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## Prevention no cure: A critique of the report of Australia's national preventative health taskforce

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# Prevention No Cure: A Critique of the Report of Australia's National Preventative Health Taskforce

Mark Harrison and Alex Robson<sup>1</sup>

## Abstract

*Australia's National Preventative Health Taskforce baulks at the economic approach to public policy that weighs up costs and benefits, and instead adopts a 'healthist' perspective, with an open-ended and unconditional commitment to maximising health and a jumbling of private and external costs. The result is to overstate the benefits, and ignore the costs, of proposed policies. While this is predictable given the interests and agenda of preventative health advocates, it is not desirable. Not only is the economic approach mandated for regulatory reform, it has a number of advantages in determining the likely effects of policies and identifying unintended consequences. Although the Taskforce emphasises the irrationality of consumers, it is not clear whether a preventative health bureaucracy will improve the efficiency of health spending.*

## Introduction

In their 2009 report *Australia: The Healthiest Country by 2020*, the National Preventative Health Taskforce ('The Taskforce') made a number of policy recommendations regarding obesity, alcohol consumption and tobacco control. It recommended that a minimum price of alcohol be regulated; that there be widespread use of the tax system to discourage sedentary behaviour; that the price of tobacco should rise; and that tobacco manufacturing and packaging be further regulated. Given the sheer number of recommendations proposed by the Taskforce and their wide-ranging scope, it is important to investigate whether the Report constitutes a thorough and complete analysis, whether it is based on a rigorous assessment of the evidence on the issues it canvasses. This paper assesses how well the Taskforce Report meets these requirements.

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## The Taskforce Report's methodology

### The economic approach versus the 'healthist' approach to primary prevention

The approach taken in the Taskforce report and that of the authors of the papers they commissioned and studies they cite have a number of common features. They all adopt a *public health* approach, which economist Eric Crampton (among others) has labelled a 'healthist' norm.<sup>2</sup>

While economists try to account for all costs and benefits, the healthist norm measures only the health benefits of a policy. For example, the Taskforce proclaims its commitment to Australia 'becoming the healthiest country'. Nobody would disagree with the proposition that, all else being equal, better health outcomes are preferable to worse health outcomes. However, resources are scarce and individuals (and society as a whole) have other goals. The economic approach recognises that there are trade-offs between health and these other goals. Resources spent on health have an opportunity cost. Devoting more resources to prevention means that those resources cannot be devoted to other economic activities. To the Taskforce, opportunity cost is reduced to the missed benefits of possible activities that have not received government funding! 'The fourth rationale for selecting components of the Strategy is that of minimising opportunity cost — that is, the opportunities and benefits missed because of activities that have not been funded.'<sup>3</sup>

An open-ended commitment to promoting health eschews the very concept of trade-offs, and provides no limit to the budget and powers of the agency responsible for health policy.

Despite proposing a major expansion of regulation and major tax changes — indeed, a fundamental shift in government influence over individual decisions and market processes and outcomes — the costs and benefits of its proposed policies are not, as a rule, assessed in the Report.

In the health economics and insurance literature (and in the Taskforce Report), preventative activity which alters the probability distribution of losses is known as 'primary prevention'. It is the use of costly effort to reduce (but, in most cases, not completely eliminate) the probability of a loss occurring. Loss prevention is also known as 'self-protection' in the economics literature, and has been analysed at length by economists.<sup>4</sup> One of the key issues in this literature

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2 See Crampton (2009a).

3 Taskforce Report: 34.

4 The seminal paper in this literature is Becker and Ehrlich (1972).

is whether, and under what circumstances, an individual or group that faces a risk (or a set of risks) can and should take costly action(s) to alter the nature of those risks (by affecting the probability distribution of the risks that are faced), and thereby seek to improve their wellbeing (usually measured in terms of ex-ante expected utility). Another key issue is how optimal preventative effort is affected by other activities that can influence an individual's (or group's) ex-ante expected utility, such as market insurance and self-insurance.

A key conclusion of this literature is that preventative effort should be undertaken until the marginal benefit (the reduction in expected losses) of the last unit of effort is equal to its marginal cost, where 'cost' refers to the opportunity cost — the value of resources in their best alternative use.

In theory, individuals may choose an inefficiently low level of primary prevention for a variety of reasons. For example, in an insurance setting where the actions of the insured cannot be perfectly observed by the insurer, the insured may have an incentive not to expend costly effort on reducing the probability of high future health costs, because they know these costs will be covered under their existing insurance arrangements. If the insurer cannot monitor preventative effort, increased preventative effort will not be reflected in lower premiums, and so the insured will have little incentive to invest in prevention. To take another example, if an individual in an imperfect information setting has chosen to consume a product that has certain health risks and underestimates the probability of those risks, then at any given price the consumer will tend to consume an inefficiently high amount of the good. Finally, another example of inefficiently low prevention arises when prevention taken by one individual confers unpriced spill-over benefits on others (for example, immunisation), or when consumption of a good imposes unpriced external costs on other consumers.

But prevention might also be inefficiently *high*, especially where decision makers do not take into account the costs of the preventative effort. An obvious instance is when the person undertaking the prevention reaps the benefits but does not pay the costs. In some instances, this is simply because the costs are not fully priced: for example, when my purchase of a stronger bumper bar protects my vehicle, but at the expense of greater harm to the vehicles of others. Equally, if there are government subsidies that favour prevention over other health-related goods and services (or if prevention is taxed relatively favourably compared to other health-related goods and services), then too much prevention may be provided and consumed. For example, if consumers have imperfect information and overestimate the probability of health risks of a certain product, then an inefficiently low amount of that good might be consumed.

As the Taskforce focuses on the effects of policies on the health system, it ignores many of the costs of its policies. In particular, it does not recognise the very different policy relevance of private and external costs.

## The Taskforce jumbles private and external costs

The total cost of anything may be divided into ‘private costs’ and ‘external costs’. Supposing a consumer makes a decision that results in costs, then the costs borne by the consumer are private costs. The costs imposed on others are external costs.

The key point is that the consumer does not take account of the costs imposed on others in his decision making. As a result, external costs may be incurred (without any compensating benefit): external costs are excessively high and there may be a role for government to reduce them.

In contrast, the consumer does take account of private costs, and will incur them only when they are worth incurring; that is, when the private costs of an individual’s choices are smaller than the private benefits of those choices. The Taskforce ignores these benefits, yet they mean private losses, to the extent that they are borne by rational, well-informed consumers, are not policy relevant and so there is no economic reason for policy to address those particular costs.

Consider, for example, the case of skiing — a risky activity that has both costs and benefits.<sup>5</sup> For the purposes of our discussion there are two kinds of costly risks involved. If a skier has an accident and imposes costs on nobody other than himself and had an understanding of the likely level of those costs, then those costs, however significant, are purely private. The presumption of consumer rationality dictates that the skier’s expected private benefits from skiing outweighed the expected private accident costs. On the other hand, skiers may also be involved in accidents with other skiers, who may also suffer damage. In this case, there are external losses to consider, and these are policy relevant. But the source and economic nature of the two costs are very different; it makes no economic sense to lump both kinds of costs together and develop policies which attempt to reduce or completely eliminate both.

In the economic approach, only external costs are relevant for the assessment of primary prevention-policy interventions by government. If the consumer does not take account of some private costs because of irrationality or imperfect information about the health risks of a product, then they may be akin to external costs. But the appropriate government intervention depends on the

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<sup>5</sup> This example is used by Crampton (2009b).

particular irrationality or information bias. In general, a lack of information gives rise to a case for providing more information. If people underestimate private costs, only the underestimate should be the focus of policy.

The Taskforce, and the consultants it relies on, emphasise gross health costs, the aggregation of both external and private costs. For many non-economists the policy goal then becomes (either implicitly or explicitly) to significantly reduce or completely eliminate all of these losses, no matter what the cost. 'Focusing on minimising gross health alone suggests extreme, prohibitive policies.'<sup>6</sup>

Ignoring the difference between external and internal benefits and costs also runs the risk of creating a misleading impression for members of the public who are concerned about the costs that might be imposed on them by smokers. When the Taskforce Report states that 'the overall cost of smoking to the economy is more than \$30 billion each year' (Collins and Lapsley 2008), it gives non-smokers the impression that smokers are imposing these costs on non-smokers whereas most of the economic literature finds that the bulk of the estimated costs are actually borne by the smokers themselves. Attributing internal costs that are actually borne by smokers themselves as part of the 'cost of smoking to the economy' incorrectly attributes those costs.

The fundamental problem with the non-economic approach is that it can lead to policies which needlessly make members of the community worse off. The net economic benefits of proposed policy changes which aim to avoid all losses — even if those policies effectively achieve this goal — will be grossly overstated, because the forgone private benefits of the behaviour at issue are being ignored. This means that even when cost-benefit analyses of policy changes are conducted, such analyses will likely overstate the net benefits of policy, and will likely lead to socially wasteful policy choices.

The net benefits of policy changes will only ever be a fraction of the total health costs that are attributed to obesity, alcohol consumption and tobacco use. The fact that 'prevention works' and reduces observed costs does not automatically mean that implementing the policy will raise the community's overall wellbeing.

It is important to appreciate that the economic assumption of rationality does not require 'full information'. For example, it is not necessary that a smoker have a full understanding of all of the health ramifications of smoking. All that is required is an understanding of the likely level of future health costs.

If some consumers do not have an understanding of the likely level of future health costs, then there is, in principle, a case for corrective taxes. However, this case needs to be made out rigorously and to be carefully justified using

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6 Clarke (2008): 29.

a detailed assessment of costs and benefits. To make out a convincing case for higher taxation, it is not enough to simply assert that consumers operate in a world of incomplete, imperfect information. Such an assertion is vacuously true, but it does not tell us what the correct level of taxation is, and how that compares with current tax rates.

Even if some consumers do not understand the likely level of future health costs, such taxes may worsen the community's wellbeing for two reasons:

- First, it may not be the case that all consumers misunderstand the likely level of future health costs. Taxation affects the price that all consumers pay, whether they understand those costs or not. An increase in taxes may induce 'uninformed' consumers to make the 'right' decision by signalling to them the true future health costs. But higher taxation will induce 'informed' consumers to consume less than their individually optimal amount. This is no less true for goods like cigarettes, for which there is no safe level of consumption.
- Second, it may not necessarily be the case that consumers always underestimate the future health costs of their choices; they may just as easily overestimate the likely level of future health costs. In fact, behavioural economics emphasises the bias towards overestimating the probability of rare events.

There is good evidence that, as a general rule, smokers tend to overestimate the adverse health effects of smoking. Viscusi (1992) conducted a large scale US national survey of lung-cancer risk perceptions, in which participants were asked to indicate the number out of 100 smokers who would develop lung cancer. He reports (p. 7) that:

The main finding with respect to risk perceptions for lung cancer is that not only is there substantial awareness of smoking hazards, but overall individuals appear to overestimate the risks compared with the levels in the scientific evidence. Whereas the best scientific estimates of the lifetime lung cancer risks from smoking range from 0.05 to 0.1, individual perceptions of the risk are much greater. The entire population assesses this risk at 0.43, and even current smokers have a substantial risk perception of 0.37. The fraction underestimating the risk is less than 10 per cent, and the extent of their risk underestimation is comparatively small in magnitude.

That is, imperfect information or a misunderstanding of future health costs may actually lead to less smoking than if risks were accurately perceived. An increase in taxes would increase rather than reduce the costs of misperceptions. Further, if people overestimate future health costs, then campaigns alerting them to these risks will have little effect.

Further, the justification for the rationality assumption is not that people always know what is best for themselves, but that they are more certain to seek their own interests than are others. In particular, bureaucracies have their own interests and incentives, not necessarily promoting efficient levels of preventative expenditure. Political motives, empire building and other objectives will play a role.

The relevant question is whether individuals will better promote their own interests if they make decisions compared with government officials making decisions for them through the political process. Economic policies should be assessed in terms of the incentives they create and the consequences that follow, rather than simply the goals they proclaim.

Self-interested bureaucrats receive pecuniary and non-pecuniary gains from controlling larger programs and by increasing the size of their own bureaucracies (for example, increases in power, prestige, promotion prospects and salary). They may even believe it is in the public interest to expand the activities of their organisation. They push for larger-than-optimal levels of bureaucracy (empire building) and increase their own rewards. They have an incentive to increase program size, even if the incremental benefits to program recipients are less than the costs. They have an incentive to exaggerate the demand for, and understate the costs of, extra programs.

## Overstatement of benefits

Smoking may depend on unobserved individual characteristics — such as the degree of risk aversion or the individual's discount factor — that also influence health through other channels. Smokers or heavy drinkers are likely to differ from those that do not engage in this behaviour. For example, smokers tend to be greater risk takers, working in riskier jobs and/or require a lower payment to bear that risk. Smokers are less likely to perform preventative health activities such as wearing seatbelts, flossing their teeth, and checking their blood pressure. Smokers are more likely to be injured at work (controlling for objective measures of risk) and at home. They are also more likely to be heavy drinkers. The greater risk taking of smokers reflects a broader pattern of behaviour and is not limited to smoking decisions.<sup>7</sup>

As a result, public policies that decrease smoking prevalence may not achieve large gains in life expectancy or large economies in health expenditure. Smokers who quit or reduce their consumption of cigarettes would certainly face a lower

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<sup>7</sup> See Hersch and Viscusi (1990) and (1998).

risk of tobacco-related diseases, such as lung cancer, but would not necessarily see their life expectancy increase by large margins. Estimates of the effect of tobacco on health costs that do not account for this would tend to be biased.

The healthist norm also makes no allowance for offsetting increases in health costs resulting from their policies. For example, the average quitter puts on weight, aggravating potential obesity problems and any associated health costs. Policies that save lives are good things, but they do not necessarily reduce medical costs, as they can increase the demand for spending on other conditions. Non-smokers incur some health-care costs that smokers do not. Studies that compare health costs for smokers and non-smokers are consequently ambiguous — many find that lifetime health costs are greater for non-smokers.<sup>8</sup>

Extending life is a benefit, but there is no need to exaggerate the benefits by claiming that it must *always* result in lower health costs. Saving lives is not the same as reducing health costs. For example, the success of a major life-saving intervention, such as a by-pass operation, extends life but, precisely because the patients have greater chances of survival, the intervention may result in another major intervention in the future. Saving lives is, of course, desirable and both life-saving interventions can be worth the cost and result in net benefits — but health costs rise rather than fall.

When cost benefit analysis is done in the report, what are evaluated are the benefits of *reaching a target*, not the costs and benefits of the Taskforce report's proposed policies. That is, it is *presumed* that the policies will cause the targets to be met, rather than assessing the likely effects of the policies. The target may be desirable, but the relevant policy issue is whether the policies proposed in the Taskforce report will achieve them, and at what cost.

The costs and benefits of a policy require a counterfactual scenario — what would happen without the policy? — to provide a base case from which the incremental costs and benefits of a policy can be determined. For example, the Taskforce does recognise that smoking rates have been declining, but nowhere does it systematically discuss the implications of what would happen to the rate if policies were to remain unchanged. Thus, it is impossible to work out the contribution of the Taskforce's policies to meeting its reduced smoking targets.

The number of people who have died in the past and the current costs of smoking are the consequence of past smoking rates, not current smoking rates. Computing future costs on the basis of current costs — which are themselves based on past rates of smoking, not current or expected future smoking rates — makes no economic sense. Similarly, designing the path of future corrective taxes based on past and current behaviour has little economic justification.

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<sup>8</sup> See, for example, Barendregt *et al.* (1997).

The Taskforce Report argues that taxes on tobacco will improve equity because those who quit will no longer experience smoking-related health problems. But this claim ignores the costs of quitting and the fact that tobacco demand is price inelastic. It only applies to marginal consumers — those who change behaviour as a result of the policy change. It ignores *inframarginal* consumers: since tobacco is price inelastic, a large number of low-income individuals will continue to smoke even after the proposed tax increase. In the absence of compensation, these individuals will be made unambiguously worse off as a result of the proposed tax increase. And since the studies that the Taskforce cites to support its case tend to overestimate the reduction in demand from the Report's proposed policies, they also tend to underestimate the number of *inframarginal* consumers. This means that the equity effects of the Taskforce Report's policies are likely to be much greater than the Report anticipates.

For all these reasons, the public health approach overstates the benefits from interventions.

## Underestimation of costs

Neither does the Taskforce — nor its consultants — account for health costs of discouraging moderate drinking or encouraging substitution into drugs. As a pioneering study into the effects of tobacco, alcohol and drugs on mortality and morbidity in Australia observed:

In addition to the harmful effects, however, when consumed at moderate levels alcohol appears to be associated with a decrease in heart disease and stroke. The number of people in Australia who drink at moderate levels far outweighs the number who drink at hazardous or harmful levels, so this apparent protective effect is greater for the overall population than the harmful effect for deaths, though not for potential years of life lost.<sup>9</sup>

The Taskforce Report does not explain how policies such as having higher taxes would reduce problem drinking without reducing beneficial, moderate drinking. Indeed, the best evidence shows heavy drinkers and light drinkers respond less to price increases than do moderate drinkers.<sup>10</sup> Higher taxes are likely to have the greatest effect on the moderate drinkers. As a result, even from a narrow, 'healthist', point of view, they are likely to do more harm than good.

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<sup>9</sup> See Ridolfo and Stevenson (2001): xiii

<sup>10</sup> See, for example, Manning, Blumberg and Moulton (1995).

## Advantages of the Economic Approach

Without a conceptual framework to understand why people smoke, overeat and drink excessively, it is difficult to analyse and assess the effect of policies to reduce these behaviours.

### Understanding individual behaviour and decision making

There are important reasons why policymakers should distinguish carefully between private and external costs and why reductions in the latter should be the most appropriate goal for policy. One of the main reasons is that policymakers are heavily information constrained and are far less able to assess private costs and benefits on an individual, case-by-case basis than the individuals who actually bear those costs and benefits. In such a heavily information-constrained environment, policies which seek to override the principle of consumer sovereignty, no matter how well-intentioned they may be, run a significant risk of reducing the community's wellbeing.

Furthermore, it is private costs and benefits that motivate individuals to behave in the way they do, and which induce them to make the choices that are observed in the data. By failing to distinguish between private and external costs in the policymaking process, there is a risk that policymakers will fail to understand how both private and external costs are generated and why individuals behave the way they do and make the choices that we observe. A failure to understand and appreciate the reasons behind individual behaviour means that future choices cannot be confidently predicted, which in turn means that the likely behavioural response of individuals to policy changes (such as taxes, price regulation and quantity regulation) will be difficult to forecast, let alone measure in any meaningful way.

For example, if all consumer choices are assumed to be 'irrational', then how can the likely implications of policy decisions for the community's wellbeing be ascertained? Individuals compare the private benefits of a particular choice with private costs. Policy changes usually seek to alter that benefit-cost calculus in order to change the consumer's choice and better align their private incentives with social costs and benefits. But the resulting choices that are made after policy interventions occur are still the result of a (policy-modified) private benefit-cost calculation. Ignoring the fact that there are private benefits of certain choices and that there are costs incurred by individuals when they change their behaviour, or pretending that the private benefits of certain consumption choices do not exist is not realistic and simply makes policy analysis less rigorous.

## An example: The rational-addiction model

Many forms of consumption are habit-forming, and some are addictive, including smoking, jogging, attending church, using heroin and eating corn flakes. That does not imply that the behaviour of addicts is unpredictable. Indeed, the Taskforce Report presumes that smokers respond in predictable ways to increases in prices and information about the health costs of smoking.

The theory of rational addiction (Becker and Murphy 1988) applies the standard economic approach — individuals have simple objectives and tend to choose the best way to achieve them — to addiction. The rationality assumption is that people choose the correct way. It does not imply that people use formal rational analysis.

Rational behaviour is the predictable element in human behaviour. To assume irrationality is to abandon attempts to explain or predict behaviour and makes it difficult to determine the effects of policies to change behaviour. The purpose of rational-addiction theory is not to assert that all addicts are rational or to assert the ascendancy of economics, but to better predict behaviour and the effects of various changes. It is useful if it produces sharper and richer predictions that are empirically correct and insights into addictive behaviour.

In the rational-addiction model, rational consumers maximise utility from stable preferences as they try to anticipate the future consequences of their choices. For the addictive good, an increase in current consumption increases future consumption of the good, and so current utility depends on past consumption.

For example, the theory of rational addiction predicts that addicts will respond to price changes, and addicts may pay more attention to price than light users. Indeed, rational addicts should respond to anticipated future price increases before they even occur. A number of empirical studies have found that to be the case. For example, Becker *et al.* (1994) found that cigarette consumption falls when a price increase is expected, but before it actually rises.

In the theory, habitual behaviour displays a positive relation between past and current consumption. A strong habit may become an addiction. A necessary condition for a good to be habit-forming, and potentially addictive, is that past consumption of the good raises the marginal utility of current consumption. Addiction may be beneficial (for example, jogging) or harmful (for example, heroin).<sup>11</sup>

The theory of rational addiction, which is not referred to in the Taskforce Report, explains many well-known features of addictions, such as bingeing,

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11 For an excellent summary of rational addiction theory, see Becker (1992), which these paragraphs draw on.

bifurcated demand (for strongly addictive goods, people either consume a lot or abstain) and why strong addictions must terminate abruptly (going 'cold turkey'). These behaviours are consistent with people trying to anticipate the future consequences of their choices; there is no need to abandon the economic approach or to assume irrationality to explain them.

The theory can also predict the characteristics of people likely to become addicted. A good may be addictive to some people, but not others. For example, because the consumer is forward looking, the 'full price' of a harmful good includes the money value of the future adverse effects on utility or earnings. The adverse effects depend on the total amount of past consumption. This cost will be lower to less future-oriented people (present-oriented or the impatient — those with high discount rates, to use economic jargon). The present-oriented are more likely to become addicted to harmful goods, because an increase in consumption leads to a smaller rise in the full-price when the future is more heavily discounted.<sup>12</sup>

When the health costs of smoking became known from the mid-1960s, the full price of smoking increased. Smoking rates went down dramatically, even amongst supposedly present-oriented teenagers, indicating that smokers do respond to information about future consequences. Those who smoke after the new information became available may be more myopic than quitters and people who do not begin to smoke. This explains the stronger negative relation between education and smoking in the 1970s and 1980s than before the health consequences became widely known (more future-oriented people are more likely to become educated, which involves delayed benefits).<sup>13</sup> Further, ongoing economic growth increases earnings and raises the value of future adverse effects. We would expect a downward trend in smoking prevalence from this increase in the full price, even with a constant money price.

Unfortunately, the rational-addiction model is widely misunderstood. For example, the Cancer Council's comprehensive review of tobacco in Australia criticises the model because: 'The model would predict that individuals rarely regret past decisions about consumption, a theory not borne out in interviews with current smokers, almost all of whom regret ever having started smoking.'<sup>14</sup>

However, individuals are uncertain as to whether they will become addicted; nothing in the theory presumes that people know for sure whether they will become addicted. Things may not turn out well, and an individual may regret smoking so much when young, and may try to fight his addiction. On the other

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12 See Becker and Murphy (1988): 682.

13 Ibid: 687.

14 Scollo and Winstanley (2008): chapter 13, 10–11.

hand, continuing to smoke may be rational in the face of the costs of giving up. That some decisions about actions with uncertain consequences turn out badly does not mean the initial decision was irrational.

As Becker and Murphy state in the original paper on rational addiction, their approach does not imply addicts are happy: 'Although our model does assume that addicts are rational and maximize utility, they would not be happy if their addiction results from anxiety-raising events, such as death and divorce, which lower their utility. Therefore, our model recognizes that people become addicted precisely because they are unhappy.'<sup>15</sup>

Harmful addictions are often traceable to anxiety, tension and insecurity produced by stressful events (divorce, unemployment, death of a loved one). Temporary events can cause rational people to become addicted.

Indeed, for a harmful good, the model predicts that greater past consumption can lower present utility because of adverse health effects. Further, given levels of consumption of the harmful good may be less satisfying when past consumption has been greater (the user develops a tolerance). That is, higher past consumption lowers the present utility from the same consumption level, but raises the *marginal* utility of consuming the addictive good (reinforcement).<sup>16</sup>

### Policy implications of the rational-addiction model

The rational-addiction approach has a number of implications for policies to reduce smoking and other addictive behaviour. As current heavy smokers are likely to be present-oriented, campaigns that emphasise the future health costs of smoking are likely to have little effect. Raising taxes is likely to be more effective for these individuals, as the money price of cigarettes is a larger component of the full price for present-oriented people.

The opposite would be true for light users, who would tend to be more future-oriented than heavy users (but less so than abstainers). On the other hand, the health costs of smoking are widely known, and smokers are likely to have taken them into account already.

If the health benefits come from quitting altogether, rather than from simply cutting back, then it is precisely the addicts (who are more likely to quit altogether) at whom the policy should be aimed. Becker, Murphy and Grossman (1991) found that lower income and younger people respond more to price changes. Others respond more to future harmful effects.

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<sup>15</sup> Becker and Murphy (1988): 691.

<sup>16</sup> See Becker and Murphy (1988): 681–82; Becker, Grossman and Murphy (1991): 237; and Becker (1992): 120.

Furthermore, the rational-addiction model highlights that the policies recommended in the Taskforce Report to reduce smoking, excessive drinking and weight gain may have costs that are not considered in the Report. 'Kicking' a habit has benefits, but it also involves real psychological, health and economic costs. People continue to smoke, drink and eat fatty foods, even when addicted, because giving up would make them less happy, just as it is rational for others to give up and bear the short-term loss in utility for a larger long-term gain. With uncertainty on the best approach to minimise the costs of quitting for a particular individual, and substantial short-run loss in utility from stopping, an addict may have several failed attempts at quitting.

Failing to consider and understand private motives for consumption choices and the costs of changing behaviour also increases the risk that policymakers will devise and implement policies that are either ineffective from an overall welfare perspective or which create unintended negative consequences.

## The economics of unintended consequences: Cross price elasticities and external costs and benefits in related markets

The economic approach sheds light on the simple approach to corrective taxation: for a good whose consumption generates external costs, the tax should be set equal to those marginal external effects, where the marginal external effects are measured at the efficient consumption point. However, if the tax causes consumers to substitute towards other goods whose consumption also generates external costs (or external benefits) and which are not taxed appropriately, then the simple Pigouvian rule may have to be modified.

A tax increase induces consumers to switch into some other activities (substitutes) and away from others (complements). The switch out of the taxed activity may reduce health costs, but the switch into other activities (and away from complements) may increase health costs. In other words, taxes may have unintended consequences.

A good example is alcohol taxation. Some forms of alcohol are substitutes with each other; but some are complements. If the cross price elasticity of demand is negative (positive), then a price rise on a good in one market induces a fall (rise) in consumption in another market, and the goods are complements (substitutes).

Evidence from the UK and elsewhere suggests that beer and wine are complements, whereas spirits and wine are substitutes. Raising taxes on one form (for example, ready-to-drink mixes or RTDs) induces substitution into other kinds of alcohol, or simply into other forms of consuming the same drink

(consumers may simply make their own 'alcopops'). The tax induces a reduction in demand of the good whose price rises, but does not address the underlying health problem because of the existence of close substitutes with a lower price. Unless the price of each good, as perceived by the consumer, fully incorporates its health consequences, the result of that substitution may be a deterioration in health.

More formally, in the Pigouvian framework, the substitutes and complements of taxed activities may themselves have social external costs or benefits. If prices in those markets do not reflect social marginal costs and benefits, then changes in activity that occur in these other markets will have welfare consequences that are not reflected in the market for the good that is being taxed.

There is a large body of evidence on health prevention, substitution effects and unintended consequences. For example:

- There is evidence (for example, Dinardo and Lemieux 1992) that raising the minimum drinking age in some US States reduced alcohol prevalence but increased the prevalence of marijuana consumption.
- There is evidence that smoking cessation leads to weight gain (Flegal *et al.* 1995), particularly among low-income consumers (Filozof 2004).
- To the extent to which increased taxes and plain packaging encourage substitution into illegally supplied tobacco (chop-chop), costs (including forgone revenue) are borne with no offsetting health benefit (if anything, health costs may increase). The existence of illicit supplies is a serious constraint.
- To the extent that higher tobacco taxation is associated with higher smuggling, inappropriate policies aimed at reducing smoking prevalence may themselves lead to increases in smuggling and other crime rates, with a very low reduction in actual smoking prevalence.
- Drug prohibition is an example of a policy which has had costly unintended consequences. There is a significant body of economic evidence which shows that prohibition promotes violent crime. Miron (2001) shows that there is a positive relationship between the enforcement of prohibition and homicide. Goldstein *et al.* (1989, 1997) find that a large proportion (almost three-quarters) of drug-related murders were due to conflict or disputes over drug territory, drug debts and other drug-related trade issues, rather than the psychopharmacological effects of drugs.
- In a recently published theoretical study, Yaniv *et al.* (2009) show that a 'fat tax' reduces obesity among individuals who are not weight conscious, but for weight-conscious individuals a 'fat tax' could increase obesity by reducing both the consumption of junk food *and* the amount of time devoted to exercise and physical activity if the substitution away from fast foods

towards home-cooked meals brought about by the fat tax means that the individual no longer has time to exercise.

## Best-practice regulation, cost-benefit analysis, and regulatory impact statements

In Australia, the economic approach to policymaking is deemed so useful that it is mandated in an attempt to limit excessive and inefficient regulation. New regulatory proposals are subject to a Best Practice Regulatory Framework. This framework's requirements can be found in the *Best Practice Regulation Handbook*. The framework 'requires a structured approach to policy development that systematically evaluates costs and benefits', which includes:

Consideration of a range of options for achieving the objective (as well as a 'no action' or status quo option) and an analysis of the likely economic, social and environmental consequences. The policy development process should at least ensure that the benefits to the community of any regulation actually outweigh the costs, and give some assurance that the option chosen will yield the greatest net benefits.<sup>17</sup>

Significant proposals should be subject to formal cost-benefit analysis and the principles of good regulatory process require that: 'Only the option that generates the greatest net benefit for the community, taking into account all the impacts, should be adopted.'<sup>18</sup>

Compliance with the procedures and processes outlined in the *Best Practice Regulation Handbook* remains mandatory for all Australian Government departments, agencies, statutory authorities and boards that make, review or reform regulations.

The Taskforce Report falls far short of these rigorous standards. For example, the compliance costs or the effect on market competition of the proposals are not assessed or analysed. Indeed, the Report (p.242) recommends exempting liquor-control legislation from 'the constraints of National Competition Policy', and adopts the approach that the more cigarette companies object to a proposal, the better it is: 'Shareholder nervousness and industry opposition to restrictions on pack design are a strong indication of the importance of packaging to tobacco sales' (p.181).

But the question that needs to be answered for sound policy analysis and advice is how to achieve policy objectives in the least costly way, not to inflict as much cost on individual businesses and industries as possible.

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17 Australian Government (2007): 1–2.

18 Australian Government (2007): 2.

## Conclusion

In summary, the approach taken by the Taskforce can be encapsulated in the following five points:

1. Certain activities create health costs — and, therefore, are judged to be automatically undesirable.
2. It automatically follows that there is a role for government to do something to discourage individuals from undertaking those activities.
3. The Taskforce then sets arbitrary targets for reductions in these particular activities.
4. The Taskforce then develops recommendations for policymakers to achieve those targets, without examining the social costs and benefits of those policies.
5. Finally, the Taskforce asserts, without evidence, that the policies that have been recommended will achieve these arbitrarily chosen targets.

The National Preventative Health Taskforce Report has bypassed the hard work that is needed to make the credible cost-benefit calculations required for rigorous public policy analysis. Establishing that smoking, excessive eating and excessive drinking lead to poor health outcomes does not establish that the Taskforce Report's policy recommendations aimed at reducing these things will be beneficial, effective, or even work in the desired fashion. Policymakers need to know the costs involved, how smoking, eating and drinking will be affected and the health benefits that would flow from each change.

The Preventative Health Taskforce Report has set some arbitrary targets for reductions in the number of people who smoke, drink excessively and are overweight and has suggested policies to achieve these targets. However, although the Taskforce Report cites many papers and presents hosts of statistics and data, there is no systematic assessment of the costs and benefits of the recommended policies.

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