



Annual Report 2014

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Foreword

I am delighted to introduce the 14th annual report of the Scientific Advisory Committee on Nutrition (SACN), in which we will cover the work of the Committee throughout 2014.

In February 2014, the Committee published its “[Position Statement on Iodine and Health](#)”, a narrative review of the key issues and main studies rather than a full risk assessment or comprehensive review. Although the statement did not include public health recommendations, it acknowledged the gaps and uncertainties in the current evidence and highlighted priorities for further research surrounding the measurement, characterisation and monitoring of iodine deficiency.

In addition, the SACN Carbohydrates Working Group published the [draft Carbohydrates and Health report](#) for public consultation in June 2014. We were pleased to receive a substantial number of responses to the consultation which have helped the Committee in refining the text and its approach to making recommendations. The finalised report is due for publication in 2015.

Meanwhile, the Subgroup on Maternal and Child Nutrition (SMCN) continued to work closely with the Committee on Toxicity (COT) on its review of complementary and young child feeding advice, and the SACN Vitamin D Working Group made progress towards publishing its draft report on *Vitamin D and Health* for public consultation in 2015. The Committee also set up the Military Dietary Reference Values Working Group, which will consider the energy requirements of military personnel in varied occupational roles.

In other news, the SACN website was relocated to [GOV.UK](#) in early 2014. SACN continues to publish meeting papers, minutes, reports and position statements on: <https://www.gov.uk/government/groups/scientific-advisory-committee-on-nutrition>

Finally, I would like to thank the members of the Committee and its Working Groups and Subgroups for their continued commitment to the work of SACN. My thanks also go to those who contributed to the *Carbohydrates and Health* report through the public consultation, and as ever, the secretariat for its hard work drafting SACN's reports and position statements.



Dr Ann Prentice

Chair

About the Committee

SACN is a UK wide Advisory Committee set up to provide advice to Public Health England as well as other government agencies and departments. Its remit includes matters concerning nutrient content of individual foods, advice on diet and the nutritional status of people.

Members are appointed as independent scientific experts on the basis of their specific skills and knowledge. There is also a lay member and a member to represent consumers.

The SACN is supported in its work by a secretariat provided by Public Health England. The secretariat members have scientific expertise that enables them to provide SACN members with comprehensive background information and briefing papers to inform the decision-making processes of the Committee.

SACN's terms of reference are shown at Annex 1.

Openness

SACN is committed to a policy of openness and engagement with interested parties. Papers for the Committee's meetings, agendas and minutes are posted on the [Committee website](#), subject to certain exceptions on grounds of commercial or other sensitive information. As part of the policy of openness, all of the Committee's three main meetings are held in open session by default.

Membership

There were seven reappointments in 2014, the durations of which vary from two to three years in order to stagger the end dates of members' terms. Professor Tim Key, Professor Julie Lovegrove, Dr Stella Walsh and Dr Anthony Williams were reappointed for a further three years; and Professor Peter Aggett, Professor Susan Lanham-New and Professor Harry McArdle for a further two.

Details on Membership of the Committee and its Subgroups can be found in Annex 2.

Biographies of all members can be found in Annex 3.

Remuneration and Committee finance

Remuneration and Committee finances are shown in Annex 4.

Declaration of interests

The Committee follows government advice on declaration of interests. Members are asked to declare where there may be a conflict of interest with regard to an issue under scrutiny at each meeting, which is noted in the minutes. Members are also requested to provide the secretariat with annual declarations of interests, which have been detailed in Annex 5.

Procedures

Meeting agendas are compiled from a number of sources including outstanding items from previous meetings, items suggested by the Committee, outside bodies including other Scientific Advisory Committees as well as items brought forward from the Committee's work programme. Updates from SACN Subgroups and Working Groups are regular features on the agenda.

SACN's Work in 2014

This is the fourteenth annual report of SACN and covers the calendar year 2014.

The Committee met four times in 2014 on 26 February, 9 April, 4 June and 5 November. Dr Ann Prentice chaired all SACN main meetings in 2014.

The Subgroup on Maternal and Child Nutrition met three times in 2014, on 17 March, 8 May and 10 September; the Vitamin D Working Group met three times on 25 February, 5 June and 6 October; and the Carbohydrates Working Group met four times, on 27 February, 10 March, 19 September and 9 October.

Work Programme

The following issues were on the Committee's work programme:

- Carbohydrates and Health;
- Vitamin D and health;
- Review of complementary and young child feeding;
- Potassium-based salt replacers; and
- Military Dietary Reference Values.

More details on the progress of work on the above issues can be found in the subsequent section on SACN's Working Groups and Subgroups.

Forward Look

The Committee considers the following items to be issues for future consideration:

- Fats and health;
- Impact of nutrition on cognitive development, function and performance;
- Nutritional implications of new food technologies and processes;
- Health of women of reproductive age.

Watching Brief

The Committee will keep a watching brief on the following items:

- Sustainable healthy diet - to contribute to public health nutrition messages where needed; and
- Iodine status of the UK population- to revisit when further evidence is available, including iodine status data from the National Diet and Nutrition Survey (NDNS).

SACN's Working Groups and Subgroup

The Committee has a Subgroup and Working Groups comprising SACN members and co-opted specialists. These groups develop recommendations and advice on specific areas of public health nutrition. The groups active during 2014 were:

- Carbohydrates Working Group
- Subgroup on Maternal and Child Nutrition
- Vitamin D Working Group
- Military Dietary Reference Values for Energy Working Group

These groups report back on progress to the main Committee at each SACN meeting.

Carbohydrates Working Group

Background

This Working Group was set up in 2008 following a workshop convened by the FSA in 2007 to discuss current government advice relating to carbohydrate intake. Dietary carbohydrate was last considered by the Committee on Medical Aspects of Food Policy (COMA) in 1989 in their report on Dietary Sugars and Human Disease, the 1991 report “Dietary Reference Values for Food Energy and Nutrients for the United Kingdom” and the 1994 report “Nutritional Aspects of Cardiovascular Disease”. It was agreed that under the remit of the Working Group a review of carbohydrates and their relationship to health outcomes should be undertaken to ensure that policy recommendations and advice are kept up to date.

Terms of reference

SACN was requested to provide clarification of the relationship between dietary carbohydrates and health and make public health recommendations. To achieve this they reviewed:

- the evidence for a role of dietary carbohydrates in colorectal health in adults (including colorectal cancer, Irritable Bowel Syndrome (IBS), constipation) and in infancy and childhood;
- the evidence on dietary carbohydrates and cardio-metabolic health (including cardiovascular disease, insulin resistance, glycaemic response and obesity);
- the evidence in respect to dietary carbohydrates and oral health.
- the terminology, classification and definitions of types of carbohydrates in the diet.

Activity

The Carbohydrates Working Group met on 27 February and 19 September 2014 and conferred by telephone conference on 10 March and 9 October 2014.

In February and March, Members commented on the draft chapters of the ‘Carbohydrate and Health’ report. The draft chapters were also considered at the SACN main committee meetings on 26 February and 9 April 2014.

On 26 June 2014, the ‘Carbohydrates and Health’ draft report and supporting documents were launched for public consultation until 1 September. A substantial number of comments were received during the consultation period. Responses to the consultation comments were discussed at the Working Group meeting in September and the teleconference in October and the report was amended where appropriate.

Subgroup on Maternal and Child Nutrition

Background

The Subgroup on Maternal and Child Nutrition (SMCN) was set up as a specialist standing group to advise Government on issues relating specifically to maternal and child nutrition, an area on which Health Departments need regular scientific advice for policy-making and regulatory purposes.

Terms of reference

The terms of reference for the Subgroup on Maternal and Child Nutrition are to advise, through the Scientific Advisory Committee on Nutrition (SACN), on such aspects of child and maternal diet and nutrition, as are referred to it by Public Health England, the UK Health Departments and SACN.

Activity

The work of the Subgroup in 2014 has focussed on the review of the scientific evidence underpinning UK complementary and young child feeding advice. The terms of reference for the review and scope for the review were agreed by SACN in 2011.

At its meetings in May and September 2014, the Subgroup discussed text drafted by the Secretariat on dietary diversification of the infant diet and current UK, European and international recommendations on infant and young child feeding.

The Subgroup also discussed the evidence that has been identified following extensive searches regarding the effect of complementary feeding alongside breast or formula feeding on cognitive outcomes and the impact of exclusive breastfeeding for four versus six months in relation to maternal health.

As part of the review, SACN asked the Committee on Toxicity to examine the risks of toxicity from chemicals in the infant diet and also what is known about the influence of infant diet on the development of food allergy and atopic and autoimmune disease. In 2014, the COT published Statements on perfluorooctane sulfonate, hexachlorocyclohexanes, endosulfan isomers, pentachlorobenzene and chlorocleone which will inform the SMCN review. The evidence regarding dietary exposures in the first year of life and the risk of developing atopic and autoimmune disease is being reviewed by an external contractor (Imperial College London) and findings will be reported in late 2015. Close collaboration between the two Committees has continued throughout the review process.

In addition to the two planned meetings, the Subgroup held an ad hoc meeting on 17 March 2014 to discuss the SACN Carbohydrates and Health report and its implications for infants and children

Vitamin D Working Group

Background

In October 2010, SACN agreed to review the DRVs for vitamin D intake and consider whether they are still appropriate in the context of current lifestyles (e.g., advice to stay out of sun, wear sunscreen).

Terms of reference

To review the Dietary Reference Values for vitamin D intake and make recommendations.

This will require a risk assessment of the vitamin D status of the UK population and consideration of the:

- biochemical indicators of vitamin D status and the validity of the threshold concentrations/ranges used to assess risk of deficiency and excess;
- association between vitamin D status and various health outcomes at different life stages and in different population groups and the effects of biological modifiers;
- contribution of cutaneous vitamin D synthesis to vitamin D status in the United Kingdom taking account of the effects of modifiers of skin exposure to sunlight; the risks of skin damage and other adverse health outcomes associated with sunlight exposure;
- potential adverse effects of high vitamin D intakes;
- relative contributions made by dietary vitamin D intake (from natural food sources, fortified foods and supplements) and cutaneous vitamin D synthesis to the vitamin D status of the UK population.

Activity

The Vitamin D Working Group continued to make good progress in 2014, meeting three times in the year (February, June and October).

At the meetings, the Working Group continued its discussions regarding setting DRVs for vitamin D based on the evidence considered.

The Working Group also considered the findings from four research projects that were especially commissioned by the Department of Health to inform SACN's risk assessment on vitamin D.

A first draft of the vitamin D report was considered by the Working Group at its meeting in October.

Military Dietary Reference Values for Energy Working Group

Background

This Working Group was set up in 2014 following discussions with the Institute of Naval Medicine (INM) regarding potential work on Military Dietary Reference Values (MDRVs) for energy.

Terms of reference

SACN was requested to undertake a review of the United Kingdom (UK) MDRV for energy, and to:

- recommend estimated dietary reference values for energy for those military occupational roles which have evidenced requirements different from the estimated average requirements for UK population subgroups recommended by SACN in 2011;
- provide recommendations that take into account environment and relevant population descriptors such as age, body size (including consideration of body composition), levels of physical activity, and gender;
- consider the implications of these energy recommendations for the nutrient requirements of UK military populations – especially in terms of macronutrient requirements for high-energy occupational roles.

Activity

An initial teleconference was held on 4th December 2014, at which the Working Group's terms of reference, membership, funding for an expert consultant, way of working and timeline were discussed.

The membership was established as: Professor Ian Young (Chair); Professor Ian Macdonald; Professor Alan Jackson; Lt Col Christian Ardley; Dr Stella Walsh (consumer representative). In addition, Professor Joe Millward agreed to provide assistance as an expert consultant to review the energy expenditure data, and to advise the working group accordingly.

Work will commence in 2015, once the Working Group receives the Ministry of Defence doubly-labelled water energy expenditure data required to support the review.

Annex 1

SACN's terms of reference

SACN is an advisory committee set up to replace the Committee on Medical Aspects of Food and Nutrition Policy (COMA). It advises the Government and is supported by a Public Health England secretariat.

Its advice will cover scientific aspects of nutrition and health with specific reference to:

- nutrient content of individual foods, and advice on diet as a whole, including the definition of a balanced diet and the nutritional status of people;
- monitoring and surveillance of the above;
- nutritional issues which affect wider public health policy issues, including conditions where nutritional status is one of a number of risk factors (e.g. cardiovascular disease, cancer, osteoporosis and/or obesity);
- vulnerable groups (e.g. infants and the elderly) and inequality issues;
- research requirements for the above; and
- individual members may be invited to serve on SACN's Subgroups.

All members and the Secretariat regard it as part of their role to:

- examine and challenge if necessary the assumptions on which scientific advice is formulated and ask for explanations of any scientific terms and concepts which are not clear;
- ensure that SACN has the opportunity to consider contrary scientific views and the concerns and values of stakeholders before a decision is taken; and
- ensure that SACN's advice is clear and comprehensible.

SACN has a UK wide remit and observers from the devolved administration attend SACN main meetings.

Annex 2

Membership of the Committee

Chair	Dr Ann Prentice Director, MRC Human Nutrition Research, Cambridge
Members	Professor Peter Aggett Honorary Professor, School of Medicine and Health, Lancaster University, and Emeritus Professor and Past Head of School of Postgraduate Medicine and Health
	Ms Gill Fine Public Health Nutritionist
	Professor Paul Haggarty Head of Lifelong Health, Rowett Institute of Nutrition and Health, University of Aberdeen
	Professor Timothy Key Professor in Epidemiology and Deputy Director of Cancer Epidemiology Unit, University of Oxford
	Professor Susan Lanham-New Head of the Nutritional Sciences Division, University of Surrey
	Professor Julie Lovegrove Professor of Metabolic Nutrition and Deputy Director of the Institute of Cardiovascular & Metabolic Research at the University of Reading
	Professor Ian Macdonald Professor of Metabolic Physiology at the University of Nottingham and Head of the School of Life Sciences
	Professor Harry J McArdle Professor of Biomedical Sciences, Rowett Institute of Nutrition and Health, University of Aberdeen
	Dr David Mela (Industry representative) Science Leader, Unilever R&D Vlaardingen, The Netherlands
	Mrs Gemma Paramor (Lay representative) Finance professional in accounting and fund management
	Professor Hilary Powers Professor of Nutritional Biochemistry and Head of Human Nutrition Unit, University of Sheffield
	Professor Monique Raats Director of the Food, Consumer Behaviour and Health Research Centre, University of Surrey
	Professor Angus Walls Professor of Restorative Dentistry and Director of the Edinburgh Dental Institute
	Dr Stella Walsh (Consumer representative)

Dr Anthony Williams
Formerly, Reader in Child Nutrition and Consultant in Neonatal Paediatrics, St
George's, University of London

Professor Ian Young
Professor of Medicine, Queen's University Belfast

Observers

Dr Alison Tedstone
Public Health England

Ms Anne Milne
Food Standards Agency Scotland

Ms Sarah Rowles
The Welsh Assembly, Health Promotion Division

Dr Naresh Chada
Department of Health, Social Services and Public Safety, Northern Ireland

Ms Ruth Balmer
Food Standards Agency Northern Ireland

Secretariat

Public Health England

Dr Vivien Lund
Ms Rachel Elsom
Mr Michael Griffin
Ms Emma Peacock
Mrs Vicki Pyne
Ms Mamta Singh
Mr Heiko Stolte
Ms Jennifer Lynas

Membership of the Carbohydrates Working Group

Chair Professor Ian Macdonald (SACN member)
Professor of Metabolic Physiology at the University of Nottingham and Head of the School of Life Sciences

Members Dr David Mela (SACN Member)
Science Leader, Unilever R&D Vlaardingen, The Netherlands

Professor Timothy Key (SACN member)
Professor in Epidemiology and Deputy Director of Cancer Epidemiology Unit, University of Oxford

Professor Ian Johnson (External expert)
Expert in diet and colorectal health & disease, Institute of Food Research

Professor Angus Walls (SACN member)
Professor of Restorative Dentistry and Director of the Edinburgh Dental Institute

Professor Ian Young (SACN member)
Professor of Medicine, Queen's University Belfast

Professor Julie Lovegrove (SACN Member)
Professor of Metabolic Nutrition and Deputy Director of the Institute of Cardiovascular & Metabolic Research at the University of Reading

Membership of the Subgroup on Maternal and Child Nutrition (SMCN)

Chair Dr Anthony Williams (SACN member)
Formerly, Reader in Child Nutrition and Consultant in Neonatal Paediatrics, St George's, University of London

Members Professor Peter Aggett (SACN Member)
Honorary Professor, School of Medicine and Health, Lancaster University, and Emeritus Professor and Past Head of School of Postgraduate Medicine and Health

Professor Annie Anderson (External expert)
Professor of Food Choice, Centre for Public Health Nutrition Research, University of Dundee

Dr Robert Fraser (External expert)
Reader in Obstetrics and Gynaecology in the University of Sheffield with an Honorary Consultant contract in Obstetrics and Gynaecology at the Sheffield NHS Foundation Trust

Professor Alan Jackson (External expert)
Professor of Human Nutrition, University of Southampton

Dr Ken Ong (External expert)
Medical Research Council (MRC), Head of the Epidemiology Unit's programme in Child Growth and Development. Paediatric Endocrinologist at Addenbrooke's Hospital, and Affiliated Lecturer at the Department of Paediatrics, University of Cambridge

Dr Ann Prentice (SACN member)
Director, MRC Human Nutrition Research, Cambridge

Professor Siân Robinson (External expert)
Professor of Nutritional Epidemiology at the MRC Lifecourse Epidemiology Unit, University of Southampton

Professor Monique Raats (SACN member)
Director of the Food, Consumer Behaviour and Health Research Centre, University of Surrey

Dr Stella Walsh (SACN member)
Consumer representative

Membership of the Vitamin D Working Group

Chair Professor Hilary Powers (SACN member)
Professor of Nutritional Biochemistry and Head of Human Nutrition Unit, University of Sheffield

Members Dr Ann Prentice (SACN member)
Director, MRC Human Nutrition Research, Cambridge

Professor Timothy Key (SACN member)
Professor in Epidemiology and Deputy Director of Cancer Epidemiology Unit, University of Oxford

Professor Susan Lanham-New (SACN member)
Head of the Nutritional Sciences Division, University of Surrey

Professor Harry J McArdle
Professor of Biomedical Sciences, Rowett Institute of Nutrition and Health, University of Aberdeen

Dr Anthony Williams (SACN member)
Formerly, Reader in Child Nutrition and Consultant in Neonatal Paediatrics, St George's, University of London

Professor Ian Young (SACN member)
Professor of Medicine, Queen's University Belfast

Professor Kevin Cashman (External expert)
Professor of Food and Health, School of Food and Nutritional Sciences, University College Cork

Professor Roger Francis (External Expert)
Emeritus Professor of Geriatric Medicine, Institute of Cellular Medicine, Newcastle University

Dr Stella Walsh (SACN member)
Consumer representative

Membership of the Military DRVs for energy Working Group

Chair	Professor Ian Young (SACN member) Professor of Medicine, Queen's University Belfast
Members	Professor Ian Macdonald (SACN member) Professor of Metabolic Physiology at the University of Nottingham and Head of the School of Life Sciences
	Dr Stella Walsh (SACN member) Consumer representative
	Professor Alan Jackson (External expert) Professor of Human Nutrition, University of Southampton
	Lt Col Dr Christian Ardley RAMC (External expert) Consultant Physician and Gastroenterologist
	Professor D Joe Millward (External expert) Emeritus Professor of Human Nutrition, Department of Nutritional Sciences, University of Surrey

Annex 3

Committee members' biographies

Dr Ann Prentice

Director, MRC Human Nutrition Research, Cambridge. Dr Prentice's main research interests are nutritional aspects of bone health and osteoporosis; dietary requirements for human growth, pregnancy and lactation, and old age with particular reference to micronutrients. She has published extensive peer-reviewed articles, book chapters and reports. Dr Prentice was President of the Nutrition Society (from 2004 to 2007) and has served on a number of national and international advisory committees, including COMA's Subgroup on Nutrition and Bone Health.

Professor Peter Aggett

Honorary Professor, School of Medicine and Health, Lancaster University, and Emeritus Professor and Past Head of School of Postgraduate Medicine and Health, University of Central Lancashire. Professor Aggett is interested in trace element metabolism in health and disease. He has served on national and international advisory committees relating to clinical nutrition, public health nutrition, nutritional requirements, nutrient safety and risk assessment, such as the EC Scientific Committee on Food, the Committee on Toxicology, the Advisory Committee for Novel Foods and Processes, and the Expert group on Vitamins and Minerals. He was a member of COMA for seven years, and is a past chair and secretary of the Committee on Nutrition of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition.

Ms Gill Fine

Gill Fine is an independent Public Health Nutritionist and currently serves as a Trustee and Scientific Governor at the British Nutrition Foundation and as an Independent Sector Board Member for AHDB Beef and Lamb from 2004-2010, she was the Director of Consumer Choice and Dietary Health at the Food Standards Agency and was responsible for the strategic direction and the delivery of the FSA's Eating for Health and Choice programme. This wide remit comprised nutrition, GM, supplements, organics, additives, novel foods, food standards and general food labelling. She was also responsible for agreeing the overall direction of the Agency's research portfolio across the Group's remit. Ms Fine has first-hand experience of a wide range of food and dietary policies and how they impact on public health. She has served on several Government committees and was previously a member of SACN from 2001 -2004.

Professor Paul Haggarty

Head of Lifelong Health at Rowett Institute of Nutrition and Health (RINH), University of Aberdeen. His research interest is in Diet, Epigenetics and Healthy Ageing and specifically the way in which diet at different life-stages interacts directly with the human genome to influence health and how this is modulated by social status and behaviour. This involves the study of nutrition and epigenetics in reproduction, ageing, cancer, and cognition, and the inter-individual variation in the response to diet. He has published extensively on the early nutritional and environmental determinants of health and the role of epigenetics in this process. He has served on various committees including the Advisory Committee on Novel Foods and Processes, the Breast Cancer Campaign Scientific Advisory Group and the Swedish Medical Research Council Panel on Ageing and Health.

Professor Timothy Key

Professor of Epidemiology and Deputy Director of the Cancer Epidemiology Unit, University of Oxford. His research includes the interactions between nutrition and hormones, cancer and cardiovascular disease, and the long-term health of vegetarians and vegans. He is the lead investigator of the Oxford component of the European Prospective Investigation into Cancer (EPIC), which is a

European-wide collaborative study, chair of the EPIC Working Group on Nutrition and Prostate Cancer, and chair of the Endogenous Hormones and Breast Cancer Collaborative Group.

Professor Susan Lanham-New

Professor Lanham-New is Head of the Nutritional Sciences Division at the University of Surrey. Her research focuses on the area of nutrition and bone health, for which she has won a number of awards including the Nutrition Society Silver Medal. She is Editor of the first academic textbook on 'Nutritional Aspects of Bone Health' (NAoBH). She is a member of the Nutrition Forum for the NOS and the Scientific Advisory Group of British Nutrition Foundation and the 2008 BNF Taskforce on ageing. She was Honorary Communications Officer of the UK Nutrition Society from 2000-2006. Susan is on the Editorial Board of Osteoporosis Review and Osteoporosis International. She is Editor-in-Chief of the Nutrition Society Textbook Series.

Professor Julie Lovegrove

Julie Lovegrove is Professor of Human Nutrition at the University of Reading, Director of the Hugh Sinclair Unit of Human Nutrition and the Deputy Director of the Institute for Cardiovascular and Metabolic Research (ICMR). Professor Lovegrove's main areas of research interest are the investigation of nutritional influences on cardiovascular disease risk, including nutrient/gene interactions and personalised nutrition. Of particular interest are the effects of dietary fats, carbohydrates and phytochemicals on vascular reactivity, insulin resistance and lipid metabolism in different population groups. She also has experience and interest in ethical issues associated with human research and serves on a number of research ethics committees. She is Chair of the Accreditation Committee for the Association for Nutrition (AfN) and represents SACN on the project board for the National Diet and Nutritional Survey (NDNS) and on the Carbohydrates Working Group.

Professor Ian Macdonald

Ian Macdonald is Professor of Metabolic Physiology and Head of the School of Life Sciences at the University of Nottingham. His research interests are concerned with the nutritional and metabolic aspects of obesity, diabetes and cardiovascular disease, with additional interests in nutrition and metabolism in exercise. His research involves studies in healthy subjects and various patient groups, and combines whole body physiological measurements, molecular investigation of tissue samples, and dietary interventions. Ian Macdonald is presently Editor of the International Journal of Obesity, Honorary Treasurer of the World Obesity Federation (formerly International Association for the Study of Obesity) and Honorary Treasurer of the Federation of European Nutrition Societies. He was President of the UK Nutrition Society from 2007-2010 and in 2013 was awarded a Fellowship of the Association for Nutrition and elected as a Fellow of the International Union of Nutritional Sciences.

Professor Harry McArdle

Professor McArdle was Deputy Director of Science and the Director of Academic Affairs at the Rowett Institute of Nutrition and Health, University of Aberdeen until January 2015, when he stepped down. He is currently a Professor of Biomedical Sciences at the same Institute. His main research interests involve micronutrients and the critical role they play in growth and development. Current work concentrates on understanding the mechanisms underpinning micronutrient transport across the placenta. Professor McArdle studies iron and copper metabolism, trying to understand how the fetus and placenta work together to ensure an adequate supply, even if the mother is deficient; a frequent occurrence even in developed society. At the same time, Professor McArdle and his team are trying to identify why iron deficiency during pregnancy results in hypertension in the adult offspring in animal models and whether the results can be extrapolated to humans. Professor McArdle represents SACN on the Advisory Committee on Novel Foods and Processes (ACNFP). Prof McArdle is a member of the Minerals Working Group for EFSA.

Dr David Mela

Science Leader at Unilever R&D Vlaardingen, The Netherlands. Dr Mela joined Unilever in 1998, following an academic research career in the US and UK. His main expertise is in the biological and behavioural aspects of food choice, eating behaviour and energy balance, from consumer research through energy metabolism. In Unilever, he is mainly involved with research programmes to identify and substantiate the health and nutrition benefits of product formulations and ingredients. He also provides input for the management of specific technical and regulatory issues and represents Unilever on various external academic and trade groups.

Mrs Gemma Paramor

Gemma is a finance professional who has worked in both the accounting and fund management industries and is a member of the Institute of Chartered Accountants of England and Wales. During her career in fund management, she was a Global Healthcare equity investment specialist. As a result, she is accustomed to the analysis and interpretation of scientific data, is a practiced decision-maker with a focus on risk assessment and has considerable experience of communicating complex healthcare issues to a non-specialist audience. Gemma studied Biological Sciences at Oxford University and is the mother of two primary school age children.

Professor Hilary Powers

Professor Powers is Professor of Nutritional Biochemistry, Head of Human Nutrition Unit, in the Faculty of Medicine, Dentistry and Health, University of Sheffield. Professor Powers conducts research into the role of B vitamins in health and disease, with specific focus on methyl donor nutrients and HPV-linked cancers, and functional biomarkers of micronutrient status. She has published over 100 peer-reviewed papers in this field. Professor Powers represents SACN on the Project Board for the National Diet and Nutritional Survey (NDNS).

Professor Powers' activities in the nutrition community have included membership of the Standing Committee on Nutrition for the Royal College of Paediatrics and Child Health, of the Expert Panel for the AICR/WCRF Report into Food, Nutrition, Physical Activity and Cancer and on various Grant awarding bodies for the BBSRC and WCRF. She is co-editor of the classic textbook, Human Nutrition (Elsevier).

Professor Monique Raats

Professor Raats is Director of the Food, Consumer Behaviour and Health Research Centre at the University of Surrey. Her portfolio of research is wide ranging in terms of topics being addressed (e.g. food choice, policy development, food labelling), and methodologies used (e.g. qualitative, quantitative, stakeholder consultation). Since her arrival at the University of Surrey in 2000, she has played a central role in securing research funding for both national and European research projects. She has published over 65 peer-reviewed papers, 16 book chapters, and co-edited two books, "The Psychology of Food Choice" (2006) and "Food for the Ageing Population" (2008). She is one of the founding members and was secretary of the International Society of Behavioral Nutrition and Physical Activity.

Professor Angus Walls

Angus Walls is Professor of Restorative Dentistry and Director of the Edinburgh Dental Institute, University of Edinburgh. Professor Walls' research interests focus on the oral health care problems of an ageing population at a time of marked change in oral health status. The relationships are between diet and oral diseases such as tooth wear, decay and soft tissue pathology, and the number and functional capacity of the residual dentition and foods choice. His work has embraced basic epidemiology and the development of dietary interventions to address specific problems.

Dr Stella Walsh

Dr Walsh is an experienced consumer representative having served on several government and industry Committees and has responded to consultations on behalf of consumers. She is a member of the National Consumer Federation (NCF) and was previously secretary. She has a long-standing interest in food, nutrition and health. She has been a consumer representative on the Institute of Grocery Distributors, and other FSA and Defra Committees. Until April 2015 she was also a consumer representative on the Veterinary Residues Committee.

Dr Anthony Williams

Dr Williams was formerly Reader in Child Nutrition and Consultant in Neonatal Paediatrics, St George's, University of London. Dr Williams was the Chair of COMA's Panel on Child & Maternal Nutrition and a member of COMA. He was a member of the Food Standards Agency's Expert Group on Vitamins and Minerals and cross-represented SACN on the Advisory Committee on Novel Foods and Processes between 2003 and 2007. Between 2006 and 2008 he chaired the NICE Centre for Public Health Excellence producing guidance on maternal and child nutrition in low-income families. He represented SACN on the project board of the Diet and Nutrition Survey of Infants and Young Children.

Professor Ian Young

Ian Young is Professor of Medicine at Queen's University Belfast. In addition, he is also Associate Medical Director (Research and Development) and Consultant Chemical Pathologist at the Belfast Health and Social Care Trust. Professor Young's main clinical and research interests are in lipid metabolism, carbohydrate metabolism and antioxidants, particularly in relation to the prevention of cardiovascular disease. He is an author of over 350 published research papers and is on the editorial boards of a number of leading international journals. In addition, he is Chair of the Scientific Division of the International Federation for Clinical Chemistry and Laboratory Medicine and Associate Editor of Clinical Chemistry. He frequently speaks at national and international meetings on lipid management and topics related to laboratory medicine.

Members' biographies (not otherwise covered as SACN members)

Carbohydrates Working Group

Professor Ian Johnson

Ian Johnson is an Emeritus Fellow at the Institute of Food Research in Norwich where he worked as a Research Leader from 1979 to 2010. He is an Honorary Research Fellow in the School of Medicine at the University of East Anglia, and until recently he was an Honorary Professor in Biological Sciences. His general area of research is the fate and biological activities of food components in the alimentary tract, and he is particularly interested in the biological effects of dietary fibre, lipids and secondary plant metabolites, including their behaviour during digestion, interactions with the gut epithelia and bioavailability to humans. He has had a long-term involvement in research on the physical properties of food polysaccharides, and their relevance to the prevention of human disease, including both metabolic disorders and colorectal cancer. He has received research funding from the BBSRC, Food Standards Agency and European Union, and has served as a member of the BBSRC Pool of Experts.

Vitamin D Working Group

Professor Kevin Cashman

Professor Cashman is the Professor of Food and Health at University College Cork, a joint position between the School of Food and Nutritional Sciences and Department of Medicine. He is currently the Head of the School of Food and Nutritional Sciences. His research interests are in the area of vitamin D, nutrition and bone health and dietary requirements for vitamin D.

Professor Roger Francis

Professor Francis is Emeritus Professor of Geriatric Medicine at the Institute of Cellular Medicine, Newcastle University, where he continues to research into osteoporosis and Vitamin D. He was also a Consultant Physician at the Bone Clinic, Freeman Hospital until January 2011, when he retired from clinical practice. Professor Francis was a Trustee of the National Osteoporosis Society (NOS) until July 2014 and Chaired the Writing Group which developed the NOS Practical Clinical Guideline on Vitamin D. He served as Editor of the NOS journal *Osteoporosis review* from 2001-2007 and was Editor in Chief of *Age and Ageing* from 2007 until 2014.

Subgroup on Maternal and Child Nutrition (SMCN)

Professor Annie Anderson

Professor Anderson is Professor of Public Health Nutrition at the Centre for Public Health Nutrition Research, Department of Medicine, Ninewells Medical School, University of Dundee. Professor Anderson has represented the International Union against Cancer (UICC) on issues relating to diet and cancer prevention. In addition, she has participated as an expert advisor in a number of NICE, Department of Health, Food Standards Agency and Scottish Government Advisory Committees on topics including nutrient standards for school meals, the Low Income Diet and Nutrition Survey and Food and Drink Policy development. Her main research interests are lifestyle and cancer prevention and theory based, behaviourally focused dietary interventions in children and adults living in disadvantaged communities.

Professor Alan Jackson

Professor Jackson is Professor of Human Nutrition, School of Medicine at the University of Southampton. Professor Jackson's current work explores the extent to which modest differences in maternal diet and metabolic competence influence fetal development, predisposing to chronic disease in adulthood. Professor Jackson was a member of the Committee on Medical Aspects of Food and

Nutrition Policy (COMA) for ten years and was a Consultant Adviser to the Chief Medical Officer on Nutrition from 1989 to 2002. Professor Jackson is a member of the EFSA Panel on Dietetic Products, Nutrition and Allergies.

Dr Robert Fraser

Dr Fraser is Honorary Reader in Obstetrics and Gynaecology, University of Sheffield. Research interests include nutritional physiology of human pregnancy, normal and disordered fetal growth and public health aspects of nutrition in pregnancy and lactation. He also has a clinical research interest in pregnancy complicated by maternal diabetes.

Dr Ken Ong

Dr Ken Ong leads the Child Growth and Development programme at the MRC Epidemiology Unit, University of Cambridge, and is an honorary Paediatric Endocrinologist at Cambridge University Hospitals NHS Trust. He trained in Paediatric Endocrinology in Southampton, London, Oxford and Cambridge, and has a PhD in Paediatrics and MPhil in Epidemiology, both from the University of Cambridge. His MRC programme studies the genetic, epigenetic and endocrine mechanisms linking childhood growth, weight gain and pubertal timing to obesity and type 2 diabetes.

Professor Siân Robinson

Professor Robinson is Professor of Nutritional Epidemiology at the MRC Lifecourse Epidemiology Unit, University of Southampton. Her main research interests are in the nutrition of women, infants and young children, and in understanding how variations in nutrition across the life course contribute to inequalities in adult health, with a particular focus on early life influences on growth and development, and effects on ageing. She has been a member of a number of advisory groups including acting as co-opted expert member of the NICE Programme Development Group to produce guidance on maternal and child nutrition in low-income families and external advisor to the Diet and Nutrition Survey of Infants and Young Children (DNSIYC).

Military DRVs for energy Working Group

Professor D Joe Millward

Professor Millward is Emeritus Professor of Human Nutrition, Department of Nutritional Sciences, University of Surrey. Professor Millward's research interests have included the extent and nature of human dietary requirements for macronutrients, especially protein, amino acids and energy. He was a member of the Energy and Protein panel of COMA responsible for the 1991 Dietary Reference Values report, co-chaired the 2007 WHO/FAO/UNU Expert Consultation on Protein and Amino Acids in Human Nutrition, was a member of, and consultant to, the SACN energy working group which produced the 2011 SACN report Dietary Reference Values for Energy, and was a member of the 2013 FAO expert Consultation on Protein Quality Evaluation.

Annex 4

Remuneration and Committee finance

The amount paid to committee members for fees in 2014 was:

- for main meetings and Working Group/Subgroup meetings, those who chaired a meeting received a total fee of £200 per meeting inclusive of attendance and reading fees;
- members not chairing received £160 per meeting inclusive of attendance and reading fees.

Public Health England also met travel and subsistence costs for those attending main meetings and Working Group/Subgroup meetings.

The cost of the Committee fees and expenses, excluding Secretariat resources, for 2014 was £26,576.21. Costs were met by the Public Health England.

Annex 5

SACN Main Committee - declaration of interests

MEMBER	PERSONAL INTERESTS		NON-PERSONAL INTERESTS		ANY OTHER INTERESTS
	Company	Nature of interest	Company	Nature of interest	
Dr Ann Prentice		N/A	As Director of MRC Human Nutrition Research responsibility for institutional interests		None
			Action Medical Research	Research funding	
			Aarhus University Hospital	Donation for research materials	
			Aquapharm	Consultancy	
			Arch Timber Protection	Research funding	
			Boden Institute for Obesity	Conference expenses	
			British Dietetic Assoc	Conference expenses and Research funding	
			BUPA Treasury	Research funding	
			Cambridge University Hospitals	Research funding	
			Christie NHS Foundation Trust	Research funding	
			Coca Cola	Research funding	
			Cranfield University	Research funding	
			Danish Brewers' Association	Conference expenses	
			Diabetes UK	Research funding	
			Electro Sci. Industries	Conference donor	
			European Molecular Biology Laboratory	Research funding	
			HS Pharma	PhD studentship	
			Institute of Brewing and Distilling	Research funding	
			Ikon Informatics	Donation for research materials	

MEMBER	PERSONAL INTERESTS		NON-PERSONAL INTERESTS		ANY OTHER INTERESTS
	Company	Nature of interest	Company	Nature of interest	
			Iron Therapeutics Switzerland AG Kellogg Company King's College Hospital LLR-G5 Limited National Safety Assoc National Centre for Social Research Nestle Playerthree Shield Holding AG Thermo Fisher Scientific Weight Watchers Int World Cancer Research Fund The Rank Prize Funds Thrombosis Research Institute UCL Consultants Universitat Rovira Weight Watchers York Teaching Hospital NHS Foundation Trust pSiMedica	Conference Donor Conference Donor Research funding Conference Donor Conference Donor Survey funding Travel expenses Consultancy Travel expenses Research funding Research funding Research funding Conference expenses Research funding Research funding Research funding Research funding Research funding Research funding	
Professor Peter Aggett	Central Lancashire NHS Trust New Zealand Dairy Goat Council International Association of Dietary	Non-Executive Director Consultancy: Research Project Management Chairmanship (meetings) and lecture fees	None	N/A	None

MEMBER	PERSONAL INTERESTS		NON-PERSONAL INTERESTS		ANY OTHER INTERESTS
	Company	Nature of interest	Company	Nature of interest	
	Supplements Associations				
Ms Gill Fine	Sainsbury's	Shareholder, ex-employee	None	N/A	British Nutrition Foundation – Trustee and scientific governor – expenses reimbursed Institute of Food Research Trustee – expenses reimbursed (Until February 2014) Diabetes UK Trustee – expenses reimbursed (Until March 2014) British Nutrition Foundation Vice Chair – expenses reimbursed, 2012-2014 Dementia UK Cornwall Funding Group – Vice Chair Musgrave Group – Consultancy from May 2015
	NICE	Chair of Group for Obese and Overweight Adults - expenses reimbursed and honorarium, 2012-2014			
	Agriculture and Horticulture Development Board (AHDB)	Independent Sector Board Member for AHDB Beef and Lamb – expenses reimbursed and honorarium			
Dr David Mela	Unilever	Employee and shareholder	None	N/A	None
Dr Stella Walsh	H.J.Heinz	Consumer representative – received honoraria	None	N/A	Consumer representation for National Federation of Consumers. FSA and DEFRA Committees and working parties, including Cattle Movement, and Food Borne Disease
Mrs Christine Gratus	None	N/A	None	N/A	None
Dr Anthony Williams	GlaxoSmithKline	Shareholder			Trustee, Women and Children First Honorary Fellow, Unicef(UK) Fellow, RCPCH, Fellow, RCP London Unremunerated professional advice to charities concerned with parenting and child nutrition.

MEMBER	PERSONAL INTERESTS		NON-PERSONAL INTERESTS		ANY OTHER INTERESTS
	Company	Nature of interest	Company	Nature of interest	
					Patron, UK Association for Milk Banking.
Professor Paul Haggarty	Cafe Direct GlaxoSmithKline Astra Zeneca	Shareholder Shareholder Shareholder	None	N/A	
Professor Timothy Key	None	N/A	None	N/A	Member of Vegetarian Society Member of the Vegan Society
Professor Susan Lanham-New	D3TEX LTD GlaxoSmithKline Kellogg's Danon	Research Director Shareholder Consultancy Consultancy Consultancy	Wassen International	Research Funding	Participated in 'Health Hangout' funded by Nestle, a web based discussion on vitamin D and bone health, specifically for health professionals. Honoraria received.
Professor Ian Young			Unilever The Sugar Bureau	Research project funding Research project funding	None
Professor Julie Lovegrove	None	N/A	Nutricia Sainsburys (Until 2012) Pepsico Sugar Nutrition UK (Until 2013) Volac Dairy Co	Research project funding Food 'in kind; for research Research project funding Research project funding Research project funding Research project funding	None
Professor Ian Macdonald			Mars Scientific Advisory Council and Waltham Centre for Pet Nutrition, research advisor	Meeting attendance	Responsibility Deal Food Network – SACN representative. Treasurer, World Obesity Federation

MEMBER	PERSONAL INTERESTS		NON-PERSONAL INTERESTS		ANY OTHER INTERESTS
	Company	Nature of interest	Company	Nature of interest	
			University lead in strategic link with Unilever Scientific Adviser to Unilever ethical review process European Hydration Institute	Research project funding to University Meeting participant and review lecture. Travel reimbursed, accommodation provided and honorarium paid to Nottingham University	Treasurer, Federation of European Nutrition Societies Editor, International Journal of Obesity
Professor Harry McArdle	EBRC SMBH Hannover, Germany International Molybdenum Association	Consultancy Consultancy, workshop on research priorities	International Copper Association	Research project funding	None
Professor Angus Walls	GlaxoSmithKline	Consultancy	GlaxoSmithKline Colgate Palmolive	Donor for Conference Research Project Funding Donor for Conference	Director and Chair, Oral and Dental Research Trust
Professor Hilary Powers	None	N/A	World Cancer Research Fund WCRF Kellogs Co GB	Research project funding Research project funding	Deputy Chair, WCRF Continuous Update Panel. Honorarium, annual.
Dr Monique Raats	None	N/A	European Commission DG Research and Innovation	Research project funding	None

MEMBER	PERSONAL INTERESTS		NON-PERSONAL INTERESTS		ANY OTHER INTERESTS
	Company	Nature of interest	Company	Nature of interest	
			European Food Information Council	Research project funding	
			MAPP - Centre for Research on Customer Relations in the Food Sector	Research project funding	
			Safer food	Research project funding	
			Food and Agriculture Organization	Research project funding	
			Choices International Foundation	Reimbursement of expenses – Expert advice	
			Eurasanté	Reimbursement of expenses – Expert advice	
			European Commission DG Enterprise and Industry	Reimbursement of expenses – Expert advice	
			Council for Responsible Nutrition—International	Reimbursement of expenses – Expert advice	

SACN Working groups and subgroups - declaration of interests

MEMBER	PERSONAL INTERESTS		NON-PERSONAL INTERESTS		ANY OTHER INTERESTS
	Company	Nature of interest	Company	Nature of interest	
Professor Ian Johnson	Barry Callebaut	Consultancy - advising on biological effects of cocoa flavonoids – received honoraria.	None	N/A	None
Professor Kevin Cashman	None	N/A	None	N/A	None
Professor Roger Francis	Shire Pharmaceuticals Internis Consilient Takeda Ltd	Speaker at two meetings – received honoraria Chair of Advisory Board – received honoraria Adviser and Chair of Advisory Board – received honoraria Speaker at educational meeting – received honoraria	None	N/A	Prostraken –video presentation on the National Osteoporosis Society Practical Clinical Guideline on vitamin D – received honoraria Trustee of the National Osteoporosis Society (NOS) until July 2014 and chaired the Writing Group for the NOS Practical Clinical Guideline on vitamin D
Professor Alan Jackson	None	N/A	Nutricia Clinical Care Baxter Healthcare	Sponsors of Annual Nutrition Course	None
Dr Robert Fraser	None	N/A	None	N/A	

MEMBER	PERSONAL INTERESTS		NON-PERSONAL INTERESTS		ANY OTHER INTERESTS
	Company	Nature of interest	Company	Nature of interest	
Professor Sian Robinson	None	N/A	None	N/A	None
Dr Ken Ong	International Life Sciences Institute-Europe Takeda Ltd	Chair of Expert Group on Early Growth Velocity and Risk of Metabolic Disorders Later in Life Consultancy work on treatment of diabetes and obesity in children	Mead Johnson Nutrition Pfizer Ltd	Unrestricted research grant to Department of paediatrics, University of Cambridge – Discovery of biomarkers for infant nutrition KIGS (database to monitor growth hormone treatment) Steering Committee	
Professor Annie Anderson	None	N/A	None	N/A	Policy Advisor to Breakthrough Breast Cancer (Scotland) Policy Advisor to Bowel Cancer UK
Professor Joe Millward	None	N/A	None	N/A	None
Lieutenant Colonel Dr Christian Ardley	None	N/A	None	N/A	None