.1. So even using optimistic assumptions, weight loss pills only barely pass a cost-benefit test. So weight reduction programs are far more economic than weight loss pills — the balance between social benefits and costs is much more favourable. This is because while both approaches are expected to deliver broadly similar benefits, weight reduction programs are far cheaper than weight loss pills. Government budget impacts were also estimated for the two alternative policies. For the rebate for weight reduction programs, the estimated annual gross cost to the budget is \$52 million to \$80 million. This reduces to a net cost of \$27 million to \$41 million after taking into account the savings to the health budget from a less obese population. For the PBS listing of weight loss pills, the estimated annual gross cost to the budget is \$292 million. This reduces to a net cost of \$87 million to \$206 million after taking into account the savings to the health budget from a less obese population. This implies that weight reduction programs deliver far better value for the budget dollar than weight loss pills. The budget cost of the rebate for weight reduction programs per enrolment is far less than the budget cost of the PBS benefit for weight loss pills per treatment. Weight reduction programs offer a net social benefit of \$1.5 per \$1 of net budget cost of the rebate. Weight loss pills offer a net social benefit of between minus \$1 and plus \$0.6 per \$1 of net budget cost of the PBS listing. The key comparative results for the two programs are summarised in Charts 3 for the low case and Chart 4 for the high case. These are broad estimates only. More precise estimates would require a detailed analysis.

Key words: obesity, weight reduction programs, weight loss pills, weight management, Weight Watchers, Australia

Introduction

The prevalence of obesity in the Australian adult population has increased from 8.1% in 1981 to 18% in 1995 and 20.5% in 2000. Similarly, the estimated cost of obesity has risen from \$840 million in 1992/93 to \$1,520 million in 2003.

The US National Heart, Lung and Blood Institute (NHLBI, 1998) states that weight reduction programs are one of a variety of effective options for the management of overweight and obese patients. Besides low calorie diets, these options for reducing the prevalence of obesity include altering physical activity patterns, behaviour therapy, pharmacotherapy (such as weight loss pills) and surgery.

One proposal that is currently being discussed in Australia is for a Government policy that supports weight reduction programs. As a point of reference, this report also analyses another method that is likely to gain public support. This method involves the use of weight loss pills—which could also be subsidised by the Government through the Pharmaceutical Benefits Scheme (PBS). This study shows that the weight reduction programs proposal is

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superior in terms of both economic and budget impacts.

The “Weight Reduction Program strategy” is a proposal for a rebate for weight reduction programs. Under the proposal, a rebate of 85 % of the approved fee¹ would be payable for approved weight reduction programs. This rebate would be in recognition of the role of such programs in reducing the prevalence of obesity, a disease that has high direct and indirect health costs. The results for this strategy are drawn from an earlier report by Econtech for CrosbyTextor titled “Budget and Economic Impact of a Rebate for Weight Reduction Programs”, July 2003.

Turning to weight loss pills, there are a number of new pills, such as Rimonabant, that are expected to become available to the public (through prescription) over the next few years. If the introduction of cholesterol lowering pills are anything to go by, these new weight loss pills are likely to be in high demand and there will be pressure on the government to include these pills on the PBS. Thus, this report also examines the impact of the introduction of new prescription weight loss pills that are supported by the PBS.

An economic assessment of any weight reduction strategy involves comparing its costs and benefits. The strategy passes an economic assessment if the benefits exceed the costs. This report presents only a broad analysis of the economic and budget impacts. This is intended to provide a general comparison between the proposed Weight Reduction Program strategy and the impact of the introduction of the new weight loss pills. A detailed analysis to achieve greater accuracy in the estimates would be a complex and lengthy undertaking. An example of the type of modelling that would be used in a detailed analysis is the NATSEM Cost-Benefit Model of Diabetes Prevention and Care, Australia of Walker *et al.*, (2002).

This report is structured as follows.

- Prevalence of obesity in Australia and its estimated annual cost.
- Review of the results of the Weight Management Program strategy.
- Broad estimates of the costs and benefits from the introduction of weight loss pills.
- Comparison of the two weight reduction methods in terms of social benefits and costs and costs to government.

While all care, skill and consideration has been used in the preparation of this report, the scope of this report is based on the advice of CrosbyTextor and it is designed to be used only for the specific purpose set out below.

The specific purpose of this report is to provide broad estimates of the economic and budget impacts of the introduction of a weight loss pill on the PBS, and compare this to the proposal to provide a rebate for weight reduction programs.

The findings in this report are subject to statistical variation. This statistical variation could be reduced, but not eliminated, by conducting a detailed analysis, as distinct from the broad analysis undertaken here.

Prevalence and costs of obesity in Australia

Econtech’s report for CrosbyTextor titled “Budget and Economic Impact of a Rebate for Weight Reduction Programs”, July 2003 (referred to henceforth as “the first Econtech report”) analysed the prevalence and costs of obesity in Australia. This section replicates that analysis.

The prevalence of obesity in the Australian adult population has been rising steeply. It has increased from 8.1% in 1981 to 18% in 1995 and 20.5% in 2000 (Cameron-Smith *et al.*, 2002; Australian Bureau of Statistics, 1997). This means that the number of obese adult Australians rose from about 0.8 million in 1981 to 2.3 million in 1995 and 2.9 million in 2000.

According to the NHMRC (2002), “the estimated cost of obesity in 1992/93 was \$840 million per year, of which 63% can be attributed to the health system”. Since 1992/93, the number of obese adults is estimated to have risen from 2.0 million to 3.0 million, while the price of health services has risen by 20%. Applying both of these factors, Econtech estimates the cost of obesity in 2003 to be \$1,520 million. Of this amount, \$960 million would take the form of direct health costs, and \$560 million would be indirect health costs.

This implies a prevalence cost per year for each obese adult of \$500. This was calculated as the estimated total prevalence cost for 2003 of \$1,520 million, divided by the estimated number of obese adults in 2003 of 3.0 million.

The above represents only a broad update to 2002/03 of the original NHMRC estimates for 1992/93. A detailed analysis would construct cost estimates for 2003 by consistently applying the original methodology to current data.

These estimates refer to the contribution of obesity to the costs of the following diseases (Segal, Carter and Zimmet, 1994):

- non-insulin dependent diabetes mellitus;
- gallstones;
- hypertension;
- breast cancer;
- colon cancer;
- coronary heart disease; and
- obesity itself.

The direct health costs include hospital admissions, hospital days, medical consultations, pharmaceutical scripts, and referrals to allied health practitioners. Most of these costs are met by Commonwealth and State Governments, while the remainder are met by individuals. The indirect health costs refer to the value of production lost due to premature death and absenteeism.

With the annual cost from obesity now estimated at \$1,520 million per year, intervention strategies for reducing the prevalence of obesity are important. In assessing any intervention strategy, it is necessary to weight up its costs and benefits. This report now reviews the Econtech analysis of the costs and benefits of a weight reduction program such as Weight Watchers, and compares this to a broad estimate of the costs and benefits of using weight loss prescription medication, such as Rimonabant.

¹ This is based on a Government Rebate of 85%, which is in line with the current Medicare rebate rate.

Review of proposed rebate on weight reduction programs

The first Econtech report examined one proposed intervention strategy (the “Weight Management Programs strategy”). This strategy proposed that a rebate for approved weight reduction programs should be introduced. The main results from the first Econtech report are summarised below.

The first Econtech report used a Weight Watchers 12-week package deal to illustrate the impacts of the Weight Reduction Programs strategy. The Weight Watchers 12-week package deal involves a joining fee of \$33 and a package fee for a 12-week program of meetings of \$162, giving a total fee of \$195 per enrolment (Weight Watchers, 2003).

To assess the Weight Reduction Programs strategy, its expected benefits in the form of cost savings from reduced prevalence of obesity were estimated. These benefits were then weighed against the *indicative cost of \$195 per enrolment*.

Thus the next step in the Econtech analysis was to estimate the benefit from each enrolment in a weight reduction program. The analysis argued that it is important to measure the benefits based on the incidence of lasting weight reductions, rather than the incidence of short-term weight reductions.

In a literature review by Asp *et al.*, (2002), it was found that one fifth or 20% of those who follow a weight watchers program achieved a lasting weight loss of at least 10%. In the first Econtech report, this information was used to estimate a ‘lasting control’ rate for obesity. To do this, the initial rate of 20% was discounted for two factors.

- First, not everyone who enrolls in a program follows the program, whereas the 20% figure refers only to those who do reach their goals.
- Second, not everyone who achieves a weight loss of over 10% will have achieved lasting control of obesity. Some will still be obese despite their substantial weight reduction, while others will have only been overweight rather than obese to begin with.

Based on these considerations, as a “ball park” estimate, the 20% estimate of substantial lasting weight loss for those who follow a program was discounted to a 10% ‘lasting control’ rate for obesity per enrolment.

The benefit from each enrolment in a program depends not only on the program’s lasting control rate for obesity, but also on the value of each lasting control. The starting point for estimating the value of each ‘lasting control’ is the estimate of a prevalence cost per year for each obese adult of \$500. In crude terms, an adult achieving a ‘lasting control’ of obesity will remove this prevalence cost for the balance of that person’s life.

Thus, the value of a lasting control of obesity was broadly estimated at \$6,227. This is based on an assumed residual life expectancy of 20 years, and the prevalence cost of \$500 per year, which gives a gross value in avoided costs of \$10,000. This is reduced to a present

value of \$6,227, after applying a *real time* rate of discount to future cost savings of 5% per year.²

Based on the estimated lasting control rate for obesity, per enrolment, of 10%, and the present value of each lasting control of obesity of \$6,227, *the expected benefit per enrolment in an illustrative weight reduction program is \$623*.

The final step in the Econtech analysis was to compare the benefits and costs of enrolments in weight reduction programs.

- It was estimated that the average benefit is \$623 per enrolment.
- The cost per enrolment in an illustrative program was reported as \$195.
- Thus the net benefit per additional enrolment is estimated at \$428³ (\$623 - \$195).

The total benefit also depends on the number of additional enrolments induced by the proposed rebate. The first Econtech report presented two sets of estimates. The low case used current annual enrolments in Weight Watchers (225 thousand) as a starting point while the high case used Weight Watchers’ projected annual enrolments in 5 years time (346 thousand) as its starting point. Weight Watchers estimates that the proposed rebate may increase its enrolments by 40%. This represents: an additional 90 thousand annual enrolments under the low case; or

- an additional 139 thousand annual enrolments under the high case.

Thus the first Econtech report estimated that the annual net benefit of the Weight Reduction Programs strategy to the nation of the proposal was between \$38 million and \$59 million⁴.

As discussed in the first Econtech report, on public policy grounds, this net benefit to the nation is the appropriate indicator for assessing the proposal, not the net cost to government.

The net cost to government is an inappropriate indicator for two reasons. First, it inappropriately excludes cost savings that are received by the private sector. Second, it inappropriately includes transfers from the government to the private sector that don’t affect national income, specifically the rebates paid to people who would have enrolled irrespective of the proposed rebate.

Nevertheless, the net cost to government is always a matter of interest to government and so the first Econtech report also estimated this cost. The annual net cost of the proposal to government was estimated at between \$26 million and \$39 million.

² This is the same as increasing the 2003 cost estimate of \$500 by 2.5% (inflation rate) per year and then discounting the total using a *nominal* rate of discount to future cost savings of 7.5% per year.

³ This is a broad estimate only. For full details of the analysis, refer to the first Econtech report.

⁴ This is calculated as the estimated number of additional annual enrolments of between 90 thousand and 139 thousand times the estimated net benefit per enrolment of \$428.

Analysis of the impact of inclusion of weight loss pills on the PBS

As a point of reference, this report now examines the costs and benefits of using weight loss pills to control obesity. There are a number of new weight loss pills, such as Rimonabant, that are expected to become available to the Australian public (through prescriptions) over the next few years. If the introduction of cholesterol lowering pills are anything to go by, these new weight loss pills are likely to be in high demand and there will be pressure on the government to include these pills on the Pharmaceutical Benefits Scheme (PBS). Thus, this report now analyses the costs and benefits associated with the introduction of new PBS supported prescription weight loss pills for obese patients.

With the introduction of these new weight loss pills, it is assumed for this analysis that the prescription weight loss medication will be, initially at least, limited to high-risk patients. This is in line with the recommendations of the United States National Institutes of Health (NIH, 1996).

"Prescription appetite suppressants should be used only in patients who are at medical risk because of their obesity and are not recommended for 'cosmetic' weight control"

Cost per patient

To analyse the costs and benefits of the new weight loss pills, it is first necessary to establish the costs of the medication. In the previous section, it was relatively simple to estimate the cost per patient of a weight reduction program by using the current costs of a representative program as an indicator.

In contrast, estimating the cost of a weight loss pill program is more illusive. This is because many of the new weight loss pills, such as Rimonabant, are still in the testing phases and, as such, are not currently sold in the Australian market. However, a brief internet search⁵ indicates that other weight loss pills already available, such as Xenical and Reductil, sell in Australia for around \$115 for a monthly program. Further, the Weight Management Council of Australia suggest that PBS medication, such as cholesterol-lowering and blood pressure medication, show a total cost range of between \$60 and \$80 per month. For this broad analysis, we have conservatively set our price estimate in line with the comparative cholesterol-lowering medication, and hence use an estimate of \$70 per month for the cost of the new prescription weight loss pills.

The other complication in analysing the introduction of new prescription weight loss pills is establishing the length of time that the medication is required. Recent studies on new weight loss pills, such as Rimonabant, have focused on a 12 month period of use. This analysis examines the case where a treatment is defined as 1 year in length, in line with the length of the initial studies on the new weight loss medications and their effects on obesity. Thus the average cost of a treatment of weight

loss pills is conservatively estimated at \$840 per patient, being 12 months at \$70 per month.

Benefit per patient

To assess the impact of introducing new weight loss pills supported by the PBS, the expected benefits in the form of cost savings from reduced prevalence of obesity need to be estimated. These benefits can then be weighed against the conservative cost estimate of \$840 per patient.

As such, this section is concerned with estimating the benefit from the weight loss pills. Studies show that weight loss pills often achieve short-term reductions in weight. However, the benefits from such programs depend not on the incidence of short-term weight reductions, but rather on the incidence of lasting weight reductions.

Results from a study on the impact of Rimonabant (sanofi-synthelabo press release, 2004), released earlier this year, suggest that it is an effective treatment for weight loss. This study examined 1,036 patients with dyslipidemia⁶ and a body mass index (BMI) of between 27 and 40 kg/m². Patients were randomly assigned to either Rimonabant or placebo groups. Patients were also told to reduce their calorie intake by 600 calories a day and were given nutritional guidance with diets.

This study found that, over 12 months, 44.3% of patients treated with 20mg of Rimonabant per day lost more than 10% of their body weight, compared to 10.3% of patients on placebo. So, it can be assumed that 10.3% of the weight loss in patients taking Rimonabant can be attributed to their calorie and nutrition instruction, with the remaining 34% attributable to the weight loss medication.

While the current trials have only spanned 12 months, it is hoped that the use of a weight loss drug such as Rimonabant may provide a lasting control for obesity. However, it is argued that many patients will regain their lost weight with the finish of the treatment. Thus, this report presents two sets of estimates. The low case assumes that 25% of participants maintain their new weight after the treatment is finished. This is boosted to 60% in the high case.

So, for this analysis, it is estimated that between 9% (34% x 25%) and 20% (34% x 60%) of those who use weight loss medication, such as Rimonabant, achieve a lasting weight loss of more than 10% of their body weight. For the purposes of this report, this needs to be converted to a 'lasting control' rate for obesity.

Not everyone who achieves a weight loss of over 10% will have been cured of obesity. Some will still be obese despite their substantial weight reduction. Based on these considerations, the estimated 9 to 20% range of lasting weight loss for those on Rimonabant has been discounted to a 6 to 15% 'lasting control' rate for obesity per patient. It is acknowledged that this is a "ball park" estimate only.

The benefit from each weight loss pill treatment depends not only on the treatment's obesity 'lasting control' rate, but also on the value of each lasting control. This was calculated in the first Econtech report and

⁵ <http://www.pharmacydirect.com.au>,
<http://www.onlinepharmacy.com.au>

⁶ high triglycerides and/or high total cholesterol/HDL cholesterol ratio.

Table 1. Low Case: Annual Net Cost to Government

Gross Cost		Savings Offset	
Patients	455,100	Benefit per patient	\$397
Total cost per patient	\$840	Direct Benefit (63%)	\$250
Govt (PBS) cost per treatment	\$641	Gov't Direct Benefit (75%)	\$188
		Patients	455,100
Cost (\$ million)	\$291.6	Offset (\$ million)	\$85.4
Net Cost (\$ million)		\$206.2	

Table 2. High Case: Annual Net Cost to Government

Gross Cost		Savings Offset	
Patients	455,100	Benefit per patient	\$953
Total cost per patient	\$840	Direct Benefit (63%)	\$601
Govt (PBS) cost per treatment	\$641	Gov't Direct Benefit (75%)	\$451
		Patients	455,100
Cost (\$ million)	\$291.6	Offset (\$ million)	\$205.0
Net Cost (\$ million)		\$86.6	

reviewed earlier. The value of achieving a lasting control for obesity is broadly estimated at \$6,227, the same figure that was used in assessing the cost and benefits of weight reduction programs. This benefit includes both direct benefits through reduced health care costs, and indirect benefits through reduced absenteeism and reduced incidences of premature death. As discussed in the first Econtech report, these estimates are broad. A more detailed analysis would consider the epidemiology of obesity and associated diseases and project on a year-by-year basis the impact of the proposed intervention.

The expected benefit per patient in an illustrative weight loss pill treatment can now be estimated. Based on the estimated 'lasting control' rate per patient of between 6 and 15%, and the present value of each lasting control of obesity of \$6,227, the expected benefit is between \$397 and \$953. This expected benefit can now be balanced against the associated costs.

Benefits versus Costs

The benefits and costs of enrolments in weight reduction programs can now be compared. Earlier in this paper, it was estimated that the average benefit is between \$397 and \$953 per patient and that the cost per patient in an illustrative treatment was reported as \$840. This means that under the assumption of lower probability of lasting weight loss, the illustrative weight loss pills treatment provides a significant average net loss of \$443 per patient. At the other extreme, under the assumption of a high probability of lasting weight loss, the illustrative weight loss pills treatment provides an average net benefit of \$113 per patient.

The total cost/benefit also depends on the number of people accessing the treatment. As mentioned earlier, it has been assumed for this broad analysis that the prescription weight loss medication is limited to high-risk

patients. The total number of obese adults in Australia is estimated at around 3 million (2000). If 15% of these accessed the treatment per year, this gives an estimated 455 thousand patients each year. This is broadly comparable to the 346 thousand annual enrolments projected for Weight Watchers in the first Econtech report.

The annual net benefit to the nation of the proposal is therefore estimated at between — \$202 million (net cost) and \$51 million (net benefit). This is calculated as the estimated number of annual patients of 455 thousand times the estimated net benefit per patient of between - \$443 (net cost) and \$113 (net benefit).

Net Cost to Government

As discussed in the first Econtech report, on public policy grounds, the net benefit to the nation is the appropriate indicator for assessing the introduction of the new weight loss pills, not the net cost to government. Nevertheless, the net cost to government is always a matter of interest to government and so that issue is now considered.

The estimated annual net cost to government of the proposal is broadly estimated in Tables 1 and 2. Table 1 shows results for the low case, while Table 2 shows results for the high case. The gross cost and the savings offset for government are now discussed in turn.

The gross cost to government depends on the number of patients undergoing the treatment and the gross cost per patient. As discussed previously, it has been estimated that annual patient numbers could be around 455 thousand.

By accessing the medication under the PBS, this would mean that the co-contribution from patients would be limited to between \$4.60 (for concession card holders) and \$28.60 (for general patients) per pre-prescription, from January 2005 (Department of Health and Ageing). If each

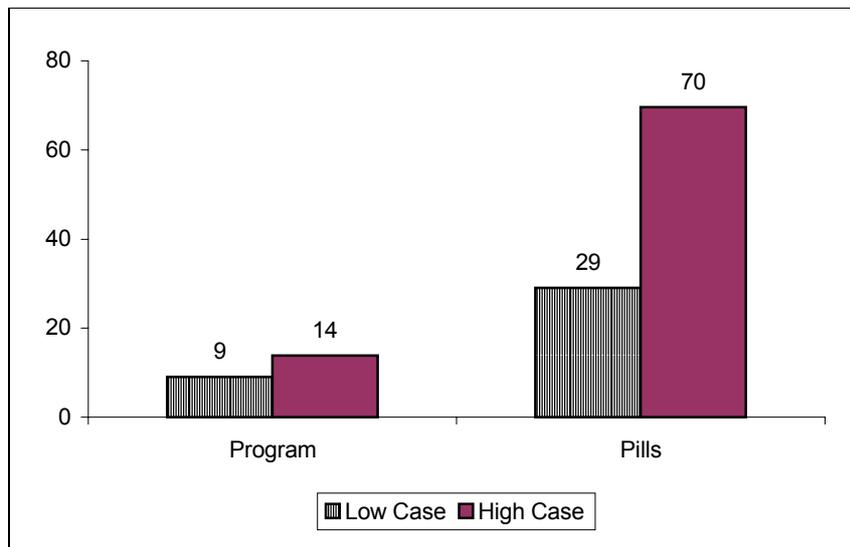


Chart 1. Budget Net Cost (\$ million)

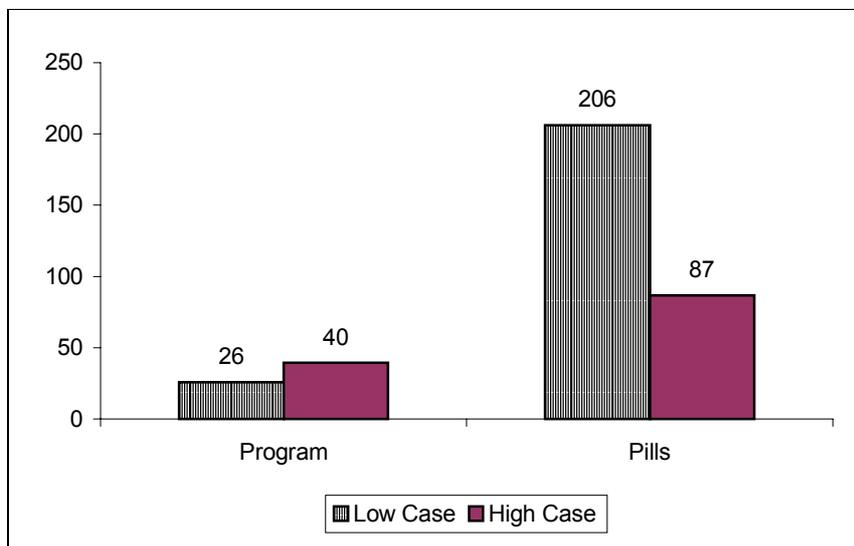


Chart 2. Number of new patients/enrolments who achieve lasting weight control (thousand persons)

prescription covers pills for 1 month, this converts to an annual co-contribution of between \$55.20 and 343.20. Thus the weighted average⁷ co-contribution is estimated at \$199.20 per patient. This means that the estimated cost to government per treatment is \$641, which is the total cost of \$840 reduced by the estimated \$199.20 co-contribution. Applying this estimated government cost per treatment to the number of patients gives an annual gross cost of \$291.6 million, as shown at the bottom of the left-hand columns of both Tables 1 and 2.

The savings offset is that part of the saving in obesity costs that is received by government. The total saving (benefit) was estimated at between \$397 and \$953 per patient. However, only 63% or between \$250 and \$601 of this amount represents savings in direct health costs, the other 37% taking the form of regaining production lost from absenteeism and premature death. Further, the government does not receive all of the saving in direct health costs, as some is received by individuals.

For the broad estimates in this report, the government share of the saving in direct health costs is put at 75%, implying a saving of between \$188 and \$451. Applying the saving per patient to the estimated number of patients of 455 thousand gives an annual saving to government of between \$85.4 million and \$205 million, as shown at the bottom of the right-hand columns of Tables 1 and 2 respectively. Thus the annual net cost of the proposal to government is estimated at between \$206.2 million (low control rate case) and \$86.6 million (high control rate case). This is the difference between the gross cost and the savings offset reported at the bottom of Tables 1 for the low case and Table 2 for the high case.

Comparison between the weight management program strategy and the introduction of weight loss pills

This report compares the impact of the Weight Management Program strategy with the impact of the introduction of the new prescription weight loss pills.

⁷ based on PBS data from the Department of Health and Ageing.

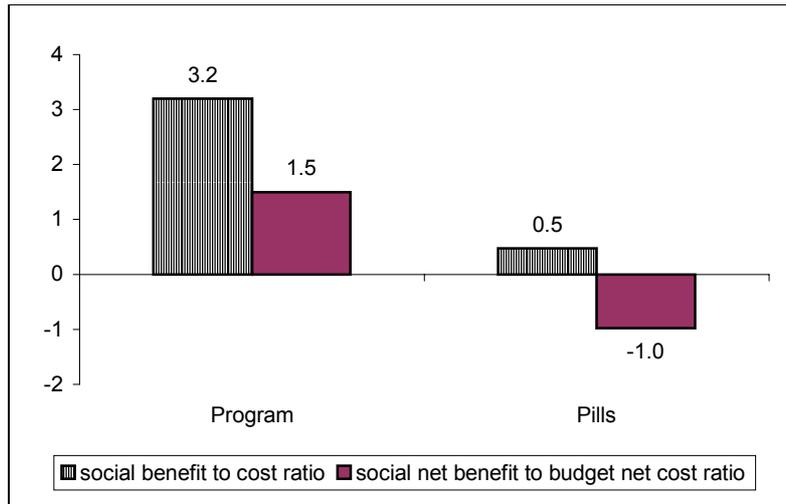


Chart 3. Comparison 1 - Low Case

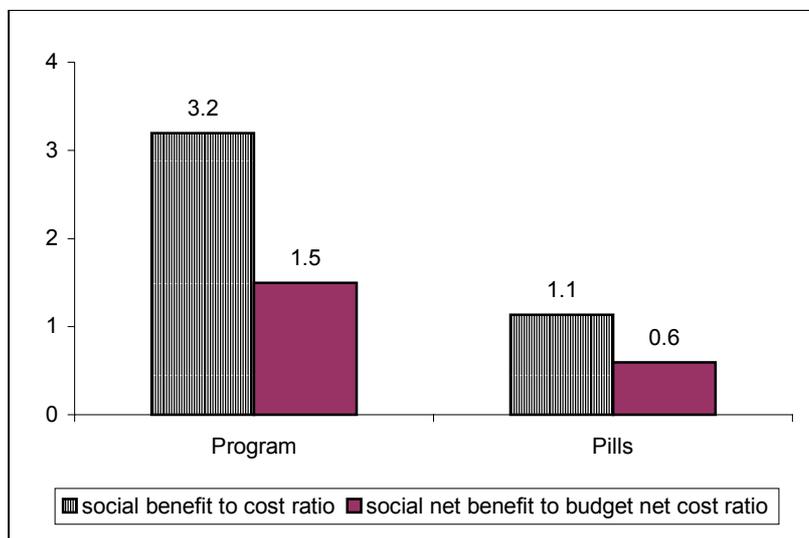


Chart 4: Comparison 2 - High Case¹

The first chart examines the net cost to Government of the proposed Weight Management Program strategy referenced against the impact of the introduction of new weight loss pills that are supported by the PBS.

Chart 1 shows that the Net Cost to Government for the proposed Weight Management Program strategy is estimated at between \$26 million and \$40 million, depending on the number of new enrolments as a result of the rebate.

As a point of comparison, the introduction of the new weight loss pills on the PBS is expected to cost the Government between \$87 million and \$206 million, depending on the number of patients expected to achieve lasting weight control. The lower the number of patients achieving lasting weight control (low case), the higher the net cost to Government (as discussed earlier).

While these are broad estimates only, it is clear that the net cost of the pills are likely to be significantly higher than the net budget cost of the proposed Weight Management Program strategy.

The net budget cost needs to be weighed up against the number of people who are expected to achieve lasting weight control from the proposed Weight Management

Program. Chart 2 shows the estimated number of people who achieve a 'lasting control' under proposed Weight Management Program. Again, the introduction of the new weight loss pills on the PBS is provided as a point of comparison. Chart 2 shows that the proposed Weight Management Program strategy is expected to lead to between 9 thousand and 14 thousand additional people achieving lasting weight control. This is compared to the case where there is no rebate on the price of Weight Management Programs.

As a point of reference, the new weight loss pills are expected to lead to a greater number of people achieving lasting number of current enrolments, which are not included in the chart above.

However, in analysing the overall impact of the new Weight Watchers Program strategy and the weight loss pills, two particular comparisons are useful.

- The first comparison is through a social benefit⁸ to social cost ratio – this compares the economic impacts of the two programs.

⁸ Social Benefit refers to the total savings to the Nation from the reduction in obesity related costs. These include direct savings in health

- The second comparison is through a net social benefit to net budget cost ratio – this compares the budget impacts of the two programs.

The results for the new prescription weight loss pills are presented as a range. Chart 3 presents the lower estimates, while Chart 4 shows the upper estimates.

The first ratio (the striped bars) in Charts 3 and 4 compares the weight loss pills (“Pills”) with the Weight Management Program Strategy (“Program”) in terms of policy merits. That is, it looks at the amount of benefit that arises per dollar in cost.

For weight reduction programs, the expected social benefit per enrolment of \$623 is greater than the expected social cost of \$195, implying a social net benefit of \$428, and a social benefit to cost ratio of 3.2. So weight reduction programs easily pass a cost-benefit test.

For weight loss pills, the expected social benefit per patient of \$397 to \$953 compares with expected social cost of \$840, implying a social net benefit of between -\$443 (net loss) and \$113 (net benefit), and a social benefit

to cost ratio of between 0.5 and 1.1. So even using optimistic assumptions, weight loss pills only barely pass a cost-benefit test.

So weight reduction programs are for more economic than weight loss pills — the balance between social benefits and costs is much more favourable. This is because while both approaches are expected to deliver broadly similar benefits, weight reduction programs are far cheaper than weight loss pills.

On public policy grounds, the net social benefit is the appropriate indicator for assessing the proposal, not the net cost to government.

As discussed previously, the net cost to government is an inappropriate indicator for two reasons. First, it inappropriately excludes cost savings that are received by the private sector. Second, it inappropriately includes transfers from the government to the private sector that don’t affect national income, specifically the rebates paid to people who would have enrolled irrespective of the proposed rebate.

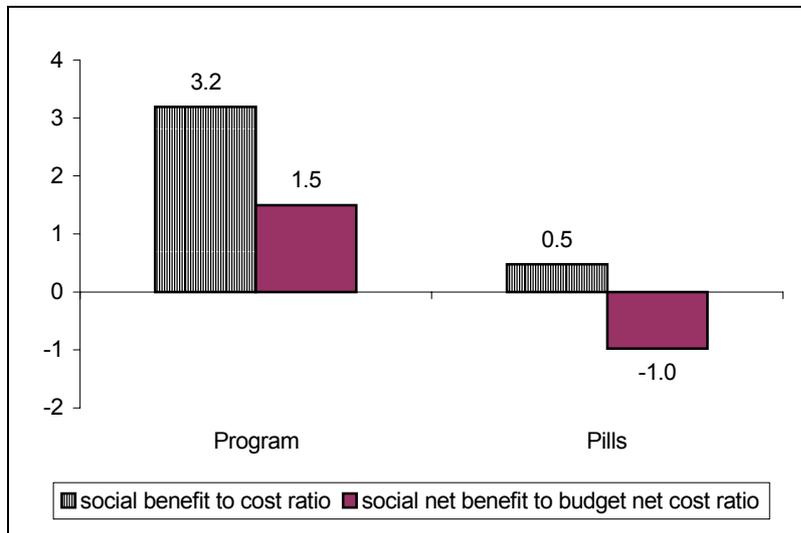


Chart A. Comparison 1 - Low Case

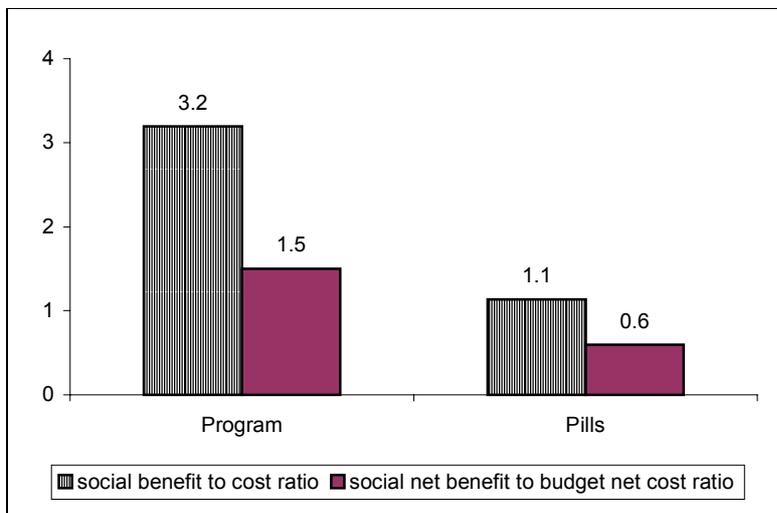


Chart B. Comparison 2 - High Case

Nevertheless, the net cost to government is always a matter of interest to government and so that issue is now considered

This implies that weight reduction programs deliver far better value for the budget dollar than weight loss pills. The budget cost of the rebate for weight reduction programs per enrolment is far less than the budget cost of the PBS benefit for weight loss pills per treatment. Weight reduction programs offer a net social benefit of \$1.5 per \$1 of net budget cost of the rebate. Weight loss pills offer a net social benefit of between minus \$1 and plus \$0.6 per \$1 of net budget cost of the PBS listing.

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