Food regulation:
Public policy approaches and issues

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Australia has in place a transparent and consultative policy process for the regulation of food products. Food regulation policy, as set out in Section 10(1) of the *Food Standards Australia New Zealand Act 1991 (Cth)* has three key objectives:

(a) the protection of public health and safety; and
(b) the provision of adequate information relating to food to enable consumers to make informed choices; and
(c) the prevention of misleading or deceptive conduct.

According to the legislation these objectives are listed in descending order of priority but all are clearly important. Public concern about food safety is not a new phenomenon and these three elements have been evident in public policy since the nineteenth century. However, meeting these objectives is not a straightforward task as the ideas and values that are brought to the policy process can colour the way the objectives are interpreted and the types of regulatory responses that are considered appropriate. The following discussion paper is set out as follows. It starts with a brief history of food regulation and then looks at the role of government and the role of values in the policy process. These values are not always articulated by participants in the process but can have an important impact on policy recommendations. This section also discusses the role of the state in a liberal democracy and the role of food in our lives. Finally, the paper draws these ideas together in a case study of the contemporary debate over appropriate government responses to obesity and overweight, in an attempt to highlight the role facts, values and evidence play in policy development.

A brief history of food regulation

Food regulation has a long history. As Hilton and Daunton (2001, p9) point out 'The 'Assizes', regulating measurements, weights and especially the adulteration of bread, had existed since the thirteenth century and in sixteenth century France purchasers of eggs which had turned rotten were allowed to throw them back at the vendor'. An early example of food regulation was the UK's *Act for Preventing Adulteration in Food and Drink* of 1860 which was concerned with food adulteration and both the possible impact on consumers' health and the possible scope for deception about the nature of food products (French and Phillips 2003, p446). Examples of practices which were of concern included the addition of sand to tea and opium in beer, although milk was 'the most commonly adulterated commodity' (French and Phillips 2003, p447). French and Phillips (2003, p444) argue that

> Public debate about food quality and safety was prominent in Europe and North America between 1870 and 1914. The quality and safety of food was featured in Victorian reformers' concerns about poverty and health, as well as debates over the "health of the race".

With scientific advances, two issues arose with respect to the population's diet – one positive, the other negative. On the positive side, science was seen as providing the tools to understand better human biology and the role nutrition plays in human health. It provided a basis on which advice about healthy diets could be provided by experts to the general population. Crotty (1995b, p16) reports that 'The first efforts to advise

the general public about what to eat on the basis of laboratory science took place in the US in the 1880s'. This advice spilt over into a range of areas of public policy. Early wage cases in Australia included evidence on nutrition in determining a fair wage by reference to the amount of energy and protein required by a man and his family (Crotty 1995b, p23). In the UK, the results of nutrition science influenced poverty research and formed the basis of calculations by the nineteenth century British poverty researcher, Seebohm Rowntree in determining the minimum income required to sustain a working man and his family (MacGregor 1981, p66). In both cases the calculations took a utilitarian view of food as 'fuel' for the worker, stripping it of any social or cultural function, although Rowntree did include tea, which has little nutritional value, in the British working man's diet. In the late nineteenth and early twentieth century, this view had a touch of class bias. While food for the poor was seen in these utilitarian terms, 'more affluent people were able to choose the foods they enjoyed' (Crotty 1995b, p19).

The other side of the coin with respect to science and food was suspicion about the contribution of science to food production. Adulteration of foodstuffs was of great concern as scientific advances were seen as providing manufacturers with means for cutting corners and deceiving the consumer. It was these concerns that drove reformers to push for food safety regulation. These reform movements contained a large dose of paternalism; the editor of the *British Food Journal* in 1908 described 'the history of food legislation worldwide as a series of attempts to protect ignorant people against the consequences of their ignorance' (cited in French and Phillips 2003, p452). As well as concern that food might be adulterated as a result of scientific advances, there was also some opposition to the introduction of artificial food colourings and preservatives. The 1910 Pure Food Exhibition in London highlighted concern about these additives, particularly their impact on children (French and Phillips 2003, p455). The 1910 exhibition was criticised by its opponents 'as an attempt to create a scare, rush government into regulation, and create openings for more officials' (French and Phillips 2003, p458). Similar debates took place across the Atlantic as nineteenth century US food policy became concerned with 'adulterated and synthetic food products' (Nadel 1971, p7).

The debate reflected two opposing constructions of the consumer. Industry opponents of regulation 'portrayed consumers as rational actors who were well informed about the nature of foods because they received information through prices, advertising, and direct experience of the products' (French and Phillips 2003, p453). By contrast, early supporters of regulation attempted to counter the 'rational consumer' argument by reference to 'mothers, children and invalids' who 'could be portrayed as in need of protection' (French and Phillips 2003, p466). Food manufacturers could use regulation to their advantage as well. Butter manufacturers benefited in their competition with margarine from the 1907 *Butter and Margarine Act* because it limited the possibility of mistakenly purchasing margarine as butter. There was an echo of this particular piece of legislation in Australia decades later when importers of margarine were required to dye their product pink with alkanet root for much the same purpose (Lewis 1972, p289). Newly emerging evidence about the health benefits of vitamins opened up the possibilities for food producers to make health-related claims about their products in order to gain a market advantage (Kamminga 2000, p91). As French and Phillips (2003, p452) note,

> Victorian advertising frequently featured claims about the "purity" of foods or their nutritional values, and some manufacturers extended this marketing strategy into support for food reform on the grounds that "legitimate" manufacturers and retailers shared concern about food quality.

Food scares have also played an important part in food regulation – from concerns over imported canned meat in 1905-06 (French and Phillips 2003, p445) through to the BSE and salmonella scares in the UK (Smith 1991) and the Garibaldi smallgoods case in Australia (Kriven 1995) in the 1990s. Legislative responses have often followed these scares and policy makers continue to grapple with determining the level of regulation that is appropriate.

The role of government

Like any area of government policy, the government's role in the regulation of food is not clear cut. A policy approach involving expert advice and consultation suggests that the process is technical rather than political. As Gibson (2003, p302) argues 'There is a strong tendency to see values and the rational use of evidence as mutually exclusive', however no policy development process is value free (Ham and Hill 1993, p19; Lewis 2003, p254; Sindall 2003, p80). In 1953, David Easton (p129) described politics as 'the authoritative allocation of values' and a policy as consisting 'of a web of decisions and actions that allocates values' (p130). Every policy decision requires a judgment about what issues or elements of a problem are more important than others. It requires trading off competing objectives and deciding how much of one value is to be sacrificed in order to achieve another (Lindblom 1959). An example would be the decision about how much unemployment is to be tolerated to keep inflation within acceptable levels. There is no foolproof economic formula to provide the answer – both the tolerable level of unemployment and the acceptable level of inflation are value judgments. In Australia's system of responsible parliamentary government, these value judgments are the domain of our elected representatives. In a Westminster system, the public service is politically neutral and it is the responsibility of Ministers and Cabinet to balance competing values in the community by determining policies; the public service has the task of administering those policies (Cook 2004, p249). Politicians are then accountable to the public for their choices, presenting their interpretation of the appropriate balance to the public on a regular basis. They are either elected or not depending on whether the electorate is broadly comfortable with the value system they represent. In reality, the distinction between policy making and administration is not as clear cut. Any policy recommendation is the result of a process which involves identifying policy issues, rejecting or accepting various policy options and framing recommendations in a particular way, and values influence these choices.

Sindall (2003, p81) highlights the importance of values in health policy debate, arguing that 'In recent years, the normative elements of health policy have tended to be overshadowed by technical issues. In many cases, technical arguments have served to disguise particular ideological positions in policy debates'. It is also worth noting that the policy process often involves 'competing rationalities' (Lin 2003a). Lin (2003b, p15) argues that 'Scientific methods and expert opinions are part of the process, but they are also contested by other scientists and experts and stand alongside alternative cultural and social standpoints'. As Lawrence (2003, p111) states 'although food is a prerequisite for health, it is also a cultural, religious, social and

commercial commodity' so there will be different perspectives on the role for government in its regulation. Like all policy processes, decisions about food regulation are not value-free, technical calculations. They include judgments about the capacity of consumers to make informed decisions, about the motives of food companies in promoting their products, about the impact of changes to food composition on human health and so on. Different judgments will result in different policy ideas and recommendations. As outlined above, Edwardian food reformers were concerned about protecting the ignorant from their own uninformed decisions. An approach which did not regard the consumer as ignorant would deliver alternative policy recommendations. Each of these judgments is anchored in a deeper ideology which provides a framework for interpreting the world. Burris (1997) highlights how attitudes to health policy based in 'market individualism' differ from what he characterises as 'public health' approaches. He describes public health as 'the collective response to the health threats a society faces', contrasting this with 'market individualism' which regards the individual as a rational actor capable of making informed choices about health risks (Burris 1997, p1608). These characterisations of the nature of the health problem are value-based, and they have important implications for the way policy is developed and the types of policy options that are considered feasible.

Gibson (2003, p300) has argued that

> three levels of abstraction can be identified in health policy making based on the kinds of question each of them asks.
>
> - First-order policy making – should we implement program x to fix problem y?
> - Second-order policy making – how should we decide whether to implement program x to fix problem y?
> - Third-order policy-making – how should we decide whether problem y has priority over problem z, or should they be seen as a subset of a larger problem and approached quite differently?

He considers second and third order policy making to constitute 'meta-policy discussion' and to involve 'more complex and values-based' decisions (p301). The type of considerations which influence deliberation over second and third order policy making relate to the understanding of the role of government in a liberal democracy and the appropriateness of intervention in private behaviour.

Australia as a liberal democracy

Australia is a liberal democracy, which means our political system is one in which 'democratically based institutions of government are constrained by liberal-inspired constitutional arrangements, political practices and popular expectations that limit the scope and capacity of the government sector' (Parkin 2006, p3). Constitutionalism, the rule of law and the separation of powers have their origins in liberal ideas of the state which see government as necessary but not particularly trustworthy. Liberal thinkers such as John Stuart Mill argued that while the state had a role in preventing individuals from harming others, it should not intervene for an individual's own good. Mill (1975 [1859], p15) argued that 'Over himself, over his own body and mind the individual is sovereign'. Others can attempt to educate, persuade or otherwise cajole individuals to change their behaviour but, in the absence of that threshold test of harm

to others, there is no role for compulsion. Mill (1975 [1859], p102) argued that 'the strongest of all the arguments against the interference of the public with purely personal conduct, is that when it does interfere, the odds are that it interferes wrongly, and in the wrong place'. There are difficulties with Mill's construction of the separation between self and others (see for example Stone 2002, chapter 5) however governments in a liberal democracy need to decide where they draw the line concerning what level of personal behaviour is beyond the reach of the state. A liberal interpretation of minimal regulation and individual responsibility can and has been applied to food safety issues. According to Smith, in the UK in the 1980s, in spite of high levels of *salmonella* in chickens, the food policy community saw the first line of defence against food poisoning as lying with the consumer who 'was responsible for the proper handling and cooking of chicken' (Smith 1991, p241).

The liberal tradition is balanced in Australia by a commitment to democracy. Australia's founding fathers wrote the new nation's constitution against a background of a strong egalitarian tradition and a commitment to democracy which saw the colonies and later Australia lead the way with democratic reforms such as the secret ballot and votes for women. This democratic tradition has more of a focus on the collective than the individual so Australian democracy was established with a tension between liberal and democratic tendencies. These tensions play themselves out in policy debates as policy makers seek to obtain the 'right' balance between the rights of the individual and the needs of the collective. Recent examples of this tension have been in debates over gun control, anti-terror legislation, and the Australia card. In all of these cases the balance needed to be struck between minimising state intervention in the private lives of individuals and protecting the community.

The alternative approach to liberal democracy within a democratic framework is social democracy which is focused on the community rather than the individual. Social democracy 'accepts the state as both a symbol of the political community and the instrument of power through which improvements can be made in social conditions' (Maddox 2005, p354). This world view is more suspicious of capitalism and more inclined to support an interventionist state. Early socialist critiques of the food industry argued that greed resulted in adulteration as producers sought to compete (French and Phillips 2003, p449). This perspective is reflected in distrust of the food industry and concerns about socially undesirable and misleading advertising.

Food regulation has been a political issue from the outset, reflecting these different interpretations. In the nineteenth century the liberal ideal of free trade and cheap food contrasted with the more radical interpretations of food adulteration as evidence of the problems of capitalism (French and Phillips 2003, p448). These ideological or value standpoints clearly influence the way in which policy problems are identified and approached and the judgment regarding how much government intervention is appropriate.

Food, culture and society

Food regulation is an interesting case study in terms of drawing boundaries between the individual and the state and determining how much government intervention is acceptable. Unlike many other public health issues, food consumption is a private behaviour that is both unavoidable and an important part of our cultural and social lives. Kersh and Morone argue that 'food is meaningfully distinguished from private

activities like drinking, drug taking, smoking or sexual behavior', pointing out that 'All people must regularly consume food (including at least some fat). Here is an important contrast to alcohol, drugs or tobacco. They are not essential to life, while food is' (Kersh and Morone 2002, p172). Food preparation and consumption is part of people's daily routines and the structure of their family lives. Social factors therefore impact on the propensity of the general public to take up expert advice on diet. The tendency for working families to rely on pre-prepared and take away food may be a rational decision to spend more time with the family than in the kitchen preparing a meal from scratch (Banwell *et al* 2005, p567). The mismatch between expert advice on nutrition and actual behaviour in households reflects the findings in the risk literature about mismatches between lay and expert perceptions of risk. Experts and non-experts are seen as having 'rival rationalities' (Margolis 1996, pp32-36) which result in limited uptake of expert advice. Crotty recognises the disconnect between expert advice and community behaviour with respect to diet, writing that 'Everyday life marches to a different drummer from that represented in the nutrition expert's agenda' (Crotty 1995b, p87).

Food consumption is therefore much more complex in its social significance than simply providing fuel for the human 'machine'. A range of writers suggests that non-nutritional concerns need to be incorporated in public policy debate over food and nutrition (see for example, Crotty 1995a; Draper and Green 2002; Fieldhouse 1995; Trentmann 2001). Crotty (1995b, p110) describes two worlds of nutrition and expresses her concern that one of these is dominant in public debate: 'The act of swallowing divides nutrition's two worlds: the post-swallowing sciences of biology, physiology, biochemistry and pathology and the pre-swallowing culture of behaviour, society and experience'. Trentmann (2001, p130) points out that 'The importance of food and consumption in the creation of identity and community has been a long-standing theme in anthropology'. He explores the links between food policy and broader political debates. For example, he argues that debates in the UK over milk policy during the second world war were 'part of a larger debate among social movements about the relationship between state, economy and civil society. For organised consumers (men and women) the milk question went to the heart of the need to reform Britain's political economy' (Trentmann 2001, p143).

Finally, food has its place in society as a reward. In criticising the focus of cereal advertisements on the sweetness of the product, Choate (1973, p115) argues that 'Cereal advertisers … did not invent the advocacy of sugared products. Every mother who has threatened to withhold dessert from an errant child has, in effect, given the sweetest part of the meal a reward symbolism which makes it more attractive'. In their research on the perceptions of children and parents about the healthiness of food, Hesketh *et al* (2005, p22) report that children were alert to this tactic and 'recognized the use of unhealthy food as 'treats' or 'special occasion food'.

With all of these complicating factors, what is the appropriate role of food regulation in Australia? Food safety as a goal can be interpreted narrowly or more broadly. A narrow reading would limit government action to ensuring consumers are not poisoned by the food they buy. It would not be too concerned with advertising beyond ensuring that it was not misleading and would not be too concerned about additives in food as long as they did no harm. A broader reading would see safety as encouraging a healthy diet and ensuring that diets do not become distorted, for

example by too much salt, too few vitamins or too many 'empty' calories in the form of energy-dense foods. The narrow interpretation is closer to the liberal view of the autonomous individual while concern with the overall health status of the population is anchored in a more collective approach. As either a narrow or broad reading is possible of FSANZ's three objectives, policy makers face the challenge of identifying the appropriate balance between individualism and the collective good – and this balance will differ between issues.

The public policy literature contains little research to help answer these dilemmas in more general terms, however obesity and overweight as specific problems have received a lot of attention across a range of disciplines. The following therefore uses obesity and overweight as an example of the problems associated with public policy development in this area. The case study is based on a literature review covering a wide range of academic publications and disciplines and explores a range of policy considerations, highlighting the values and assumptions that underpin the various perspectives on obesity, its causes, possible solutions and the appropriate role for government.

Case study: obesity and overweight

A report for the World Health Organisation in 2000 argued that 'Evidence is now emerging to suggest that the prevalence of overweight and obesity is increasing worldwide at an alarming rate' (WHO 2000, p16). Proposed solutions range from information campaigns to educate consumers about food choices and encourage increased physical activity, through to regulation of television advertising of 'junk' food (particularly to children), limiting access to such food in school canteens and taxing fat.

The following covers a range of disciplines including medicine, nutrition, public health, law, economics, social policy, history, politics and sociology. The survey of the literature is not exhaustive but serves to highlight a range of considerations which could usefully be taken into account by policy makers considering a response to overweight and obesity in the community. This is not straightforward as there is a lack of consensus within the literature about the causes of obesity and effective solutions. As Epstein (2005, p1362) argues

> Obesity tends to mark a sharp, almost visceral, division between sides. Opponents of government intervention see the obesity controversy as a giant government land grab based on shoddy science or worse ... defenders of government intervention see obesity as a major health crisis brought on by a wide range of sinister social forces.

Even within the body of literature that agrees that obesity is a problem there is disagreement whether the issue is a simple 'energy-in, energy-out' imbalance, whether the recent apparent increase in obesity is the result of modern Western lifestyles, the so-called 'obesogenic environment', or is genetically determined, either within individuals, or as a population which remains programmed to life as hunter-gatherers and is unable to cope with more sedentary lifestyles and abundant food supplies.

The causes of obesity and overweight

The causes of overweight and obesity are not self evident. Much of the debate about the subject and the proposed solutions subscribes to the 'energy-in, energy-out' view of weight gain (Ebbeling *et al* 2002; Nestle 2003, p781; Skidmore and Yarnell 2004, p819), however, even this apparently uncontroversial understanding hides a number of different interpretations and underpinning values. First of all, there is disagreement about the nature of the energy balance. For example, Skidmore and Yarnell (2004, p819) argue that 'The regulation of energy balance is highly complex, involving societal, behavioural, genetic, hormonal and neural influences'; while Ebbeling and her colleagues (2002, p473) suggest 'these regulatory systems are extraordinarily precise under normal conditions'.

Weight gain can be seen as an individual failing. If we all ate a little less and exercised a little more, we would not be gaining weight (Ebbeling *et al* 2002). The consensus appears to be that we are eating more and exercising less than we have in the past (Bagust *et al* 1999, p259). We are encouraged into this lifestyle by the ready availability of sedentary past-times such as television viewing and computer games – activities which researchers often link with the consumption of high energy foods (see for example Ebbeling *et al* 2002, p475; Gill 1997, p371). We are also encouraged in our over-eating by television advertising which for some individuals with heightened sensitivity to visual 'reward stimuli' can lead to 'increased vulnerability to compulsive-eating disorders' (Beaver *et al* 2006, p5164). There are dissenters from this view (see for example Bloche 2005, p1343; Gard and Wright 2005, p50) but the identification of television as a particular problem for weight gain is widespread. It should be noted that the literature is particularly concerned about childhood obesity (Bagust *et al* 1999, p263; Hill *et al* 2003, p855) and this is reflected in debates about advertising during children's television.

Weight gain can also be presented as a societal failing as modern lifestyles create an 'unhealthy food environment' (Kersh and Morone 2005, p848), also described as an 'obesogenic' (Egger and Swinburn 1997) or 'toxic' (Ebbeling *et al* 2002, p478) environment. In summary, the obesogenic environment interpretation suggests that 'the current epidemic of obesity is caused largely by an environment that promotes excessive food intake and discourages physical activity' (Crawford 2002, p728). Other features of modernity which contribute to the obesogenic environment are escalating car reliance, increasing 'busy-ness' and lack of time, rising use of convenience foods (Banwell *et al* 2005, p566), and 'an absence of formal meals' (Gill 1997, p370).

The WHO nuances the 'energy-in, energy-out' explanation and signals alternatives to the individual responsibility model

> In simple terms, obesity is a consequence of an energy imbalance – energy intake exceeds energy expenditure over a considerable period. Many complex and diverse factors give rise to a positive energy balance, but it is the interaction between a number of these factors, rather than the influence of any single factor, that is thought to be responsible. In contrast to the widely held perception among the public and parts of the scientific and medical communities, it is clear that obesity is not simply a result of overindulgence in highly palatable foods, or a lack of physical activity. (WHO 2000, p99).

Among these alternatives is the genetic explanation. There are several variants on this. One approach is related to the energy-in, energy-out approach but shifts the blame from the individual to the human gene pool and the mismatch between hunter-gatherer physiology and modern lifestyles. As Hughes and McGuire (1997, p258) argue, in this reading of the problem, 'Obesity is thought to be a manifestation of a primitive survival mechanism which allows humans to store excess energy as fat in times of plenty enhancing the chances of survival in periods of famine'. Friedman (2003, p858) also supports this interpretation and explicitly redirects responsibility for overweight from the individual:

> in modern times, obesity and leptin resistance appear to be the residue of genetic variants that were more adaptive in a previous environment. If true, this means that the root of the problem is the interaction of our genes with our environment. … Obesity is not a personal failing. In trying to lose weight, the obese are fighting a difficult battle. It is a battle against biology, a battle that only the intrepid take on and one in which few prevail.

The solution is still related to the energy balance but some individuals are seen as more prone to weight gain than others due to their genetic make up. Not all scientists agree with this interpretation. Crawford (2002, p728) argues that 'Genes determine individual susceptibility to weight gain, but the obesity epidemic is not attributable to genetic factors, since the increase in the prevalence of obesity has occurred over too short a period for the genetic make up of the population to have changed substantially'.

The values underpinning these critiques of obesity are not new. With respect to the individual failing interpretation, Turner explains that in the eighteenth century, 'a well-balanced body was thought to be an essential foundation for a stable mind…' – the logical conclusion of which is that the 'obese body indicates the absence of government and discipline' (Turner 1995, p vi). The critique of modernity, or the obesogenic environment, as the root cause of obesity is also not a new phenomenon. Crotty (1995b, p83) points out, 'As early as the eighteenth century, medical experts were linking the notion of diseases of civilisation with overconsumption and overindulgence'. The debate is also part of a broader discourse of the 'risk society' (Gard and Wright 2005, p169) first articulated by Ulrich Beck (1992) which identified the risks associated with industrialisation and modernity. Taking the risk society approach, the consumer is faced with the multinational food industry and its advertising budget which dwarfs any healthy eating message (Bloche 2005, p1352; Choate 1973, p107; Duff 1995, p56; Ebbeling *et al* 2002, p478; Kersh and Morone 2005, p849; Nestle 2003). Industry can be seen to benefit from both sides of the obesity equation – through selling high energy foods, and then gym memberships and diet programs to address the consequences. As Nestle explains, 'it is difficult to think of any major industry that might benefit if people ate less food: certainly not the agriculture, food product, grocery, restaurant, diet or drug industries' (Nestle 2003, p781). The framing of obesity as an individual, societal or industry-related problem has an impact on the types of solutions considered (Kersh and Morone 2005, p849). If the problem is seen to be industry-related, supply-side solutions such as food labelling, controlling television advertising and taxing unhealthy ingredients become more prominent then interventions in individual behaviour.

In spite of the general acceptance of the energy-in, energy-out approach, the science of weight gain remains uncertain (Epstein 2005, p1365) and our knowledge of the linkage between weight and health outcomes is also limited (Gard and Wright 2005, p7). Like much scientific research, uncertainties and caveats disappear as research results move from academic journals into popular science and public debate. In the 1930s, Ludwick Fleck identified this problem associated with the popularisation of scientific knowledge. He argued that 'Popular exoteric knowledge stems from specialized esoteric knowledge. Owing to simplification, vividness and absolute certainty it appears secure, more rounded, and more firmly joined together'(Fleck 1979 [1935], p113). Kamminga (2000, p85) explains the idea as follows: 'facts become *harder* the further they are taken away from specialist circles. At the cutting edge of research, facts are never absolutely fixed'. For policy makers, this adds a further element of uncertainty to the mix – when is a 'fact' a fact? The understanding of the link between overweight/obesity and overeating/lack of exercise is a popular simplification of a more complex picture. Simplification may be useful in explaining the issues, but it may not be appropriate as a basis for developing policy responses. Epstein (2005, p1374) argues that 'The confused scientific picture should sound a cautionary note to those working on policy responses'.

The economics of obesity and overweight

An important driver of debate over obesity is the cost to the public health budget of treating obesity-related diseases 'Obesity not only affects individuals with the problem but has substantial external consequences, such as high health-care costs for everyone' (Hill *et al* 2003, p854), however the economic data are limited (WHO 2000, p78). Roux and Donaldson (2004, p173) report that 'The total cost attributable to obesity and its negative health consequences has been estimated to represent 2% to 7% of national health expenditure worldwide'. However, Hughes and McGuire (1997, p253) report 'a very thin literature' on the economic impact of obesity and 'extremely few' (p261) evaluations of treatment options. With respect to the latter, the authors point out that 'For any economic evaluation, however, there has to be reliable clinical evidence of efficacy' (Hughes and McGuire 1997, p262). Bagust *et al* (1999, p262) also state that 'there have been relatively few economic studies undertaken in the area of obesity'.

Individual versus population risk

The WHO points out that 'Most of the evidence linking health problems with obesity comes from prospective and population-based studies, although there is additional information from community interventions and clinical trials' (WHO 2000, p40). In Australia, epidemiology is 'the preferred research framework for nutrition researchers' (Crotty 1995b, p106), however translating this data into individual risk messages is not simple. Crotty (1995b, pp66-67) notes that 'Dietary guidelines are intended to make their impact on health at the population level rather than at the individual level' and Gill (1997, p375) advocates population-based strategies to weight-control rather than a focus on individual body weight. Gill (1997, p384) argues that 'Obesity is a population problem and needs to be tackled at a population level'. Crotty (1995a, p43) argues, however, that population-wide approaches essentially ask the individual to 'change your diet for the community's sake'. She suggests that 'In terms of individual benefit, it is difficult to make the best dietary decision at the individual level when a general policy has been derived from population studies' (Crotty 1995a, p43). Gard and Wright (2005, p182) also point out

that 'Social policy and health strategies … target individuals' behaviours as though all were at risk'. This problem of motivating individuals to action for the public good is known in the public policy literature as the problem of collective action and in the public health literature as the 'prevention paradox', that is, 'a preventive measure that brings much benefit to the population offers little to each participating individual' (Burris 1997, p1609). The collective action literature suggests that individuals need to be either coerced to act or receive some form of private incentive in these circumstances (Olson 1965, p2), such as discounts on their health insurance or rebates on gym memberships or weight loss programs.

Population-wide approaches are not without risk as previous attempts to provide sensible, untargeted dietary advice have shown. As O'Dea (2005, p259) points out 'The moderate and sensible government dietary guideline of the late 1970s was taken up by the target audience who required it least – young women, who adhered to the 'control your weight' message most vehemently'. A further concern is the impact of the programs on the target audience itself. The emphasis in the literature is on childhood obesity (see for example Gill 1997, p359; Hill *et al* 2003, p855; Skidmore and Yarnell 2004, p821). O'Dea (2005, p261) argues that 'The last thing obese children need is a reminder of their undesirable weight status', suggesting that 'Health education messages about overweight and weight control are likely to make young people feel worse about their bodies and themselves in general' (p260). Other writers also raise the issues of inappropriate dietary restraint by non-target groups (Gill 1997, p375; Skidmore and Yarnell 2004, p822) and the problem of ostracising fat children (Gill 1997, p375). As the WHO notes, weight loss is itself not without health risks and the impact of weight loss is not well documented (WHO 2000, p69). Durazo-Arvizu and his colleagues (1998) found a U-shaped relation between body mass index and mortality. This implies that there are health risks associated with extreme thinness and that, for some groups in the community, weight loss may actually increase disease risk.

What could governments do?

The debate over government responses to overweight and obesity can be seen as a debate over the private rights of the individual to eat and exercise as they please as against the cost and risk to the collective of overweight and obesity. Stone (2002, p109) frames the problem of determining appropriate levels of government intervention as follows:

> The dilemma of liberty surfaces in public policy around the question of when government can legitimately interfere with the choices and activities of citizens. When, if ever, should community or social purpose be allowed to trump individual choice? Under what circumstances should public policy ever limit individual privacy and autonomy?

Gill (1997, p378) argues that 'There are generally two types of public health intervention strategy that can be used to tackle obesity: (i) those which aim to improve the knowledge and skills of individuals in the community; and (ii) those which aim to reduce exposure of populations to the underlying environmental causes of obesity'. Hill *et al* (2003, p854) propose a two-pronged approach:

> First, we must mount a social-change campaign that will, over time, provide the necessary political will and social and economic incentives to build an environment more supportive of healthy life-style choices

> …we must also adopt a short-term strategy to help individuals to manage better within the current environment. People must be given strategies and tools to resist the many forces in the environment that promote weight gain.

They propose that 'in order to prevent weight gain on a public-health level, we need a quantitative goal for how much change in energy balance is needed' (p855). They see this in terms of encouraging individuals to walk an additional mile every day, take a few bites fewer at each meal, or reduce portion sizes. Several further options can be added to this – programs of direct intervention, including school-based programs; the use of economic instruments to influence consumption, so-called fat taxes; or direct intervention into the food supply to restrict food content.

Education campaigns

Education campaigns are presented as a good starting point for governments in attempting to influence private behaviour. They are not particularly intrusive and are based on the premise that the consumer is rational and, once informed about risks associated with a particular behaviour, will amend that behaviour. Draper argues that 'Nutrition education, food labels and dietary guidelines, all popular policy instruments in relation to food, are posited on the notion that the informed individual is one able to make the "right" consumption choice' (Draper and Green 2002, p615). This approach is consistent with the liberal interpretation of the consumer as 'sovereign' of his or her mind and body. Bloche (2005, p1359) argues that

> My guiding principle is that it is both wise from a policy perspective and protective of personal freedom for government to support health-friendly good and exercise choices. Public education efforts, mandatory disclosure of ingredients and risks, and the prospect of liability for gratuitously hazardous food products can make a difference in this regard without overriding people's eating preferences.

However, the evidence is mixed as to the effectiveness of education campaigns in reducing obesity in the population. Skidmore and Yarnell (2004, p822) point to the 'disappointing' results of education campaigns in the US and Britain. Other authors (Egger and Swinburn 1997; Fieldhouse 1995, p ix; Gill 1997, p378) also point to the limited success of education in treating and preventing obesity. Gill suggests that education cannot compete with the forces encouraging over eating and sedentary lifestyles: 'Exalting people to change their behaviours to improve the quality of their diet and their physical activity level is unlikely to succeed in an environment in which there are plentiful inducements to engage in opposing behaviours that lead to chronic positive energy balances' (Gill 1997, p380). Crotty (1995b, p62) reports that 'Studies of the dietary changes made by individuals as a result of receiving dietary advice have revealed unpredictable and sometimes undesirable consequences'.

Intervention programs

Other researchers have moved beyond education campaigns to assess the efficacy of various types of programs to prevent weight gain or address existing overweight or obesity. These have also not had a high success rate. Bagust *et al* (1999, p262) refer to 'the often conflicting clinical evidence concerning the efficacy of treatment interventions' and Crawford (2002, p729) writes that 'the few weight gain prevention studies that have been attempted have had only limited success'. Hesketh *et al* (2005, p19) point out that 'To date, interventions have focused on improving the more amenable determinants of obesity: physical inactivity and consumption of energy-

dense foods, but these have had limited effectiveness'. Bagust *et al* (1999, p262) suggest 'There is a great need for high-quality and large-scale studies evaluating the comparative long-term cost-effectiveness of the range of interventions available in obesity management'.

In the area childhood obesity, O'Dea (2005, p262) argues that 'prevention programs should involve the program recipients, and all health education materials should be pre-tested to clearly identify the massages perceived among the target audience, and prevent unintended and potentially harmful outcomes'. Schools are identified by some researchers as having a role to play in addressing poor eating and exercise habits. Hesketh *et al* conducted a qualitative study of Australian parents and students which sought their views on healthy eating, activity and obesity prevention. They concluded that 'the finding that children believe anything permitted at school is inherently healthy points to both the importance of schools as models of healthy environments and the unique opportunity provided to schools to expose children to healthy behaviour' (Hesketh *et al* 2005, p25). Gill (1997, p372) agrees, arguing that 'The school is an extremely important and useful site for instituting obesity prevention programmes since a large proportion of all children attend school and a great deal of a child's eating and exercise is carried out in this setting'. However, Ebbeling *et al* (2002, p477), found that, with only one exception, 'school-based interventions, involving multiple sites, have not reduced obesity prevalence, despite their intensive and, in some years, multi-year designs'.

Addressing the obesogenic environment

For those researchers who see the cause of obesity not in individual behaviour but in the obesogenic environment, other strategies are seen as more effective. For example, Gill (1997, p382) suggests that 'the bias against obese people and an over-emphasis of personal responsibility has resulted in the key role of the environment in the development of obesity being largely ignored'. He argues that 'A more effective strategy for dealing with the public health problem of obesity would appear to be one that goes beyond the educational dimension, and deals with those environmental and societal factors that induce the obesity-promoting behaviour of individuals within a population in the first place' (p378). Egger and Swinburn (1997) concur, stating that 'Historically, epidemics have been controlled only after environmental factors have been modified. Similarly, reductions in population levels of obesity seem unlikely until the environments which facilitate its development are modified'. However, 'There is little known about the association of behavioural or environmental change with obesity. More evidence is required from longitudinal studies particularly those based on cohorts of infants or children' (Skidmore and Yarnell 2004, p822).

Bloche (2005, p1338) argues that, in the face of the obesogenic environment, 'Public policy and law should support our beleaguered self-restraint in the face of potent social cues and pressured life circumstances that make us more responsive to our short-term, unreflective intentions'. This is consistent with the idea of the risk society. Moran (2001, p29) describes the hazards of the 'risk society' as 'catastrophic in effect, unknowable in advance and collective in their incidence – in other words as individuals we can do little to safeguard against them'. The obesogenic environment is in this sense beyond individual control and requires a collective response.

Direct intervention in the price of food

A further approach which has received some attention is direct intervention in the price of 'problem' food. Marshall argues that the externalities of obesity justify intervention in the price of an 'atherogenic' diet (Marshall 2000, p301). His suggestion in the UK context was to extend the Valued Added Tax to sources of dietary fat – an equivalent in Australia might be differential GST applied to high fat or energy-dense foods. This is already in place to a point with fresh food currently GST-exempt. Epstein (2005, p1377) points out, however, that 'there is really no way to impose a food tax on those who eat too much without also raising food costs for the poor'.

Restricting the food supply

A further approach is 'to change nutrient intake by changing the environment of choices [rather than] to struggle with people's ability and willingness to change' (Crotty 1995b, pp85-86). To libertarians this 'supply-side' approach is seen as preferable to intervening directly in people's diet and exercise regimes (Epstein 2005, p1369). This approach can be seen in policy responses such as limiting the products on offer in school canteens and restricting permissible additives in products which may make more attractive otherwise 'empty' calories.

Conclusion

This has necessarily been an introductory survey of the literature surrounding the obesity debate and it is used to illustrate the types of choices that face policy makers working in the area of food regulation. Seemingly straightforward policy recommendations can disguise political agendas and value judgments, and are anchored in world views about the individual and their relationship to the broader community and the state. These value systems are not intentionally hidden by participants, however, they are rarely articulated and in some cases may not even be recognised by their proponents. This highlights the challenge for policy makers in recognising and balancing values, facts and evidence in arriving at policy recommendations. As described, the job of balancing values in a democracy is theoretically the role of our elected representatives, however, judgments cannot be avoided by those who advise them. It is therefore important that values be identified and made explicit in policy advice. This requires an examination of some basic assumptions about the role of the state in individual lives and whether the consumer needs to be informed or protected. The answer will differ from issue to issue depending on the strength of the evidence that there is a problem, the efficacy of available solutions and potential undesirable side effects.

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