

Public health nutrition and food policy

Martin Caraher^{1,*} and John Coveney²

¹Department of Health Management and Food Policy, Institute of Health Sciences, City University, Goswell Place, Northampton Square, London EC1V 0HB, UK: ²Department of Public Health, Block G5 The Flats, Flinders Medical Centre, Bedford Park, South Australia 5042, Australia

Submitted 19 May 2003: Accepted 6 November 2003

Abstract

Food in its many manifestations allows us to explore the global control of health and to examine the ways in which food choice is moulded by many interests. The global food market is controlled by a small number of companies who operate a system that delivers 'cheap' food to the countries of the developed world. This 'cheap' food comes at a price, which externalises costs to the nation state in terms of health consequences (diabetes, coronary heart disease and other food-related diseases) and to the environment in terms of pollution and the associated clean-up strategies. Food policy has not to any great extent dealt with these issues, opting instead for an approach based on nutrition, food choice and biomedical health. Ignoring wider elements of the food system including issues of ecology and sustainability constrains a broader understanding within public health nutrition. Here we argue that public health nutrition, through the medium of health promotion, needs to address these wider issues of who controls the food supply, and thus the influences on the food chain and the food choices of the individual and communities. Such an upstream approach to food policy (one that has been learned from work on tobacco) is necessary if we are seriously to influence food choice.

Keywords
Food
Sustainability
Globalisation
Food poverty
Neo-liberal

As Lang¹ points out, food provides a useful window for academic study across many disciplines. In the social sciences and humanities, for example, much of the research on food has been used to explore family relationships, gender, age and ethnicity, and as a metaphor for society^{2–4}. Food has also been taken as a marker of the extent of globalisation and the power of large companies across the food system, and/or of Americanisation^{5,6} and as an example of the growth of expertise or 'governmentality'⁷.

Interestingly, public health nutrition has examined food almost exclusively from the viewpoint of the provision of nutrition and health, underplaying the role of other structural factors. To say this is not to ignore the importance of individuals, especially in the food they buy, cook and eat, or food's importance in the development of illness or wellness. The extent to which people have real choices, however, is debatable⁸; while we all like to believe that we choose our food freely, the overwhelming evidence is that our choices are constrained by history, class, gender, income, ethnicity and market issues of access, affordability and global supply patterns. There is an argument that individuals select rather than choose freely. Thus to focus public health nutrition activities on campaigns for healthy food choices limits the extent to which improvements in health can be made. Global food trade can contribute to health, but it is

important to note that the current unregulated situation also carries with it a 'transnationalisation' of health risks^{9,10}.

At this point in time, there is a wide-ranging debate over the role of the food industry in influencing our food choices (see, for example, Crister¹¹). The World Health Organization (WHO) has challenged the food industry over its role in promoting certain types of fats and processed foods^{12,13}. The industry has responded with threats from the sugar lobby in the USA to 'scupper WHO' by lobbying for an end to government funding¹⁴.

This paper examines the ways in which food policy is of crucial importance to health and nutrition. It makes the case that public health nutrition has not engaged with 'upstream' policy or the determinants of food supply, preferring instead to confine itself mainly to dietary guidelines and lifestyle factors. We have chosen the UK and Australia as examples for a number of reasons. First, these are the countries we are familiar with and, second, to demonstrate the point that even countries of the developed world and leading nations in the Organization for Economic Co-operation and Development still have food and nutrition-related problems. The neo-liberal economic agenda proposed by agencies such as the World Bank and the World Trade Organisation come with their own problems. We could have taken countries from the middle or developing world and indeed many of the

*Corresponding author: Email m.caraher@city.ac.uk

problems with diet-related communicable diseases could have been presented with a starker contrast. We chose not to adopt this approach, as we believe there are many lessons to be learned from the developed world for public health nutrition.

The paper sets out the effects of globalisation and the food system on health. Then environmental degradation and the hidden costs of the food supply are explored. Following this, we look at the pressing problem of poverty in developing and developed countries using food (in)security. Lastly, we examine issues related to food policy and public health nutrition using examples from the UK/Europe and Australia; their health promotion systems are similar, but the ways in which food policy has developed are in sharp contrast. In particular, the issues we raise concerning the power of the food industry, and relationships with health promotion activities and public health nutrition professionals, are of crucial importance for public health nutrition and food policy.

Globalisation, health and food

That we in the developed world eat a different and better diet than did our predecessors 100 years ago is not in doubt. We live longer, are taller and do not suffer from diseases of deprivation associated with food. There have been large and important population health transitions from communicable diseases to non-communicable diseases, many of them diet-related. The developed world is experiencing a so-called 'nutrition transition'^{15–17}, with diseases such as obesity and type II or late-onset diabetes, previously associated with middle age and lifestyle factors, now skipping a generation and occurring amongst younger members of society. The nutrition transition is also occurring in the developing world, with diseases of undernutrition existing side-by-side with non-communicable diet-related diseases. The nutrition transition is driven by urbanisation and the increasing supply of ready processed and energy-dense foods in the diet.

The nutrition transition is taking place at a rate faster than was previously thought, with changes related to food and lifestyle factors and the consequent impacts on healthcare systems occurring within one generation¹⁸. Estimates from WHO for the costs of poor nutrition, obesity and low physical activity in Europe, calculated in disability-adjusted life years, is 9.7%, which compares with 9% due to smoking¹⁹. Analysis suggests that strategies to promote healthy eating and dietary change are among the most cost-effective of methods of preventing cardiovascular disease²⁰.

Globalisation has a number of meanings. The first for our purposes is the economic process of trade liberalisation of food markets²¹. Globalisation also possesses a cultural and ideological aspect, sometimes referred to as 'McDonaldisation' or 'Coca-Colonisation'⁵. People are being

encouraged to think of food and drink not as coming from farmers or the earth but from giant corporations²². This is a methodical moulding of taste with the large corporations now the primary drivers in dietary change, controlling production and distribution chains. The eating habits of whole populations are changing fast. Globalisation of the food chain introduces more opportunities for breakdowns in the safety system and for more people to be affected by any such lapses²³.

It can be argued, of course, that the globalisation of food is not new. Colonial powers in the 17th and 18th centuries transported new foods around the globe through, for example, the so-called 'Columbian Exchange' between the New World of the Americas and the Old World of Europe²⁴. What is different today is the scale, pace and control of globalisation. These are accelerated by new means of communication, the decreasing time gap between the development and use of new technologies, the easing of global trade barriers and the concentration of power in a few transnational companies (TNCs)²⁵. Chopra *et al.*²⁶ argue that food globalisation is having a catastrophic effect on the health of nations in both the developing and the developed worlds, and that the lack of policies which address diet-related non-communicable diseases has to be considered when considering why this situation has arisen.

Environmental impacts

One of the fall-outs of the globalisation process is the movement of food between and within countries. The distance food travels in the UK between producer and consumer rose by 30% in 15 years at the end of the 20th century²⁷. This has been called the 'food miles' effect. The increase in food miles results in pollution, the use of pesticides and packaging, and a rise in hidden costs when effects are passed on to other areas. This 'externalisation' of costs results in damage to the environment, human health, etc., with the costs being paid through other budgets such as indirect health costs by a contribution to cardiovascular disease and treatment for food poisoning²⁸ or environmental costs such as pesticide and nitrate pollution. In the European Union, it is said that consumers pay three times for their food: first across the counter as they buy it, second as part of their contribution to subsidies of agriculture through the Common Agricultural Policy (CAP) and third in the form of cleaning up environmental pollution caused by intensive agriculture²⁹.

Equally, Australia is no stranger to the externalised costs of food policy. With a population of 18 million, Australia grows enough to feed 60 million³⁰ and food now comprises some of the country's most lucrative exports. While the externalised costs of food exports are (as usual) hidden, starkly visible are the effects of such intensified food production systems: vast amounts of once arable land now laid barren by the loss of topsoil and salinity

problems, and waterways and rivers polluted by toxic algal bloom produced by fertiliser run-off³¹.

If public health nutrition is serious about the health-promoting effects of settings and environments³², then the evidence from current trends and problems in the food supply chain suggest that it is time for these to be included in any food policy. The relationship between mismanagement of the natural environment and human health has been well documented^{33,34}. Yet we find little evidence of public health nutrition making a real attempt to devise or influence food policies to include in their remit environmental aspects.

Food and food security

The Food and Agriculture Organization (FAO)³⁵ estimated that, for the period 1995 to 1997, 790 million people in the developing world did not have enough to eat. Lest we regard this issue as a 'problem' just of the developing world, the same FAO report pointed out that in the industrialised countries of the First World there were 8 million people undernourished and suffering serious food deprivation. In Eastern Europe this figure is estimated to be 4 million, and in the newly independent states of the former USSR, 22 million (7% of the population). These figures refer only to under-nourishment; they do not account for the lack of culturally and socially appropriate foods.

In the UK, Australia and other affluent countries, people go hungry and adults and children eat nutritionally poor diets as nutritionally sound diets cost more^{36–39}. Food security, as the right of individuals and communities to an adequate, culturally appropriate diet, is another of the neglected issues in food policy and public health nutrition.

In developed economies such as the UK and Australia, the poverty gap is also a cultural one and food is one way that people can feel isolated from the cultural norm. A family may be well-nourished from a nutritional perspective but experience deprivation through lack of access to valued foods, preferred foods or consistent amounts of food⁴⁰. Thus poverty and food security can be observed at a sub-national level, especially as we shift our conception of want and scarcity and move away from traditional approaches to food and nutrition based on knowledge and skills to one of access and financial resources^{41,42}.

The emergence of 'food deserts' – or perhaps more appropriately titled 'retail deserts' – provides one example of a new view of food insecurity, poverty and inequalities in developed countries. Food deserts is a term used to describe the idea that, in an affluent country like the UK, there are areas where affordable and healthy food is not available, but affordable, unhealthy and highly processed food is, giving rise to the contention that 'good food is a bad commodity, but good commodities are often bad foods'.

In the UK the food retail market is dominated by large retailers or multiples, resulting in the development of

superstores, supermarkets and hypermarkets called by some 'cathedrals of consumption'⁵. Table 1 summarises the concentration of the retail grocery market in seven developed countries.

In the UK the concentration of the grocery market has contributed to:

- the social and economic demise of inner cities as stores have moved to out-of-town locations;
- the destruction of rural economies; and
- the creation of areas wherein certain sections of the community, like single mothers, the elderly and those without access to a car or with poor public transport, are physically and socially isolated⁴⁵.

The concentration of market share in the UK was accompanied by the development of out-of-town supermarkets and the closure of great numbers of local corner and village shops, both in urban and rural areas⁴⁶. By the end of the 1990s in the UK, 42% of rural parishes had no shop⁴⁷. A study in rural South Australia showed that as food was trucked to rural communities, quality generally went down and prices rose, often considerably⁴⁸. Fresh foods, for example fruit and vegetables, were the most often affected. Rural and remote aboriginal communities, where diet-related diseases are usually highest and where fresh food consumption usually lowest, were most disadvantaged.

The impact of supermarkets is insidious and not just a feature of developed-world economies: they exercise control over all parts of the food supply chain and dictate what is grown in developing or low-income countries for supply to middle- and high-income countries. Their growth in Latin America and Africa is cause for concern, with, for example, supermarkets occupying 60% of the national retail sector in Latin America and around half this level for fresh fruit and vegetables^{49,50}. The point here is that the power of retail giants like supermarkets extends beyond what they sell, to their sourcing and buying policies.

Table 1 Examples of grocery retail concentration figures

Country	Concentration
UK	Five major retailers account for 61% of all food grocery shopping
France	Five main retailers account for 80% of all food shopping
Germany	Four major retailers account for 80% of all food shopping
Ireland	Three major retailers account for 59% of all food shopping
Finland	Two major retailers account for 79% of all food shopping
Sweden	Three major retailers account for 61% of all food shopping
Australia	Two major retailers account for 76% of all food shopping

Source: Adapted from Atkins and Bowler⁴³ and the National Association of Retail Grocers of Australia⁴⁴.

So far we have examined a number of pressing health issues which, we argue, arise directly or indirectly from food policy decisions or a lack of decision-making. Many of these decisions are made at a global level in corporate boardrooms or government offices affecting communities and regions across the globe. We now examine in detail the situation in two countries – the UK and Australia – to show how food policy decisions have omitted health considerations.

Food policy – the UK

The UK has seen a change from self-sufficiency in World War II to post-war policy concerned with the provision of cheap food from a global market⁵¹. The underlying philosophy was and still is that of neo-liberal economics^{8,52}. We now know that this came with a cost – the relaxing of standards with relation to food safety (e.g. bovine spongiform encephalopathy and foot-and-mouth disease); less obvious costs are the re-emergence of food poverty and the rise of food insecurity as outlined above⁵³. The Acheson Independent Inquiry⁵⁴ into inequalities in health pointed out a number of areas related to food where government needed to take action on issues such as food deserts and the impact of subsidies such as CAP on food choice⁵⁵. Current government approaches in the UK fail to address food choice at a structural level, instead opting for a focus on changing individual behaviours, such as increasing the consumption of fruit and vegetables, without adequately addressing how these would be supplied across the population or the impact on the environment of transporting fruit from Mediterranean regions to meet increased demand in the UK.

The current response to issues of food and public health nutrition in the UK has been on cancer and coronary heart disease as major priorities, and to some extent on prevention of these diseases by tackling the major risk factors such as smoking, obesity, physical inactivity and nutritionally poor diets^{56–58}. But none of them explicitly deals with issues of access or food poverty or wider environmental issues. There are also many pilot schemes dealing with increasing the intake of fruit and vegetables in schools and in deprived communities^{59,60}, which again pay scant attention to wider elements of sustainability. There is a plethora of community activity occurring to tackle issues of food access and food poverty, by encouraging local communities to set up self-help projects often to do with skills acquisition; a few deal with access issues but usually in the form of food co-ops or growing schemes⁶¹. Most are downstream initiatives. There are few projects supported by public health funding which look at the food supply system itself.

The point is not that projects which focus on ‘downstream’ or local agendas are inappropriate, but that they should be matched and supported by projects which focus upstream on the food supply chain within a framework of

policy development⁶². Analysis found that the activities specified changing individual skills and were unlikely to meet this aim. In fact, the focus on skills may divert attention from the determinants of food poverty by offering short-term solutions to long-term problems and diverting attention from the real causes or determinants.

Food policy – Australia

Recognising a need to be more competitive on the international market, over the last two decades Australia has been a great advocate of neo-liberal free-market reforms. The Australian Government has weaned farmers off subsidies that protect local industries, and tariffs have gradually been lifted. In this new-world order, Australian farmers had to produce and export more to stay viable. This effectively has worsened the market (through oversupply) and continues environmental degradation of the land through unsustainable farming practices⁶³. The effects have been devastating for the health and welfare of the rural sector, with fewer family farms and a growth of corporate forms of agricultural production⁶⁴.

Neo-liberal policies have also been applied to the Australian home market. A review of Australian food standards was undertaken in 1997 with an explicit objective to reduce the regulatory burden, which was considered to stifle food industry creativity⁶⁵. The extent to which flair and imagination in the food industry is compatible with health is, however, questionable. The development and marketing of foods modified to have a so-called ‘health benefit’ is a case in point. So far, Australian consumers have been protected by food standards preventing the labelling of foods with claims of outright and specific health benefits (so-called ‘health claims’). This protection is based largely on the fact that a ‘magic bullet’ approach is considered unrealistic for most diet-related diseases because of their multi-factorial development. Heavy pressure has been brought to bear on the Australian national food regulation authority, under the auspices of the Minister of Health, to reduce this regulatory burden and health claims legislation is being reviewed⁶⁶. The assumption is that the market, not the Minister, should rule. Many believe, however, that a rationalisation of food standards will not be in the best interests of health⁶⁷.

Of course, fixing and fiddling with ingredients in processed foods will do little to address a major problem in the Australian diet: the lack of fresh and minimally processed foods, especially fruits and vegetables⁶⁸. Nor will it address the pressing diet-related problems in Australian indigenous populations. These are mainly problems of poverty and access to good food. And cosmetic changes to food will not address the environmental problems that are created in Australia by conventional food systems⁶⁹. The introduction of health claims will of course require a raft of new legislation to regulate the food industry to ensure that it does not

overstate or exaggerate the benefits of fortified foods. Administration of this regulation will undoubtedly be costly, raising serious questions about the appropriate use of public funding to 'police' the marketing of yet more processed foods with dubious health benefits.

Australia and the UK: policy options

What is needed in countries like the UK and Australia are public health approaches that focus upstream on the food supply chain to complement the current plethora of downstream initiatives and which integrate the safety, environment and nutritional perspectives at all levels. There is a need for public health policy to address ecological issues of food at all stages of the food chain, as is often said 'from farm to plate'. Current health promotion concentrates on the later aspects of the food chain when food reaches people and as it enters their mouths. In short, we need to move our focus from 'post-swallowing' food and nutrition interventions to 'pre-swallowing' conditions⁷⁰.

Policies also need to be developed to reduce poverty, allowing access to good food by those who need it most. The fact that poverty exists in developed countries – albeit relative – is a major revelation to many, including public health workers who assume that the provision of 'cheap' food has resulted in the demise of food poverty. Also needed are food practices – whether at the farm, the shop or the kitchen – which promote fresh, minimally processed foods produced in ways that are sustainable to health and the environment.

Such policies and practices sit comfortably with current trends. We are already seeing, for example, the emergence of the local over the global, fresh and organic foods as opposed to processed foods, skills development as opposed to de-skilling, and a concern with the environment and food production. The food industry looks at these developments and is ready to respond and create niche markets. The UK food industry has been quick to respond to consumer fears by the removal of genetically modified foods from the shelves of shops^{71,72}. While these are responses to public concerns over food, we should be clear that these reactions are not based on one of concern for the health of consumers but, rather, on the impact on sales and profits. Already the large TNCs engaged in the development of new food technologies such as genetically modified organisms and functional foods are regrouping, and a strategy based on a public health approach is being adopted⁷³. Many are now arguing that margarines which reduce cholesterol and currently occupy a niche market, in terms of market distribution and a premium price, should be considered a component part of public health interventions; that is, subsidised and made available to a whole population on prescription. Their marketing – or rather lobbying – is not

aimed at the public but at policy-makers in Departments of Health across the developed world⁷⁴.

Conclusions

In this paper we have argued, and provided evidence to demonstrate, that in the area of food, public health nutrition has largely focused on the transfer of knowledge and skills and has over-emphasised behavioural explanations and encouraged health promotion to favour lifestyle intervention rather than tackle structural factors. There is ample evidence that people do possess the skills and knowledge but not always the resources necessary to put their intentions into action^{75,76}. Food policy should seek to make the social infrastructure conducive to healthy decisions about food.

To address the factors highlighted in this paper, health promotion workers need not just different orientations but additional skills and professional leverage backed by wider social forces. Tactically, public health nutrition, health educators and promoters could take this opportunity to move away from the emphasis on the consumer and to build on the experience of alliances and lobbying.

The dominant food system premised on neo-liberal economics and the power of large companies has not solved all the problems associated with food and disease in countries such as Australia and the UK; it has in fact introduced its own set of problems concerned with food access, equity and problems with the growing and supply of foods to communities. Australia and the UK show the two sides of this dilemma, with the latter relying on the global market for its food supply and the former on the global market to distribute its surplus food. Both have implications: the UK approach encourages indigenous communities in developing countries to change their local growing systems to cater for the developed world; the export agenda pursued by Australia similarly undermines indigenous agriculture by providing cheap and sometimes inappropriate food.

For public health nutritionists working at a local level, this may seem very removed from the reality of running a food and health project or promoting healthy eating. Work from Toronto suggests that food and nutrition work should address the following as part of developing food citizenship (as opposed to a model based on food consumerism):

- not use strategies based on charity;
- account explicitly for the de-skilling and sense of isolation caused by global food systems and work with both local and global issues at the same time; and
- must deliberately take back some degree of control of food distribution from the dominant food system⁷⁷.

Equally, alliances that in practice subjugate public health concerns to commercial interests or encourage public

health to mimic commercial ways of working without clear health strategies should be treated with caution⁷⁸. More evidence is needed of actual health gain from alliances between commercial companies, such as supermarkets, and health promotion agencies that focus only on the provision of health information for consumers⁷⁹. At best, such approaches often focus only on the benefits to the end consumer, and often the affluent consumer (e.g. lowering of fat intake/increase in fruit and vegetable consumption), ignoring many of the wider issues we have raised in this paper. In essence we believe that food policy must come to grips with the global and environmental nature of the food supply, especially if 'the new ecological public health principles like social justice and equity, and access to health through food are to be addressed'⁸⁰.

Working with powerful interests such as food companies needs to be approached with caution, and the work needs to be conducted with a clear public health nutrition agenda in mind, as opposed to the interests of the food sector being paramount. This lesson has been learned by organisations such as WHO in the development of global and regional policy⁸¹. In his work in resisting the intrusion of Wal-Mart into local communities in the USA ('sprawl-busting'), Norman⁸² notes that the key is not to reject big business outright but to accept them on your terms, not theirs – this is influenced by the type of society we want to live in. Influencing powerful interests can be done at the individual level, where we can make clear our concerns by using our influence as consumers and taking our business elsewhere. As professionals we can encourage our representative groups to voice concerns over the increasing concentration of our food system in a small number of transnational companies. This includes making representations to national government and to international organisations with a responsibility for trade, such as the World Trade Organisation and the World Bank⁸³.

References

- 1 Lang T. Old policies, new recipes? *Times Higher Education Supplement* 15 March 2002; 15.
- 2 Barthes R. *Mythologies*. London: Palladin, 1973.
- 3 Brannen J, Dodd K, Oakley A, Storey P. *Young People, Health and Family Life*. Milton Keynes, UK: Open University Press, 1994.
- 4 Charles N. Food and family ideology. In: Jackson S, Moores S, eds. *The Politics of Domestic Consumption*. Hemel Hempstead, UK: Prentice Hall/Harvester Wheatsheaf, 1995.
- 5 Ritzer G. *The McDonaldisation of Society. The Millennium Edition*. Thousand Oaks, CA: Pine Forge Press, 2000.
- 6 Ritzer G. September 11, 2001: mass murder and its roots in the symbolism of American consumer culture. In: Ritzer G, ed. *McDonaldisation: The Reader*. London: Sage, 2002; 199–212.
- 7 Coveney J. *Food, Morals and Meaning: The Pleasure and Anxiety of Eating*. London: Routledge, 2000.
- 8 Lang T. The new globalisation, food and health: is public health receiving its due emphasis? *Journal of Epidemiology and Community Health* 1998; **52**: 538–9.
- 9 Bettcher D, Yach D, Guindon GE. Global trade and health: key linkages and future challenges. *Bulletin of the World Health Organization* 2000; **78**(40): 521–34.
- 10 Bettcher D, Lee K. Globalisation and public health. *Journal of Epidemiology and Community Health* 2002; **56**: 8–17.
- 11 Crister G. *Fat Land*. Boston, MA: Houghton Mifflin, 2003.
- 12 Fleck F. WHO challenges food industry in report in diet and health. *British Medical Journal* 2003; **326**: 515.
- 13 World Health Organization (WHO). *Diet, Nutrition and the Prevention of Chronic Diseases*. Technical Report Series No. 916. Geneva: WHO, 2003.
- 14 Boseley S. Sugar industry threatens to scupper WHO. *The Guardian* 21 April 2003; 1–2.
- 15 Caballero B, Popkin B. *The Nutrition Transition: Diet and Disease in the Developing World*. London: Academic Press, 2002.
- 16 Popkin B. The nutrition transition and its health implications in lower-income countries. *Public Health Nutrition* 1998; **1**(1): 5–21.
- 17 Drewnowski A, Popkin BM. The nutrition transition: new trends in the global diet. *Nutrition Reviews* 1997; **55**: 31–43.
- 18 Guldan G. Paradoxes of plenty: China's infant and child feeding transition. In: Jing J, ed. *Feeding China's Little Emperors: Food, Children and Social Change*. Stanford, CA: Stanford University Press, 2000.
- 19 World Health Organization (WHO). *Food and Nutrition Action Plan for Europe*. Copenhagen: WHO European Regional Office, 2000.
- 20 Brunner E, Cohen D, Toon L. Cost effectiveness of cardiovascular disease prevention strategies: a perspective on EU food based dietary guidelines. *Public Health Nutrition* 2001; **4**(2B): 711–5.
- 21 Barris E, McLeod K. Globalization and international trade in the twenty-first century: opportunities for and threats to the health sector in the South. *International Journal of Health Services* 2000; **30**(1): 187–210.
- 22 Klein N. *No Logo*. London: Flamingo, 2000.
- 23 World Health Organization (WHO). *Food Safety and Globalisation of Trade in Food: A Challenge to the Public Health Sector*. Geneva: WHO Food Safety Unit, 1998.
- 24 Sokolov R. *Why We Eat What We Eat: How the Encounter Between the New World and the Old Changed the Way Everyone on the Planet Eats*. New York: Summit Books, 1991.
- 25 Castells M. *The Rise of the Network Society: Economy, Society and Culture. Vol. 1*. Oxford: Blackwell, 1999.
- 26 Chopra M, Galbraith S, Darnton-Hill I. A global response to a global problem: the epidemic of overnutrition. *Bulletin of the World Health Organization* 2002; **80**: 952–8.
- 27 Paxton A. *The Food Miles Report*. London: Sustainable Agriculture, Food and Environment (SAFE) Alliance, 1994.
- 28 French Presidency. *Health and Human Nutrition: Elements for Action*. Working Paper. Brussels: European Commission, 24 August 2000.
- 29 Pretty J, Brett C, Hine RE, Mason CF, Morison JIL, Raven H, et al. An assessment of the total external costs of UK agriculture. *Agricultural Systems* 2000; **65**: 113–36.
- 30 Bawden R. Eating into the environment. In: *Proceedings of Eating into the Future Conference, Adelaide, 1999* [online]. Available at <http://www.pandora.nla.gov.au/nph-arch/1999/Z1999-Oct-11> and <http://www.chdf.org.au/eatwellsa/conference/index.htm>. Accessed 20 December 2003.
- 31 Coveney J. Food security and sustainability: are we selling ourselves short? *Asia Pacific Journal of Clinical Nutrition* 2000; **9**: S97–100.

- 32 Baum F. *The New Public Health: An Australian Perspective*, 2nd ed. Melbourne: Oxford University Press, 2002.
- 33 McMichael T. *Human Frontiers, Environments and Disease: Past Patterns, Uncertain Futures*. Cambridge: Cambridge University Press, 2001.
- 34 Sherman D, Sauer-Thompson G. *Green or Gone: Health, Ecology, Plagues, Greed and Our Future*. Adelaide: Wakefield Press, 1998.
- 35 Food and Agriculture Organization (FAO). *Food Insecurity: When People Must Live with Hunger and Fear of Starvation*. Rome: FAO, 1999.
- 36 United Nations International Children's Fund (UNICEF). *The Urban Poor and Household Food Security: Policy and Project Lessons of How Government and the Urban Poor Attempt to Deal with Household Food Insecurity, Poor Health and Malnutrition*. New York: UNICEF, 1994.
- 37 Dobson B, Beardsworth A, Keil T, Walker R. *Diet, Choice and Poverty: Social, Cultural and Nutritional Aspects of Food Consumption among Low Income Families*. York, UK: Family Policy Studies Centre, Joseph Rowntree Foundation, 1994.
- 38 Köhler BM, Feichtinger E, Barlösius E, Dowler E, eds. *Poverty and Food in Welfare Societies*. Berlin: Sigma, 1997.
- 39 Smith A, Booth S. Food insecurity in Australia. *Australian Journal of Nutrition and Dietetics* 2001; **58**(3): 188–94.
- 40 Crotty P. Food and class. In: Germov J, Williams L, eds. *A Sociology of Food and Nutrition: The Social Appetite*. Melbourne: Oxford University Press, 1999; 135–48.
- 41 Caraher M, Dixon P, Lang T, Carr-Hill R. Barriers to accessing healthy foods: differentials by gender, social class, income and mode of transport. *Health Education Journal* 1998; **57**(3): 191–201.
- 42 Lang T, Caraher M. Food poverty and shopping deserts: what are the implications for health promotion policy and practice. *Health Education Journal* 1998; **57**(3): 202–11.
- 43 Atkins P, Bowler I. *Food in Society: Economy, Culture and Geography*. London: Arnold, 2001.
- 44 National Association of Retail Grocers of Australia (NARGA). *Time Issues Pack*. Parramatta: NARGA, 2001.
- 45 Robinson N, Caraher M, Lang T. Access to shops; the views of low income shoppers. *Health Education Journal* 2000; **59**(2): 121–36.
- 46 Cranbrook C. *The Rural Economy and Supermarkets*. Suffolk: Great Glenham Farms, 1997.
- 47 Goldsmith Z, Roth S. How to show you love the planet. *New Statesman* 16 July 2001; 18–21.
- 48 Meedeniya J, Smith A, Carter P. *Food Supply in Rural South Australia: A Survey of Cost, Quality and Variety*. Adelaide: Eat Well South Australia, 2000.
- 49 Reardon T, Berdegue JA, Farrington J. Supermarkets and farming in Latin America: pointing directions for elsewhere? *Natural Resource Perspectives* 2002; **81**: 1–6.
- 50 Faiguenbaum S, Berdegue JA, Reardon T. The rapid rise of supermarkets in Chile: effects on dairy, vegetables and beef chains. *Policy Development Review* 2002; **20**(4): 459–72.
- 51 Lang T. Local sustainability in a sea of globalisation? The case of food policy. In: Kenny M, Meadowcroft J, eds. *Planning Sustainability*. London: Routledge, 1999.
- 52 Lang T. Diet, health and globalisation: five key questions. *Proceedings of the Nutrition Society* 1998; **58**: 335–43.
- 53 Dowler E, Turner S, Dobson B. *Poverty Bites: Food, Health and Poor Families*. London: Child Poverty Action Group, 2001.
- 54 Acheson D. *Independent Inquiry into Inequalities in Health Report*. London: The Stationery Office, 1998.
- 55 Grant W. The prospects for CAP reform. *Political Quarterly* 2003; **74**(1): 19–26.
- 56 Department of Health (DoH). *The NHS Plan*. Cm 4818-1. London: DoH, 2000.
- 57 Department of Health (DoH). *National Service Framework for Coronary Heart Disease: Modern Standards and Service Models*. London: DoH, 2000.
- 58 Department of Health. *The NHS Cancer Plan: A Plan for Investment, A Plan for Reform*. London: The Stationery Office, 2000.
- 59 Department of Health. *The National School Fruit Scheme* [online], 2001. Available at <http://www.doh.gov.uk/school-fruitscheme>. Accessed 25 October 2003.
- 60 Department of Health. *Five-a-day Update* [online], 2001. Available at <http://www.doh.gov.uk/fiveaday>. Accessed 25 October 2003.
- 61 Dowler E, Caraher M. Local food projects: the new philanthropy? *Political Quarterly* 2003; **74**(1): 57–65.
- 62 McKinlay JB, Marceau LD. Upstream health public policy: lessons from the battle of tobacco. *International Journal of Health Services* 2000; **30**(1): 49–69.
- 63 Vanclay F, Lawrence G. *The Environmental Imperative: Ecosocial Concerns for Australian Agriculture*. Rockhampton: Central Queensland University Press, 1995.
- 64 Lawrence G, Share P, Campbell H. The restructuring of agriculture and rural society: evidence from Australia and New Zealand. *Journal of Australian Political Economy* 1992; **30**: 1–23.
- 65 Blair W. *Food: A Growth Industry*. Report of the Food Regulation Review. Canberra: Food Regulation Review, 1998.
- 66 Coveney J, Lawrence M. *Discussion Paper: Health Claims May 2000*. Canberra: Public Health Association of Australia, 2000.
- 67 Australian Consumers Association (ACA). *Health Claims Position Paper*. Sydney: ACA, 1999.
- 68 Strategic Inter-government Nutrition Alliance (SIGNAL). *Eat Well Australia: An Agenda for Action for Public Health Nutrition 2000–2010*. Canberra: SIGNAL and the National Public Health Partnership, 2000.
- 69 Coveney J, Santich B. A question of balance: food, nutrition and sustainable gastronomy. *Appetite* 1997; **28**: 267–78.
- 70 Crotty P. *Good Nutrition? Fact and Fashion in Dietary Advice*. St Leonards, New South Wales: Allen and Unwin, 1995.
- 71 Heasman M, Tudge C. *Future Food: Two Radical Views of 21st Century Eating*. The Caroline Walker Lecture 1999. London: Caroline Walker Trust, 1999.
- 72 Lawrence M, Germov J. Future food: the politics of functional foods and health claims. In: Germov J, Williams L, eds. *A Sociology of Food and Nutrition: The Social Appetite*. Melbourne: Oxford University Press, 1999; 54–76.
- 73 Heasman M, Mellentin J. *The Functional Foods Revolution: Healthy People, Healthy Profits?* London: Earthscan, 2001.
- 74 Caraher M. Relationship marketing. Paper presented to the *European Forum on Health in Europe*, Gastein, Austria, September 2000.
- 75 Charles N, Kerr M. Issues of responsibility and control in the feeding of families. In: Rodmell S, Watt A, eds. *The Politics of Health Education: Raising the Issues*. London: Routledge and Kegan Paul, 1986.
- 76 Lang T, Caraher M, Dixon P, Carr-Hill R. *Cooking Skills and Health: Inequalities in Health*. London: Health Education Authority, 1999.
- 77 Welsh J, MacRae RJ. Food citizenship and community food security: lessons from Toronto, Canada. *Canadian Journal of Development Studies* 1998; **19**: 238–55.
- 78 Brownell KD, Horgen KB. *Food Fight: The Inside Story of the Food Industry, America's Obesity Crisis, and What We Can Do About It*. Chicago, IL: Contemporary Books, 2004.
- 79 The Food Commission. *Cause or Compromise? A Survey into Marketing Partnerships between Food Companies and Health Charities or Medical Associations*. London: The Food Commission, 2002.

- 80 Labonte R. Healthy public policy and the World Trade Organisation: a proposal for an international health presence in future world trade/investment talks. *Health Promotion International* 1998; **13**(3): 245–56.
- 81 Lee K, Buse K, Fustukian S. *Health Policy in a Globalising World*. Cambridge: Cambridge University Press, 2002.
- 82 Norman A. *Slam-dunking Wal-Mart!* Atlantic City, NJ: Raphael Marketing, 1999.
- 83 Caraher M. Food protest and the new activism. In: John S, Thomson S, eds. *New Activism and the Corporate Response*. Basingstoke, UK: Palmgrave, 2003; 185–205.