



A joint meeting between the Nutrition Society and the Royal Society of Medicine was held at the Royal Society of Medicine, London on 11–12 December 2012

Conference on ‘Dietary strategies for the management of cardiovascular risk’

Dietary strategies, policy and cardiovascular disease risk reduction in England

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Diet-related chronic diseases are major public health concerns in England and the associated costs to the National Health Service and society are considerable. Poor diet and other lifestyle factors are estimated to account for about one-third of all deaths from CVD in England. UK dietary recommendations were set by the Committee on Medical Aspects of Food Policy and are now set by the Scientific Advisory Committee on Nutrition. For cardiovascular health, dietary recommendations are set for nutrients (saturated fat, *trans*-fat and carbohydrates), foods (fruits, vegetables and oily fish) and salt. The National Diet and Nutrition Survey demonstrates that the majority of the UK population have poor diets. Average intakes of saturated fat and salt are above recommendations while fruit, vegetables, fibre and oily fish are below recommendations. The Department of Health in England is committed to working to improve diet and lifestyle. Current work includes the Public Health Responsibility Deal, under which organisations pledge to increase fruits and vegetables and reduce levels of salt, *trans*-fat and energy in manufactured foods and menus, the provision of information to help improve food choice through better food labels and provision of information, including a NHS Choices website and the social marketing campaign Change4Life.

CVD: Dietary recommendations: Policy

UK Government advice on healthy eating is encompassed pictorially in the eatwell plate (Fig. 1), depicting the proportions of four main food groups that should form the diet, namely: bread, rice, potatoes, pasta and other starchy foods; fruits and vegetables; milk and dairy foods; and meat, fish, eggs, beans and other non-dairy sources of protein. Foods and drinks high in fat and/or sugar should be consumed in small amounts and infrequently. UK Government advice is based upon recommendations from expert committees such as the Scientific Advisory Committee on Nutrition, which replaced the Committee on Medical Aspects of Food Policy in 2000. Despite long-standing advice on the constituents of a healthier diet, many in the population fail to achieve these recommendations with subsequent diet-related morbidity and mortality.

Risk of death from CHD increases with plasma total cholesterol and particularly, plasma LDL cholesterol. While genetic factors play a role independently of lipid

patterns, plasma cholesterol is significantly influenced by dietary fat; in particular saturated and *trans*-fatty acids^(1,2). The Scientific Advisory Committee on Nutrition reconsidered the association between sodium (salt) intake and blood pressure in 2003 and concluded that a reduction in average population salt intake would proportionally lower population average blood pressure levels and confer significant public health benefits by contributing to a decrease in the burden of CVD⁽³⁾. For example, 74% of UK 11–18-year-olds and 68% of adults aged 19–64 years exceed the Dietary Reference Value of 11% food energy from saturated fat⁽⁴⁾. Fifty-eight percent of men and 61% of women have blood cholesterol greater than the recommended 5 mmol/l⁽⁴⁾. Estimates suggest that if the UK population were to reduce saturated fat intake from current to recommended levels 2600 premature deaths would be averted each year (based on⁽⁴⁾). For salt intake, 70% of the UK population exceed the recommended maximum of 6 g/d

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The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



Public Health England in association with the Welsh Government, the Scottish Government and the Food Standards Agency in Northern Ireland

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Fig. 1. (colour online) The eatwell plate, The UK National Food Guide.

and 32% and 29% of men and women, respectively have high blood pressure⁽⁴⁾. Reducing UK adult population intakes to the recommended maximum has been estimated to avert more than 8000 premature deaths per year with a saving of £604 m per year for the National Health Service (Department of Health (England), personal communication, 2012).

The Committee on Medical Aspects of Food Policy noted that some soluble forms of NSP reduce plasma level of total and LDL cholesterol⁽¹⁾ and at the time of writing this paper the Scientific Advisory Committee on Nutrition has established a working group to review dietary carbohydrates and recommendations. It is anticipated that a draft report from this working group will be published for consultation in 2014.

The Scientific Advisory Committee on Nutrition concluded that consumption of two portions of fish per week, one of which should be oily, would probably confer significant public health benefits to the UK population in terms of reducing CVD risk⁽⁵⁾. Long-standing advice on the protective associations with consuming 400 g or more of fruits and vegetables⁽⁶⁾ has recently been strengthened with demonstration of reduced mortality in higher quintiles of fruit and vegetable consumers⁽⁷⁾.

Other lifestyle factors such as smoking and being physically active also play a role in CVD risk; however,

the impact of being overweight is becoming an increasingly important population factor given the rates of overweight and obesity⁽⁸⁾. Such considerations bring a wider focus on total fat, non-milk extrinsic sugars and alcohol as contributors to additional energy in the diet.

Dietary recommendations and intakes

Dietary recommendations and intakes⁽⁴⁾ for the UK are shown in Table 1. In general, the average UK population intake of total fat is close to recommended levels and *trans*-fat below the maximum recommendation. However, the average UK intake of saturated fat, non-milk extrinsic sugars and salt exceed recommendations while intakes of NSP, fruits and vegetables and oily fish fall short. This poor diet is estimated to account for a third of UK deaths from CVD^(9,10).

Government policy and food

Theoretically, there are numerous ways in which the Government can act in order to assist the population in achieving dietary recommendations. It can simply do nothing and monitor the situation, allowing other forces to influence intake. The Government can provide information about the dietary recommendations hoping that consumers



Table 1. UK dietary guidelines and intakes*

Nutrient/food	Population recommendation (% of food energy/dietary target)	Boys 4–10		Girls 4–10		Boys 11–18		Girls 11–18		Men 19–64		Women 19–64		Men 65+		Women 65+	
		years	years	years	years	years	years	years	years	years	years	years	years	years	years	years	years
Total fat	Not more than 35%	33.3	34.0	34.1	34.4	35.0	34.4	34.4	35.0	34.4	36.9	34.4	35.4	36.9	34.4	35.4	35.4
Saturated fat	Not more than 11%	13.1	13.5	12.7	12.5	12.8	12.6	12.6	12.8	12.6	14.4	14.0	14.0	14.4	14.0	14.0	14.0
Trans fat	Not more than 2%	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total carbohydrate	At least 50%	52.2	51.7	50.6	50.9	47.5	48.3	48.3	47.5	48.3	45.9	46.9	46.9	45.9	46.9	46.9	46.9
Starch and sugars in milk and fruit	At least 39%	37.7	37.0	35.0	35.8	34.7	36.5	36.5	34.7	36.5	34.1	35.7	35.7	34.1	35.7	35.7	35.7
Non-milk extrinsic sugars‡	Not more than 11%	14.4	14.7	15.6	15.0	12.8	11.8	11.8	12.8	11.8	11.8	11.1	11.1	11.8	11.1	11.1	11.1
Fibre§	18 g/d	11.7	10.8	12.8	10.8	14.8	12.8	12.8	14.8	12.8	14.2	12.5	12.5	14.2	12.5	12.5	12.5
Salt	Less than 6 g/d (adults)			3.0	2.8	4.1	4.1	4.1	4.1	4.1	4.6	4.3	4.3	4.6	4.3	4.3	4.3
Fruits and vegetables	At least five portions per day of a variety of fruits and vegetables																
Fish¶	At least two portions of fish per week, one being an oily fish			0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.7	0.6	0.6	0.7	0.6	0.6	0.6

*Data from Bates *et al.*⁽⁴⁾.

†Intrinsic and milk sugars.

‡Added sugars and sugars released from cell structure.

§NSP.

¶Values given as average portions of oily fish per week.

may choose those foods in the proportions recommended to improve their health or be more active to enable choice or make healthier choices the default option by guiding the choices available. This can take the form of incentives and disincentives, restriction of choice and ultimately through legislation. Views on the action Governments should take vary by stakeholder group from those who believe that Governments should act decisively through legislation to those who believe that market forces are sufficient to help guide food choice.

In practice, there is no magic bullet, and a matrix of approaches are likely to be most effective in achieving population level dietary change in keeping with the recommendations. While information provision is an important starting point for behaviour change, by itself it is unlikely that population level changes will be manifest; equally food legislation is a complex approach with international influences and simply progressing such approaches would be unlikely to provide timely intervention. Unsurprisingly, Government approaches assess options at all levels of interventions but to date have not introduced specific legislation relating to healthier eating; although some legislative approaches, such as those related to nutrition and health claims, are in force to help ensure accurate and non-misleading information provision to influence consumer choice.

The European Nutrition and Health Claim Regulation came into force on 19 January 2007⁽¹¹⁾. The regulation seeks to protect consumers from misleading or false claims and make it easier for manufacturers to identify nutrition and health claims that can be used on specific food products⁽¹¹⁾. As an example, of relevance to cardiovascular health, claims relating to blood cholesterol have been approved including: (1) Oat beta-glucan has been shown to lower/reduce blood cholesterol; high cholesterol is a risk factor in the development of CHD. (2) Plant sterols and plant stanol esters have been shown to lower/reduce blood cholesterol. High cholesterol is a risk factor in development of CHD.

More activity in England has been taking place at the level of providing information to guide choice and through incentivisation. This has included, since 2011, the Public Health Responsibility Deal, a fundamental part of an ongoing process to improve the health of the English population over the lifetime of the current Parliament, and beyond. The Responsibility Deal is an ambitious and far-reaching challenge to business and other organisations to lead the way in positively shaping and creating a healthier environment that helps people make healthier lifestyle choices. The Food Network aspect of the Public health responsibility Deal has six areas of activity each of which should have an influence on cardiovascular risk, including: out of home energy labelling; salt reduction; artificial trans-fat removal; energy reduction; salt (in) catering; increasing fruits and vegetables.

The Responsibility Deal is already doing well in engaging businesses in focusing towards healthier choices and lifestyles. For example:

- (1) over 70% of high street meals sold will have energy clearly labelled by the end of 2012 in almost 9000



high street outlets including fast food, takeaway, sandwich and coffee shops; all the major supermarkets and 69% of the retail market have committed to removing *trans*-fats – over ninety companies in all;

- (2) over 70% of the retail market and 47% of the major high street and contract caterers are committed to further reductions in salt in over eighty categories of foods – including bread, soups, cereals and pasta sauces;
- (3) twenty-four leading food and drink companies have signed up to the energy reduction pledge making strong commitments to cut and cap energy, as well as through promotional activity encouraging people to eat healthier foods.

Other areas of the Responsibility Deal include action on alcohol, physical activity and workplace health all of which have a role to play in influencing cardiovascular health. The workplace health aspect of this work also links to food by promoting healthier catering and focusing on areas that support Government Buying Standards for Food and Catering Services. These standards aim to support healthier and more sustainable food provision within the public sector (see www.sd.defra.gov.uk/advice/public/buying/products/food/), are mandatory for Government Departments and promoted to the wider public sector. Adoption of the Government Buying Standards for Food has been encouraged to the National Health Service, most recently as part of the Department of Health's Improved Hospital Food Programme (see www.dh.gov.uk/health/2012/10/hospital-food/). Nutrition elements of the standards cover reduction of saturated fat and salt, offering lower sugar cereals and increasing fruits and vegetables. Additional, best practice elements, include menu analysis and labelling, offering smallest standard serving sizes of snacks and limiting sugary drinks to 330 ml portion sizes. This work to incentivise activity by others is supported by advice to consumers directly, for example, that provided through NHS Choices (www.nhs.uk/) and Change4Life (www.nhs.uk/Change4Life/).

In January 2013, Change4Life launched their *Be Food Smart* campaign with updated information, tips, advice and incentives in conjunction with Change4Life partner organisations on key themes linked to healthier diets but with elements reflecting cardiovascular risk factors: cut back fat (with references to reducing total and in particular saturated fat intake); watch the salt; sugar swaps (with particular reference to added sugars); five a day; choose less booze; get going every day (being physically active).

The campaign was launched with the first Government-business advertisement break takeover linking the Government campaign to healthier options available from a range of partners and were used alongside press media and radio advertisements to stimulate demand and use of a meal mixer tool providing energy, fat, sugar and salt limited breakfast, lunch and evening meal recipes. The national television advertisement has been seen by more than 90% of lower socioeconomic mothers in England, on

average eight times each with hundreds of thousands of meal mixer tools requested (Department of Health (England), personal communication). A range of retailers and manufacturers provided vouchers to incentivise purchase of ingredients linked to the meal mixer tool and specific evaluation of the campaign has been commissioned.

Acknowledgements

The author declares no conflict of interest. L.B.L. wrote the manuscript. The author was employed by the Department of Health at the time of writing this manuscript. There was no funding in association with this paper.

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