

# Cancer adds further urgency to prioritising obesity control

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*Obesity control in Australia is imperative, and has much to learn from tobacco-control strategies*

The increasing incidence of obesity in Australia is set to impose a major additional cancer burden at a time when population ageing alone is projected to cause unprecedented growth in cancer incidence. While obesity is frequently associated with type 2 diabetes, hypertension, lipid abnormalities and death from heart disease and stroke, there is growing evidence for its role in causing cancer.

A systematic review and meta-analysis, which included the Million Women Study, investigated the link between body mass index (BMI; calculated by dividing weight in kilograms by height in metres squared) and types of cancer.<sup>1,2</sup> In men, a 5 kg/m<sup>2</sup> increase in BMI was strongly associated with adenocarcinoma of the oesophagus, and thyroid, colon and renal cancers, and in women with adenocarcinoma of the oesophagus, and endometrial, gallbladder and renal cancers. There were weaker associations for melanoma and rectal cancer in men, and postmenopausal breast, thyroid and colon cancer in women. Leukaemia, myeloma and Hodgkin disease were associated in both sexes.

One postulated mechanism for the link between obesity and cancer is that chronic hyperinsulinaemia results in raised levels of free IGF-I (insulin-like growth factor), with higher mean concentrations in men compared with women. This alters the environment of cells to favour cancers developing.<sup>3</sup> In adipocytes, androgens are converted to oestradiol, and chronic hyperinsulinaemia also reduces sex-hormone-binding globulin, leaving more oestrogen to impact on oestrogen-sensitive tissues. Further, adiponectin, a protein hormone secreted by adipocytes, is an insulin-sensitising agent that is anti-angiogenic and anti-inflammatory, inversely correlated with BMI, found in higher concentrations in men than in women and, in some studies, its level is inversely associated with cancer risk.<sup>4</sup>

Obesity is linked to 11% of colon cancers and 9% of postmenopausal breast cancers<sup>5</sup> — both increasingly common tumour types in Australia as a result of population ageing. With high percentages of endometrial cancer (39%), oesophageal adenocarcinoma (37%), kidney cancer (25%) and gallbladder cancer (24%) attributed to obesity and overweight, these rarer cancers may become more common as Australia's obese population ages.<sup>5</sup>

The risk of an obesity-related increase in cancer burden in this country is amplified, with the link between BMI and cancer compounded by a 50% increase in the number of obese or overweight Australians over the past 15 years. An estimated 7.4 million Australians are obese or overweight, including a quarter of children aged between 5 and 16 years.<sup>6</sup>

Multiple strategies are needed to control obesity. Decreasing the consumption of energy-dense, nutrient-poor foods and encouraging consumption of healthy foods and increased physical activity are clearly the keys.

What is not so obvious is what works. The high risk of childhood obesity continuing into adulthood and the lag time before the development of cancer make children a critical target for obesity-control programs. A range of interventions have been

introduced, such as regulating school canteens, eliminating soft drink sales in schools, physical activity programs and education, but there is no coherent national strategy.

The debate on whether such a national strategy should include restricting junk-food advertising is likely to continue for a number of compelling reasons. Australian children are exposed to more food advertising than children in the United States, United Kingdom, New Zealand and 11 western European nations,<sup>7</sup> much of it potentially misleading in its use of healthy imagery to promote products high in sugar, fats and salt.<sup>8</sup> Governments in Sweden, Norway and Quebec have restricted junk-food advertising to children, with some encouraging results.<sup>9</sup> Great Britain adopted a similar policy in 2007, so more data on the efficacy of this strategy will emerge. In the absence of empirical Australian data, modelling by the Victorian Government shows that restrictions on junk-food advertising would be the most cost-effective intervention for reducing adolescent obesity.<sup>8</sup> The South Australian Government has announced a phase-out of junk-food advertising during children's television viewing hours, using its sovereign authority to act independently of federal broadcasting laws. Other jurisdictions may follow, and this presents an opportunity for the federal government to show national leadership towards a uniform approach.

Product labelling that informs consumers in making healthier choices is also pivotal to food marketing reform, while government assistance to make healthier foods more affordable and accessible, particularly to disadvantaged groups, should also be considered.

A whole-of-government response to fostering healthier communities, including initiatives to support increased physical activity, must also be built into a national obesity strategy.

Consideration of the options for reducing obesity draws historical comparisons with the experience of tobacco control in the early 1970s. While minimising the use of tobacco (which has no safe consumption level) differs in many ways from reducing junk-food consumption (which is low risk if consumed in moderation), there are compelling parallels.

The disease burdens related to both tobacco and obesity are disproportionately prevalent among disadvantaged population groups. Tackling both smoking and obesity requires a combination of research, policy, social marketing and program-based interventions. And, of particular interest to the debate on food advertising, there are commercial interests with a clear stake in maximising junk-food consumption, just as there are in maximising tobacco consumption.

Moreover, public health advocates cite "de-normalisation" as a key to Australia's historical success in reducing tobacco consumption. It could be argued that excessive junk-food consumption is effectively "normalised" at an early age by the sheer volume of advertising pitched at children.

An important lesson from tobacco control is that an array of modest government interventions to influence healthy behaviour will fall well short of their potential if they must compete with big-budget advertising from industry encouraging unhealthy choices;

smoking rates in Australia dropped markedly when broadcast advertising of tobacco was phased out in the mid 1970s.<sup>10</sup>

With an increasing incidence of cancer, now is the time for a range of tough decisions that will modify dietary behaviour and put public health before corporate interests.

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