Financial incentives for weight loss by private health insurers

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The intervention

- Financial incentives for weight loss ($200 cash payment per year for 5 years, contingent on meeting weight loss and subsequent weight maintenance goals) provided by private health insurers (PHIs) alongside an initial 1 year commercial weight loss program (WLP).
- PHI members who are overweight or obese and have extras/ancillary cover would be eligible for this intervention.

What we already know

- Many Australian PHIs offer subsidises for commercial WLPs for members with extras cover.
- Systematic reviews have shown that incentivising weight loss as part of a WLP increased uptake and increased weight loss compared to non-incentive programs[1].
- Weight is often regained post-WLPs. It is unclear whether incentives could help maintain weight loss.

Key elements of the modelled intervention

- Intervention effectiveness was calculated using a network meta-analysis, where the effectiveness of incentivised WLPs compared to current practice was indirectly estimated via non-incentive WLPs[2].
- Cost components of the incentivised WLP included participant recruitment, WLP fees, financial incentives, program administration and participant time.
- We assumed that the usual weight regain post-WLP (13% each year) would be halved by providing an incentive for weight maintenance. Once the maintenance incentive ceased, the weight regain reverted to 13% per year[3]. We tested this assumption in a scenario analysis.
- Given the lack of knowledge on 'current practice' for those eligible for this program, scenario analyses tested different assumptions.

Key findings

- 21% of the Australian population was eligible for the intervention, with estimated 48% uptake.
- The network meta-analysis showed that the incentivised WLP resulted in weight loss after 6 months of 9.30kg/person (95% UI: 7.91 to 10.70), compared to a 'do-nothing' comparator; a reduction of 5.88 kg/person (95% UI: 3.96 to 7.66) when compared to self-help or the usual-care comparator; and a reduction of 2.11 kg/person (95% UI: 0.96 to 3.28) when compared to commercial WLPs alone.
- When modelled for the whole population, the intervention was estimated to result in weighted mean change in population body weight of -0.69kg after 5 years, which translated to a total of 140,110 HALYs gained and healthcare cost savings of $692 million.
- Incremental intervention costs were estimated to be $1.7 billion with approximately $1.1 billion accrued by PHI. The mean ICER was $7,516 per HALY gained.

Conclusion

The intervention represents good value for money from a societal perspective, but it does not produce a positive return on investment to the PHI. The extent of implementation by PHI will depend on the marketing advantage of offering such a program.

Scenarios description and cost-effectiveness results

Table 1 *Description of selected scenarios*

	Base case No effect after 11 years	Scenario 1 No weight maintenance incentive, no effect after 7 years
Risk factor(s) addressed by intervention	BMI	
Population targeted	Australian population aged 18 and above, who are overweight or obese and have private health insurance with "extras cover"	
Comparator	A current practice comparator consists of 11% of the eligible population enrolled in a commercial WLP, half of the remaining population sought GP-based weight loss advice, and the remainder 'did nothing different', i.e. 11% WLP; 44.5% GP advice; 44.5% do nothing.	
Average incremental reduction in body weight (95% UI) for the intervention group	6.88kg (95% UI: 5.84 to 7.92 to)	
Average incremental reduction in BMI (95% UI) for the intervention group	2.93kg/m^2 (2.49 to 3.39)	
Effect decay	6% per year for 5 years, 13% per year after 5 years	13% per year
Costs included	Intervention: financial incentives, program administration, WLP fees (for individuals and PHI), Comparator: Commercial WLP, GP visits	Exclude weight loss maintenance costs
Type of model used	Population model with quality of life in children	

Notes: BMI: Body mass index; GP: general practitioner; kg: kilogram; m: metre; UI: uncertainty interval; WLP: weight loss program

Table 2 *Cost-effectiveness results, mean (95% UI)*

	Base case	Scenario 1
Total HALYs gained	140,110 (112,899 to 170,243)	84,787 (68,142 to 104,248)
Total incremental intervention costs	$1.7B ($882M to $2.7B)	$1.6B ($839M to $2.5B)
Total healthcare cost savings	$692M ($515M to $890M)	$407M ($304M to $528M)
Total net cost	$1.0B ($157M to $2.0B)	$1.2B ($425M to $2.1B)
Mean ICER ($/HALY gained)	7,376 (1,022 to 15,146)	14,549 (4,767 to 26,793)
Probability of being cost-effective #	100%	98%
Overall result	**Cost-effective**	

Notes: B: billion; HALY: health adjusted life year; ICER: incremental cost effectiveness ratio; M: million; $: 2010 Australian dollars; # The willingness-to-pay threshold for this analysis is $50,000 per HALY.

Figure 1 ***Cost–effectiveness plane***

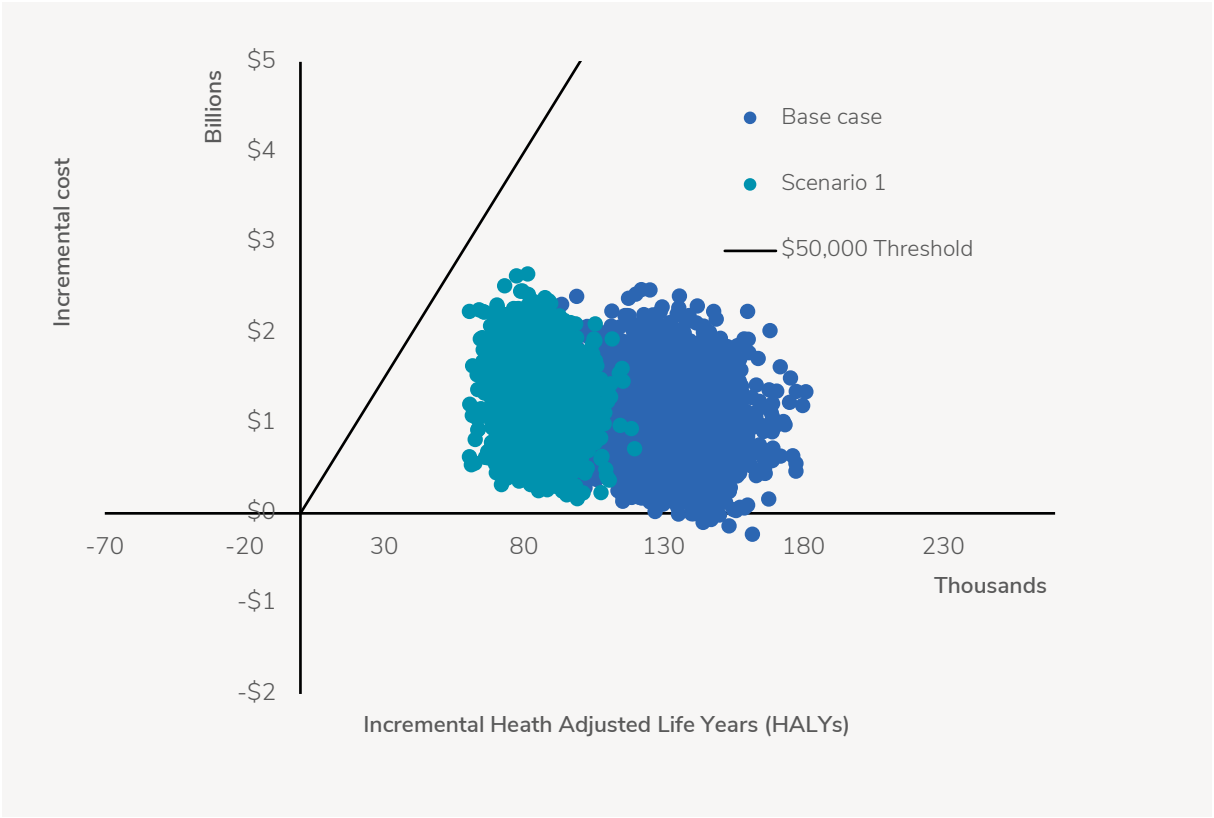
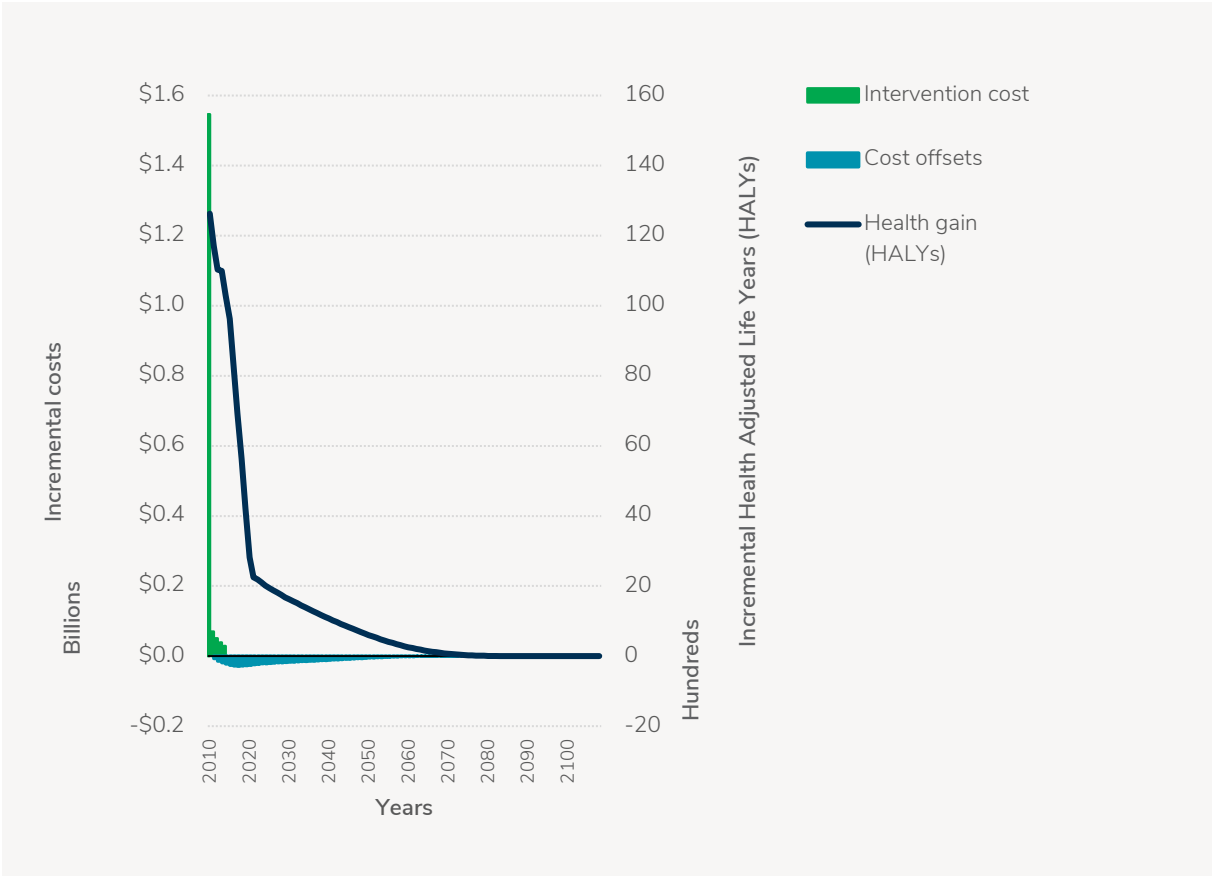


Figure 2 ***Costs, cost offsets and health gains over time (base case)***



Implementation considerations

Consideration	Details	Assessment
Strength of evidence	High certainty of effect for weight outcomes based on systematic reviews of RCTs comparing incentivised WLP to non-incentive WLP. However the effect size for this intervention compared to current practice was estimated from a network meta-analysis due to a lack of trials directly measuring the impact of incentivised WLP compared to current practice as we have defined it. There is also some uncertainty regarding the weight regain assumptions.	High
Equity	This intervention is limited to the 44% of the adult population who have PHI with extras cover. People living in areas with relatively high levels of socio-economic disadvantage had the lowest levels of private health insurance in Australia (33.6%).[4]	Negative
Acceptability	**Government:** The government is likely to be supportive of PHI administered programs to encourage healthy lifestyles, contingent on compliance with the community rating system[5].	High
	Industry: There are many international examples of PHI providing financial incentives for healthy behaviours, and many Australian PHI offer subsidies for commercial WLPs. From the perspective of the PHI, the costs of the program will not be fully recovered from future health care savings, and therefore the investment decision will depend on the marketing advantage of offering this program.	Medium
	Public: There is no evidence of the public support for financial incentives for weight loss, but it is likely to have little opposition.	Medium
Feasibility	PHI companies currently are likely to have the appropriate administration systems to implement this program.	High
Sustainability	There is international evidence of PHI providing incentives for healthy lifestyles for over 20 years.	Medium
Other considerations	We modelled the cost-effectiveness of financial incentives for weight loss provided by PHI. This intervention is also likely to be cost-effective if provided by the government through public health insurance. This intervention is likely to boost uptake of WLPs, and is therefore likely to boost the profits of commercial WLP providers.	

Notes: PHI: private health insurance/private health insurer; RCT: randomised control trial; WLP: weight loss program

[1] Ananthapavan J, Peterson A, Sacks G. Paying people to lose weight: the effectiveness of financial incentives provided by health insurers for the prevention and management of overweight and obesity – a systematic review. Obesity Reviews. 2018;19(5):605-13.
[2] Gudzune KA, Doshi RS, Mehta AK, Chaudhry ZW, Jacobs DK, Vakil RM, et al. Efficacy of Commercial Weight-Loss Programs An Updated Systematic Review Efficacy of Commercial Weight-Loss Programs. Annals of internal medicine. 2015;162(7):501-12.
[3] Forster M, Veerman JL, Barendregt JJ, Vos T. Cost-effectiveness of diet and exercise interventions to reduce overweight and obesity. International Journal of Obesity. 2011;35(8):1071-8.
[4] Australian Bureau of Statistics 4364.0.55.002 - Health Service Usage and Health Related Actions, Australia, 2014-15.
[5] The community rating system is part of the Private Health Insurance Act. It stipulates that Private Health Insurers must charge the same premium for the same product regardless of the health profile of members. Financial incentives could be considered akin to reducing premiums, limited to those who are able to participate in weight loss programs. However, discounts on premiums of up to 12% are allowed and therefore we have limited the annual financial incentive to $200 per year. https://www.privatehealthcareaustralia.org.au/private-health-insurance-community-rating-system/; http://www.med.monash.edu.au/assets/docs/sphpm/health-insurance.pdf