



The Association
of UK Dietitians

Policy Statement

Sustainable Diets

Summary

“What, and how much we eat directly affects what, and how much is produced. We therefore need to consume more ‘sustainable diets’ – diets that have lower environmental impacts, and are healthier.”

- Tara Garnett, 2014 (1)

Dietitians have an important role to play in the facilitation of sustainable diets for a number of reasons. The current UK diet does not have the right balance of food recommended for a healthy, sustainable diet (2). What’s more, diet-related diseases cost the NHS around £6bn each year (3). Of course these UK issues are part of a wider global picture; Nearly 800 million people in the developing world are undernourished and about two billion are deficient in key micronutrients (4). There is an increasing demand for food from a growing human population, and a challenged food system that is already stressed by the degradation of global ecosystems (5). Food systems are globally interlinked, and although dietitians will ultimately focus on sustainability as it relates to the UK and their patients, being aware of this wider context is important.

The BDA believes the profession should be leading discussions on how our food behaviours can affect both health and the environment. Health and sustainability can go hand in hand and there are a great many win-wins that can be achieved, and dietitians are in a strong position to combine healthy eating messages and sustainable diet advice, and support consumers to take action.

The BDA believes that:

- Everyone should have access to a nutritious high quality diet that is both good for health and the environment.
- Dietitians should be able to reconcile the nutritional and environmental science to give consistent messages about a healthy, sustainable and varied diet. They should be aware of the challenges that may result for vulnerable groups and individuals (e.g. those suffering ill health, pregnant women, people on low incomes, and older adults) and be able to provide advice on sustainable eating as appropriate.
- Meat and dairy products are leading contributors to Green House Gas (GHG) emissions (6) and other environmental impacts and emphasis should be on reduction

of meat (red and processed meat in particular) and processed meat products (PMP) in line with the Eatwell Guide (EWG) (7) and replaced with appropriate plant based proteins such as beans and pulses, and plant based dairy alternatives. The EWG support increased fruit and vegetable intakes, more wholegrain carbohydrates and reduced saturated fat, sugar and salt intakes.

- Dietitians should be proactive advocates for healthy, sustainable diets, seeking to influence a range of policy areas, including education, pricing and accessibility at a local and national level. They should use their skills in interpreting and translating the latest evidence and expertise on sustainability to inform their day to day practice. They should implement practices in their home, workplace and communities to reduce the environmental impact of food whilst promoting optimum nutrition.
- Sustainability should form part of dietetic training for all dietitians, be they in a clinical or public health role.
- This policy recommendation is applicable for the general adult population and children over two. There are some vulnerable groups with nutritional requirements that need special attention, including patients with specific disease states, and nutritional supplements or modifications may be necessary or beneficial.

Introduction

‘Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy’ while optimizing natural and human resources.’

- Food and Agriculture Organization of the United Nations, 2010 (8)

We know environmental sustainability of food systems is complex and dependent on a range of policy areas including climate change, water, ecosystems, land use, soil, food production and distribution and global economics. These are all linked policy areas but many sit outside the sphere of knowledge or influence of the dietetic profession. Nonetheless, the BDA believes the profession should be leading discussions on sustainability as it relates to consumer food and nutrition choices, and interpreting the evidence of those more closely involved in these areas as it applies to their practice.

This BDA policy statement is designed to support the dietetic profession by providing insight into the complex science behind the nutritional, sustainability and economic criteria associated with sustainability (or sustainable diets). While this statement cannot hope to consider all of the myriad elements of sustainability, it will outline some of the most critical to our food system, and set out a clear commitment to including sustainability as an important part of dietetic practice. It will be complemented with a more detailed ‘toolkit’ to provide further information for dietitians to translate the science into practical messages.

Background

The way we produce and consume food and drink creates a range of stresses for our planet. These include climate change, land and water use, loss of biodiversity, exploitation of species through overfishing, pollution and soil loss to name just a few (9) (10) (11). These impacts can be measured in a number of ways, either individually or in a comprehensive manner such as Life Cycle Assessment/Analysis, which seeks to evaluate all the environmental aspects of a product or system through its life cycle.

Many evaluations draw similar conclusions - a cultural shift towards a more plant based diet¹ is required to reduce GHG emissions, improve land and water use and relieve other environmental pressures. A more plant based diet is also recognised as being better for health, as recognised in the most recent iteration of the Eatwell Guide (see below).

The UK has a target for climate change to reduce GHG emissions by 80% from 1990 levels by 2050 (12). Agriculture is responsible for between 18-20% of UK GHG emissions (13). The transportation of food nationally and internationally also contributes to GHG emissions. Wastage of food in the UK is high (14) and needs to be addressed as part of any policy on healthy sustainable food (15). Government has also recognised the pressure on the availability of water for use in agriculture and the need to reduce this impact (16). Improving land use from food production, such as reducing land use for meat production or reducing land use in vulnerable areas such as rainforest would have a positive environmental impact in a range of ways.

Dietitians need to build stronger partnerships across the food system in order to strengthen our understanding of how different sectors interact and how food behaviours impact on health and the environment. This is important if we are to retain the profession's position as experts in the interpretation of nutritional science. It will mean dietitians provide both consistent advice for the consumer in a changing food environment and understand the structural and socio-cultural barriers to this change being achieved. Our food habits reflect our wider cultural beliefs and values, so change to food habits will require support and encouragement.

Policy Considerations

Pricing policy

Many consumers are becoming increasingly interested in the provenance and environmental impact of their food (17); but price (and taste) remains one of the strongest influencing factors that governs choice (18). It has been shown that positive pricing policies on healthy foods can influence choice (19). Due to inequalities in society there are limits to how much we really choose our diets and adults from lower income groups are more likely to cite cost as an important influence on their eating habits (20).

Dietitians should have the skills to show how a more sustainable diet can be cost effective in relation to a 'traditional' diet, especially by replacing meat with plant based protein alternatives such as beans and pulses. This may also need to be accompanied with training to help provide the cooking skills necessary to prepare such a diet. A recent costing based

¹A universally accepted definition of the plant based diet has not been characterised; it is generally agreed that this means basing your meals around protein-containing plant foods to replace traditional sources of protein such as meat, poultry and fish. The nutritional quality of plant food varies. Nuts, legumes and pulses provide an important alternative protein source and fruit and vegetables providing important vitamins, minerals and antioxidants.

on the Eatwell Guide suggested making changes to the diet to improve sustainability would not lead to significant change in the price of the diet (21).

There is a secondary (and perhaps contradictory) argument that we do not pay the true cost of food overall because health, environmental and social costs from food production are only partially included in the price if at all (22), (23). It may be necessary to explain to consumers that the cost of food should increase to reflect this impact. The percentage of income spent on food is lower in the UK than in other EU countries and has been stable despite the rising cost of food since 2007 (24).

Wider policy issues

Policy choices aside from cost can also support consumers to make healthy sustainable food choices through increased skills, knowledge and facilities. It is important that these choices are accessible to all, be that in terms of cost or physical accessibility.

Dietitians also need to be aware of the cultural norms that make a move towards more sustainable diets more difficult. Certain dietary patterns are well entrenched and it will be challenging to move away from the UK's current meat consumption patterns for example.

The Government Buying Standards for food and catering services (GBSF) (25) provide a set of mandatory standards for public procurement, as well as some stricter voluntary best practice standards. They are included in the NHS standard contract and are also a hospital food standard (26). Although not comprehensive, and concerned with only some aspects of sustainability, the GBSF are a step in the right direction and offer a platform for further government intervention on sustainability. Dietitians should have a good understanding of the GBSF and their impact.

The Eatwell Guide

This guide is a UK policy tool that serves as a basis for population level balanced, healthy eating recommendations. For treating individual patients, dietitians use it alongside their experience and individual patient needs and requirements to make tailored dietary recommendations.

In March 2016 Public Health England incorporated sustainability into the new EWG (7) which demonstrated its commitment to addressing this issue. Analysis by the Carbon Trust concluded that the EWG now "shows an appreciably lower environmental impact than the current UK diet." (27) The shift to consider environmental aspects included the protein section of the guide which placed emphasis on plant-based choices. The name of this food group segment was updated to 'Beans, pulses, fish, eggs, meat and other proteins' to highlight the contribution non-meat sources make to protein intake and place emphasis on those foods considered more environmentally sustainable.

The fruits, vegetables and starchy carbohydrates sections have increased and the dairy section has reduced. This is supporting the evidence that plant based foods have a lower environmental impact than meat and dairy. Other changes are more subtle. For example drinking water is highlighted and crisps, chocolate and other snacks have been placed outside of the EWG. While not comprehensive, the new guide is a good introduction to linking nutrition and sustainability.

Consideration of specific food groups

Red and processed meat (RPM)

Dietary modelling suggests that the largest improvements in terms of both improving public health and reducing the impact of climate change (and water and land use) are gained by reducing consumption of RPM (28) (29).

There is growing evidence of the link between the consumption of large amounts of RPM and poor health outcomes. The factors influencing these health outcomes may be related to the high saturated fat in animal products, high salt levels in processed meats or to the displacement of fruit and vegetables and cereals by high meat consumption (30). Current UK intakes of saturated fat are considered too high across all age groups and genders. For all children aged over 11 years, and all adults, meat products and dairy produce each provide 22% of saturated fat in the UK diet (31). Higher intakes of RPM are also linked to an increased risk of cancer (32).

However red meat and dairy produce can be important sources of protein, iron, zinc, calcium, iodine, riboflavin and vitamins A, D and B12. It will be important to provide guidance on alternative dietary sources of these nutrients, especially to higher risk groups such as girls and women of reproductive age to prevent nutritional deficiencies resulting from any planned reduction of red meat and dairy (33). SACN have recommended that those eating 90g of red or processed meat a day should reduce intake to 70g (the current UK average), and can do so without increasing the number of people at risk of insufficient iron intake (34).

Milk and other dairy products

Dairy farming has made some progress in reducing GHG emission on a per unit basis through the increase in yield per cow (35). In recognition that dairy products make a valuable contribution to the nutrient content of the diet, it is advised that people consume some dairy products or alternatives as part of a healthy, balanced diet.

It is recognized that a reduction in milk consumption could further contribute to a reduction in emissions (36). This being the case it is important to consider calcium intake. UK dietary surveys show the adult population meets calcium requirements. However, there are significant numbers of young females (22%) and young males (11%) with intakes below the lower reference nutrient intake (LNRI) for calcium.

The current intake of dairy produce in the UK is broadly in line with that recommended by the Eatwell Guide and is increasingly being used in lower fat forms (24) Although reduced fat milk and dairy produce are seen as an important part of a balanced diet for these young people (37) a plant based diet can provide adequate amounts of calcium; when buying dairy alternatives, unsweetened, calcium fortified versions are best.

Fish

Government nutrition guidelines encourage the consumption of fish and fish oil, specifically two portions of sustainable sourced fish per week, one of which is oily (7). However, the latest report by the Food and Agriculture Organization (FAO) finds that 87% percent of all fish stocks are fully exploited (38). The UK also sources fish in an inefficient manner, throwing away significant quantities of edible fish as a result of quota restrictions.

The impact of reduced consumption of marine products would mean a reduction in protein, iodine, long-chain omega 3 fatty acids and other key nutrients. Marine foods should be selected for omega 3s and iodine as other sources of protein are plentiful in the UK. All fish and aquatic products should be consumed in small quantities and from certified fisheries, and people encouraged to eat a diverse range of fish, especially from more sustainable populations.

Fruit, vegetables and other plant foods

British studies have calculated that emission reductions can only be achieved by lowering the meat component and increasing the plant components of the diet (39). The differences are stark; beef and fish have 38 times higher GHG emissions than potatoes, for example (40). Dietitians need to work with industry and manufacturers to encourage a wider and attractive range of plant based meal options.

However plant based foods also have environmental impact. An increase in plant food consumption may have an impact on the use of more agrochemicals and be detrimental to the soil. Government and the agricultural community also need to look at ways to diversify the range of plant based foods that we can grow in our climate that require less rapid and energy intensive transport (39). However, locally grown food that requires artificial heating and lighting and may have a larger environmental impact than foods grown naturally in a warmer country and transported to the UK. Other options for growing food locally and seasonally, should be encouraged.

Hydration

Sugary drinks in particular are poor sources of nutrition and require significantly higher water use than tap water. Replacing sugary drinks and indeed all packaged beverages with tap water is the cheapest and most environmentally benign way of delivering hydration (41). Dietitians should play a role to advocate for improved hydration from these sources, both in workplaces and the home.

Conclusion

“Eat food. Not too much. Mostly plants.”

- Michael Pollan (42)

Dietary recommendations based on the Eatwell Guide, aiming to increase fruit and vegetable intakes and reduce saturated fat, sugar and salt intakes remain consistent with the recommendations to achieve a sustainable diet (43). Reducing meat intake in favour of alternative plant-based sources remains the single biggest way to improve diet sustainability. Key messages for the consumer need to be carefully managed to ensure that the recommendations are seen as a development of the emerging science and environmental needs rather than a change in the fundamental advice.

This is an emerging area of knowledge for dietitians, and it will be important to balance nutritional and sustainability priorities and identify opportunities to improve both. As an emerging area, it is more difficult to translate the science into practical policy, so our position will need to be kept under review. The BDA will continue to contribute to the debate about the role diet and consumption play in the sustainability of the food system. Dietitians will need to consider the cultural and social norms in the UK which might make moving to more sustainable diets challenging. Dietitians have diverse roles in many areas including research, education, academia and public health and should utilize this broad base of expertise to be agents of behaviour change and influence policies at both local and national level.

This document will be supported with a toolkit to provide practical application in order for dietitians to champion these recommendations.

Further Information and Reading

- [PEN - Food Security:](#)
- [DEFRA Green Food Project](#)
- Government Buying Standards:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/418072/gbs-food-catering-march2015.pdf and
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/595126/Healthier_and_more_sustainable_nutrition_principles.pdf
- [The Live Well Report](#) (WWF 2011):
- [Eating Better, for a fair, green, healthy future](#)
- [Food Climate Research Network](#)
- [Sustain: The alliance for better food and farming -](#)
- www.foodsystemsacademy.org.uk
- www.foodethicscouncil.org
- www.medact.org

References

1. **Garnett, T.** *What is a sustainable healthy diet?* s.l. : Food Climate Research Network, 2014.
2. *Achieving eatwell plate recommendations: is this a route to improving both sustainability and healthy eating?* **Harland, J.I., Buttriss, J., and Gibson, S.** 2012, Nutrition Bulletin 37 (4), pp. 324- 343.
3. **BMA.** Obesity and Diet-Related illness in the UK. *bma.org.uk*. [Online] August 2016. <https://www.bma.org.uk/-/media/files/pdfs/news%20views%20analysis/press%20briefings/obesity%20and%20dietary%20related%20illness%20in%20the%20uk.pdf?la=en>.
4. **FAO, IFAD, WFP.** *The State of Food Insecurity in the World 2014: Strengthening the enabling environment for Food Security and Nutrition.* Rome : FAO, 2014.
5. *Our health, our environment: The Ecological Footprint of what we eat.* **Frey, S and Barrett, J.** Cardiff : s.n., 8-10 May 2007. International Ecological Footprint Conference.
6. **Gerber, P.J., Steinfeld, H., Henderson, B., Mottet, A., Opio, C., Dijkman, J., Falcucci, A. & Tempio, G.** *Tackling climate change through livestock – A global assessment of emissions and mitigation.* Rome : Food and Agriculture Organization of the United Nations (FAO), 2013.
7. **Public Health England.** The Eatwell Guide. [Online] 2016. [Cited: May 22, 2017.] <https://www.gov.uk/government/publications/the-eatwell-guide>.
8. *Proceedings of the International Scientific Symposium: Biodiversity and Sustainable Diets United Against Hunger.* **Burlingame, B, Derini, S (Eds).** Rome : FAO, 2010.
9. *A safe operating space for humanity.* **Rockstrom J, Steffen W, Noone K, Persson A, Chapin III F.S, Lambin EF, Lenton TM, Scheffer M, Folke C, Schellnhuber HJ et al.** 7239, 2009b, Nature, Vol. 461, pp. 472-475.
10. *Food security: the challenge of feeding 9 billion people.* **Godfray HCJ, Beddington JR, Crute IR, Haddad L, Lawrence D, Muir JF, Pretty J, Robinson S, Thomas SM and C. Toulmin.** 5967, 2010, Science, Vol. 327 , pp. 812–818.
11. *Soil and human security in the 21st century.* **Amundson R, Berhe AA, Hopmans JW, Olson C, Sztein AE and DL Sparks.** 6235, 2015, Science, Vol. 348.
12. **UK Government.** Climate Change Act 2008. [Online] <http://www.legislation.gov.uk/ukpga/2008/27/contents>.
13. *The potential to reduce greenhouse gas emissions in the UK through healthy and realistic dietary change.* **Green R, Milner J, Dangour AD, Haines A, Chalabi Z, Markandya A, Spadaro J, Wilkinson P.** 129, 2015, Climatic Change, Vols. 1-2, pp. 253-265.
14. **Quested, T and Parry A.** *Household Food Waste in the UK 2015.* s.l. : WRAP, 2017. CSC107-GEN.
15. *Where are the best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)?* **Garnett, T.** s.l. : Elsevier, 2011, Food Policy, Vol. 36, pp. S23-S32.
16. **DEFRA.** *Opportunities for reducing water use in agriculture.* s.l. : DEFRA, 2006.
17. —. Attitudes and Behaviours around Sustainable Food Purchasing Report. [Online] 2011 . [Cited: May 22, 2017.] <http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-food-attitudes-report-110406-mainreport.pdf>.
18. *The impact of food prices on consumption: a systematic review of research on the price elasticity of demand for food.* **Andreyeva T, Long M, Brownell K.** 20, 2010, Am J Public Health, Vol. 100, pp. 216-222.
19. *Pricing Effects on Food Choices.* **S, French.** 3, March 2003, J. Nutr., Vol. 133, pp. 841S-843S.
20. *Contribution of food prices and diet cost to socioeconomic disparities in diet quality and health: a systematic review and analysis .* **Darmon N, Drewnowski A** 643-660,. 10, October 2015, Nutrition Review, Vol. 73, pp. 643-660.

21. *Eatwell Guide: modeling the dietary and cost implications of incorporating new sugar and fibre guidelines.* **Scarborough P, Kaur A, Cobiac L, Owens P, Parlesak Sweeney K, Rayner M.** 2016, *BMJ Open*, Vol. 6.
22. *Policy Challenges and Priorities for Internalising the Externalities of Modern Agriculture.* **al., Pretty J. et.** 2, 2001, *Journal of Environmental Planning and Management* , Vol. 44, pp. 263-283.
23. *Internalizing the Societal Costs of Agricultural Production. .* , **Buttel FH. . and 133(4):.** 4, 2003, *Plant Physiology*, Vol. 133, pp. 1656-1665.
24. **DEFRA.** *Family Food Statistics* . [Online] 2013. [Cited: May 23, 2017.] <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/family-food-statistics> .
25. —. *Government Buying Standards for Food and Catering Services.* [Online] 2015. [Cited: August 1, 2017.] <https://www.gov.uk/government/publications/sustainable-procurement-the-gbs-for-food-and-catering-services>.
26. **Department of Health.** *Establishing food standards for NHS hospital.* [Online] January 26, 2017. [Cited: November 24, 2017.] <https://www.gov.uk/government/publications/establishing-food-standards-for-nhs-hospitals>.
27. **The Carbon Trust.** *The Eatwell Guide: a More Sustainable Diet.* 2016.
28. *Impact of a reduced red and processed meat dietary pattern on disease risks and greenhouse gas emissions in the UK: a modelling study.* **Aston LM, Smith J, Powles JW.** 5, 2012, *BMJ Open*, Vol. 2.
29. *A UK public health perspective: what is a healthy sustainable diet?* **Riley H, and Buttriss J.** 4, 2011, *Nutrition Bulletin*, Vol. 36, pp. 426-431.
30. *Modelling the health impact of environmentally sustainable dietary scenarios in the UK.* **Scarborough P, Allender S, Clarke D, Wikramasinghe K, Rayner M.,** 66, 2012, *EU J Clin Nutr*, pp. 710 – 716.
31. **Public Health England.** *National Diet and Nutrition Survey: Results from Years 5 and 6 (combined) of the Rolling Programme (2012/2013 – 2013/2014)* . [Online] 2016. <https://www.gov.uk/government/statistics/ndns-results-from-years-5-and-6-combined>.
32. *Carcinogenicity evaluation of red and processed meat consumption.* **IARC/World Health Organisation.** 2015, *IARC Monograph*, Vol. 114.
33. *Food and the planet: nutritional dilemmas of greenhouse gas emission reductions through reduced intakes of meat and dairy foods.* **Millward DJ, Garnett T.** 2010, *Proc Nutr Soc*, Vol. 69, pp. 103–118 .
34. **SACN.** *Iron and Health.* London : TSO, 2010.
35. **DAERA-NI.** *Greenhouse gas emissions Northern Ireland Dairy Farm Sector.* 2017.
36. **Audsley, E, Chatterton, J, Graves, A, Morris, M, Murphy-Bokern, D, Pearn, K, Sandars, D and Williams.** *Food, land and greenhouse gases: the effect of changes in UK food consumption on land requirements and greenhouse gas emissions.* s.l. : UK Government's Committee on Climate Change, 2010.
37. **SACN.** *The Nutritional wellbeing of the British Population.* 2008.
38. **FAO Fisheries and Aquaculture Department.** *The State of World Fisheries and Aquaculture 2006.* Rome : Food and Agriculture Organization of the UN, 2007.
39. **Mason P, Lang T.** *Sustainable Diets: How Ecological Nutrition Can Transform Consumption and the Food System.* s.l. : Routledge, 2017.
40. *Does the Swedish consumer's choice of food influence greenhouse gas emissions?* **al., Wallen A. et.** 2004, *Environmental Science and Policy* 7, pp. 525–535.
41. **Garnett, T and Strong, M.** *The principles of health and sustainable eating patters.* s.l. : Food Security, 2013.
42. **Pollan, M.** *In Defense of Food: An Eater's Manifesto.* s.l. : Penguin, 2009.
43. **Macdiarmid J, Loe J, Kyle J.** *Estimation of the Greenhouse Gas Emissions of the Eatwell Week.* s.l. : Food Standards Agency Scotland, 2013.

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