Institute of Advanced Studies

University of Surrey

A multidisciplinary workshop
Designing Law for Nutrition-Related Health

8 - 9 June 2015

University of Surrey, UK

Programme and Abstracts

Food, Consumer Behaviour & Health Research Centre

REDICLAIM

Sponsors

The Institute of Advanced Studies at the University of Surrey hosts small-scale, scientific and scholarly meetings of leading academics from all over the world to discuss specialist topics away from the pressure of everyday work. The events are multidisciplinary, bringing together scholars from different disciplines to share alternative perspectives on common problems.

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The Environmental Regulatory Research Group based at the School of Law in the University of Surrey is a group of lawyers who specialise in examining regulatory frameworks which impact on environmental areas such as water and sanitation, environmental and public health, natural resources and climate change. ERRG members specialise in working alongside other disciplines in a range of fields including the natural sciences, engineering and technology and the humanities. Current multi-disciplinary projects include: FP7 EU funded-REDICLAIM 'Understanding the impact of legislation on "REduction of DIsease risk" CLAIMs on food and drinks' and D-BOX (also FP7 EU funded) 'Demining tool-BOX for humanitarian clearing of large scale areas from anti-personnel landmines and cluster munitions'.

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The Food, Consumer Behaviour and Health Research Centre at the University of Surrey seeks to understand how to change food-related behaviour; communicate effectively about food-related risks and benefits; and engage the public in food-related scientific debate and policy decision making. Over the past few years the Centre has had projects funded by the European Union, the UK's Food Standards Agency, Economics and Social Research Council (ESRC) and Research Councils UK. The Centre has extensive links with potential users of the research, including UK government departments, industry, trade organisations and consumer organisations and representatives.

www.surrey.ac.uk/psychology/research/fcbh

REDICLAIM an FP7 funded project that seeks to understand the way in which the European Regulation (EC) No. 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods and associated legislation, has had and continues to have an impact on the substantiation and use of "reduction of disease risk" claims on food and drinks. The overall aims of REDICLAIM are to achieve effective compliance with better regulation and to contribute to the enhancement of innovative and competitive products. REDICLAIM seeks to understand the main issues and hurdles concerning substantiation and use of "reduction of disease risk" claims on food and drinks; and the level of awareness about legal obligations with regard to "reduction of disease risk" claims on food and drinks among the relevant stakeholders.

Welcome

We are delighted to welcome all participants to the workshop Designing Law for Nutrition-Related Health:

This multi-disciplinary workshop seeks to initiate the development of a model which can improve regulatory design for nutrition and health needs in food law. It will bring together academics, practitioners and policy-makers from a range of disciplines and locations to explore whether and how public health nutrition research can inform better the design and implementation of European Union (EU) food law. Contributing disciplines will be social sciences, public health nutrition, business studies and law. Much has been written on different styles of regulation but there is very little work which seeks to develop a theoretical approach to integrating scientific research into the design and implementation of regulation in the context of nutrition and health. The operation of much regulatory law is frequently described as a barrier to innovation and development. This is arguably because it often fails to incorporate domain specific knowledge (e.g. in the area of food and health), into the design stage of regulation. This workshop will seek to initiate the development of a regulatory design model in respect of food law so as to promote public health, taking account of the interdisciplinary approach necessary to design good regulation.

We would like to thank the Institute of Advanced Studies for their grant and support to enable this meeting to take place. We hope that discussions arising at the workshop will generate long lasting fruitful collaborations.

With best wishes for a successful, stimulating and enjoyable event.

Organising Committee
Prof Rosalind Malcolm, School of Law, University of Surrey
Prof Monique Raats, Food, Consumer Behaviour and Heath Research Centre

Workshop Programme

Venue: Treetops, Wates House, University of Surrey
Monday, 8 June 2015

12:00-13:00	Arrival & Lunch
13:00-13:10	Welcome & Introduction, *Monique Raats, University of Surrey, United Kingdom*
13:10-13:30	The Nutrition and Health Claims Regulation 1924/2006: investigating the design of regulation for the REDICLAIM project, *Rosalind Malcolm, University of Surrey, United Kingdom*
13:30-15:50	**Styles of regulation for nutrition and health**
13:30-14:00	The Behavioural Consumer Law, *Kai Purnhagen, Wageningen University, Netherlands*
14:00-14:20	Disease Risk Reduction Health Claims: Enforcement at Member State level, *Anastasia Karatzia, University of Surrey, United Kingdom*
14:20-14:40	Dissonance in the food traceability regulatory environment, *Sally-Ann Krzyzaniak, University of Portsmouth, United Kingdom*
14:40-15:00	Criminal liability for failing to meet the nutritional and hydration needs of hospital patients, *Ruth Stirton, University of Sheffield, United Kingdom*
15:00-15:30	Providing information on food to consumers: the role of labelling laws in protecting human health, *Caoimhin MacMaolain, Trinity College Dublin, Ireland*
15:30-15:50	Discussion
15:50-16:20	Break
16:20-18:50	**Science and evidence underpinning nutrition-related legislation**
16:20-16:50	Harmonising the precaution out of the precautionary principle? The need for maintaining flexibility and an interpretative role; presenter: *Mary Dobbs, Queen's University Belfast, United Kingdom*
16:50-17:10	Research used to support claim applications based on new scientific knowledge (13.5) and risk reduction (14.1a) claims on cardio-vascular health, *Liisa Lähteenmäki, Aarhus University, Denmark*
17:10-17:30	Challenges for risk reduction claim applications from a scientific viewpoint, *Christiane Alexander, analyze & realize GmbH, Berlin, Germany*
17:30-17:50	International comparison of the requirements for the use of health claims on foods: Different jurisdictions, different requirements; *Igor Pravst, Nutrition Institute, Slovenia*
17:50-18:10	Designing legislation and promoting public health - The Brazilian Experience, *Giovanna Fiates, Universidade Federal de Santa Catarina, Brazil/University of Surrey, United Kingdom*
18:10-18:30	Debating the future of food innovation and legislation through inclusion, safety and health, *Giuseppe Pellegrini, Observa Science in Society, Italy*
18:30-18:50	Discussion
19:00-19.30	Travel to The William Bray Pub, Shere (appox. 20 minutes)
19:30-21:30	Dinner
21:30	Return to Guildford

Venue: Treetops, Wates House, University of Surrey
Tuesday 9 June 2015

9:30-12:20	**Behavioural aspects for nutrition and health**
9:30-10:00	Integrating perspectives on food safety, nutrition, and food waste, *Gulbanu Kaptan, University of Leeds, United Kingdom*
10:00-10:20	Understanding how consumers categorise health related claims; a consumer derived taxonomy of health claims, *Charo Hodgkins, University of Surrey, United Kingdom*
10:20-10:40	Exploring the attitudes and dietary behavioural aspects amongst young adults: a qualitative study, *Mei Yen Chan, Newcastle University, United Kingdom*
10:40-11:00	Can public health initiatives decrease consumption of sugar-sweetened beverages in childhood? *Elisa Vargas Garcia, University of Leeds, United Kingdom*
11:00-11:20	Break
11:20-11:40	Development of an economic model of functional food enriched with plant sterols or stanols in the prevention of coronary heart disease, *Wei Yang, University of Kent, United Kingdom*
11:40-12:00	Health economic view on nutrition-related policy-making, *Janne Martikainen, University of Eastern Finland, Finland*
12:00-12:20	Discussion: • What role should self-regulation, voluntary codes and other alternatives to 'command control' approaches play? • How can the law give flesh to this developing work on behaviour patterning? • How can the law promote behavioural choices for health without becoming the nanny state and limiting individual freedoms?
12:20-13:00	**Theme Integration and dissemination plan**
13:00-13:45	Lunch

Papers

The Nutrition and Health Claims Regulation 1924/2006: investigating the design of regulation for the REDICLAIM project

Rosalind N. Malcolm, Amanda Cleary, Anastasia Karatzia and Monique M. Raats; University of Surrey, United Kingdom

The problem which the Nutrition and Health Claims Regulation 2006 (NHCR) is intended to address rests on the increasing use of health and nutrition claims made on food. Foods may contain a wide range of nutrients and other substances which may constitute the subject matter of a claim as to their beneficial nutritional or physiological effect. Where food is promoted with such a claim, it may have an effect on the attitude of consumers towards its purchase and thus have an impact on the total amount of nutrients which they consume. This may run contrary to scientific evidence so there is a risk in such claims being unregulated. The purpose of NHCR is, therefore, to establish a procedure for regulating such claims in a commercial context and scientific substantiation of the claim is at the heart of the process. The regulation of such claims is effected at EU level to ensure there was no impact on the functioning of the internal market since any national legislation would impact on free movement of food and competition.

NHCR is one of the many legislative provisions adopted by the European Union (EU) over the past 50 years in order to ensure the effective functioning of the internal market as it relates to food for human consumption. Despite the nutrition and health subject-matter of this regulation, its legal base is the classic approximation provision used to create the internal market, Article 114 Treaty for the Functioning of the European Union (TFEU). So the primary objective of the NHCR is the removal of any obstacles to trade in food products which may be created by differences between national provisions may create, and also to ensure equal competitive conditions for those products throughout the EU. Its major departure, however, is to allow claims of disease risk reduction, a category of health claims not previously allowed on foods, nutrients or ingredients in the EU.

In common with all food legislation adopted since the entry into force of the EU General Food Law in 2007, the NHCR seeks to attain its trade objective whilst simultaneously providing a high level of consumer protection. The extent to which these two aims (that is, the promotion of trade and consumer protection) are reconcilable remains an area of some contention, and even though the NHCR has been fully operative for less than 2 years, doubts have already been expressed that it places too great an emphasis on protecting consumers from false/misleading claims to the detriment of the promotion of trade. However, whatever the merits or demerits of these ongoing arguments, it is clear from the jurisprudence of the Court of Justice of the European Union (CJEU) that, given its legal basis, the trade objective of market liberalisation must be the predominant legal aim of this regulation and all measures adopted under it. The interpretation and application of the NHCR has to take place in this context, and any failure by the EU institutions to afford precedence to this overriding requirement would provide grounds for challenging the validity of any legally binding decisions before the CJEU on the basis of Article 264 TFEU. The overarching trade imperative which drives all food legislation is no less compulsory

in 'health-related' regulations than in more obvious harmonisation measures because, as the CJEU has noted, 'a measure adopted on the basis of Article 95 EC [114 TFEU] must genuinely have as its object the improvement of the conditions for the establishment and functioning of the internal market." This paper considers the implications of this dichotomy for the design of regulation aimed at health and nutrition.

The Behavioural Consumer

Kai Purnhagen; Wageningen University, Netherlands

The European Commission has published its New Better Regulation Strategy (NBRS) where food law is of central importance. The NBRS widens the scope of regulatory impact assessment to include more responsive regulation while still being based primarily on cost benefit analysis and simplification. This presentation will provide a first analysis of the NBRS with respect to food law. I will first determine whether and how the NBRS copes with the critique raised in the past and illustrate new tools. Second, I will illustrate potentially new shortcomings.

Disease Risk Reduction Health Claims: Enforcement at Member State level

Rosalind N. Malcolm [1,4], Amanda Cleary [1,4], Anastasia Karatzia [1,4], Monique M. Raats [1,4], Igor Pravst [2,4], Anita Kušar [2,4], Živa Korošec [2,4], and Liisa Lähteenmäki [3,4]; [1] University of Surrey, United Kingdom; [2] Nutrition Institute, Slovenia; [3] Aarhus University, Denmark; [4] on behalf of the REDICLAIM Consortium (www.rediclaim.eu)

Regulation 1924/2006 EC (NHCR) aims to harmonise legislation across EU Member States in the area of nutrition and health claims. As such, it provides, inter alia, for a pre-marketing authorisation process regarding Article 14.1 (a) claims referring to a reduction in a risk factor in the development of a disease (disease risk reduction claims). Although authorisation needs to be provided by the European Commission after considering EFSA's opinion on whether a claim is considered scientifically substantiated, the total responsibility for the enforcement of the NHCR remains with the Member States. According to Article 17 of the General Food Law (Regulation 178/2002), national measures and penalties adopted for infringements of food law should be 'effective, proportionate and dissuasive'. National enforcement is a critical aspect of assessing the NHCR vis-à-vis its twofold objective: firstly, to ensure that consumers are not misled and, secondly, to facilitate cross-border trading within the EU.

In light of the above background, this paper will consider the measures and penalties put in place at Member States for the breach of Article 14.1 (a) of the NHCR with regards to marketing disease risk reduction health claims. It will examine the differences in enforcement by looking into the severity of the offences and penalties across Member States statutory provisions. It will do so by drawing examples from Member States' legislation, which was examined through a desk - based research activity complemented by information from national competent authorities. Relevant national case law as well as some evidence of empirical practice will also be discussed in order to illustrate the differences in the monitoring and

control of Article 14.1 (a) health claims. The paper will conclude with a discussion on the impact that the disperse enforcement landscape has on the NHCR with regards to the Regulation's objectives.

The research was conducted as part of the REDICLAIM project (REduction of DIsease risk CLAIMs on food and drinks) which is supported by the European Union's FP7 programme (FP7-603036) and by the Slovenian Research Agency (P3-0395). The funding bodies are not liable for any use that may be made of the information contained.

Dissonance in the food traceability regulatory environment

Sally-Ann Krzyzaniak; University of Portsmouth, United Kingdom

The global food supply chain is increasingly interconnected, but the regulatory environment remains fragmented. We examine the impact of variances in the regulation of nutrition related elements of food supply on a hypothetical company manufacturing functional foods in the UK but seeking to trade globally, drawing on the concepts of creative dissonance from economic sociology to frame our discussion.

This paper highlights some of the challenges faced by such companies, particularly SMEs, as they seek to supply safe and nutritious food and suggests changes needed to reduce the constraints under which such companies operate.

The paper will be of value to academics, food supply network organisations and industry regulators seeking to understand the additional risks and constraints placed on food businesses importing and exporting products where there is a lack of harmony in international legislation.

Criminal liability for failing to meet the nutritional and hydration needs of hospital patients

Ruth Stirton; University of Sheffield, United Kingdom

Regulation 22 and regulation 14 of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 make it a criminal offence to expose a service user to harm, or the risk of harm, by failing to meet their nutritional or hydration needs. On its face this is an extremely broad offence, which can be committed very easily, thus making it easy to hold hospitals to account for failing to provide good quality food to patients. A more likely position is that the offence is so flexible that it is almost impossible to commit the offence without a great deal of judicial activism. I argue that this newly strengthened criminal offence is a problematic way to regulate the provision of hospital food. The 2014 Regulations were a response to the failings at Stafford Hospital and Winterbourne View Hospital, and have a largely symbolic purpose. The new criminal offence goes some way to empower the Care Quality Commission in their enforcement of the 2014 Regulations, however, research in other areas has shown that high profile prosecutions do not lead to generally improved standards. Arguably, this offence will at most catch egregious failures to provide sustenance. The shadow of the criminal law is not the most suitable method for improving the quality of hospital food generally.

Providing information on food to consumers: the role of labelling laws in protecting human health

Caoimhin MacMaolain; Trinity College Dublin, Ireland

Health protection, and food safety in particular, has formed the basis for the design and implementation of new food laws for the past two decades. Lessons learned from the BSE crisis have illustrated that too much legal support for the free movement of goods between EU Member States has hindered attempts to achieve what should be the complementary aim of protecting consumers through legislation. Low-quality and unsafe products were the main beneficiary of this previous policy. The development of new approaches, such as the use of the precautionary principle, increased traceability, stakeholder involvement in legislative processes and the provision of better information for consumers were all introduced to maximise the possibilities for the protection of health and nutritional values. Despite this, the European Union and many of its Member States now face the most significant of food-related crises. The relationship between diet and disease is well-founded in science. It is mostly neglected in law. This paper proposes a new approach to food law. It illustrates how ongoing attempts by EU legislators to deal with this crisis have proved inadequate in this regard. It suggests that nutrition, quality and the prevention of disease should become the primary focus through the adoption of more meaningful and multi-disciplinary approaches to the introduction of new food laws.

Harmonising the precaution out of the precautionary principle? The need for maintaining flexibility and an interpretative role

Mary Dobbs; Queen's University Belfast, United Kingdom

The precautionary principle has the potential to act as a valuable tool in food law. It operates in areas of scientific uncertainty, calling for protective measures where there are potential threats to human health (or the environment). However, the manner of the principle's incorporation and implementation within legislation are key to its effectiveness and general legitimacy. Specific considerations include the role and nature of risk assessments, assessors, sources of evidence, divergent opinions, risk communication, other legitimate factors and the weighting of interests. However, more fundamentally, the crystallisation of approaches and removal of all flexibility would undermine the principle's central tenets. Firstly, principles crucially play a guiding and interpretative role. Secondly, reflexive modernisation and continuing scientific uncertainty call for the precautionary principle's continued application-precautionary measures do not end the precautionary principle's relevance. This can be partially achieved through the legislation so as to facilitate later precautionary measures, e.g. through temporary authorisations, derogations and safeguard clauses. However, crucially, it requires that the legislation also be interpreted in light of the precautionary principle. This paper investigates the logic behind the Court of Justice of the EU's judgments and the circumstances that enable or deter the Court in taking, or permitting, stronger precautionary approaches. Although apparently inconsistent, a number of contextual factors including legislative provisions and actors involved influence the judgments substantially. The analysis provides insight into improving the

principle's incorporation to facilitate its continued application and maintenance of flexibility, whilst bearing in mind the general desirability of objectivity and legal certainty.

Research used to support claim applications based on new scientific knowledge (13.5) and risk reduction (14.1a) claims on cardio-vascular health

Liisa Lähteenmäki [1,4], Stewart Palmer [4], Igor Pravst [2,4] and Monique M. Raats [3,4]; [1] MAPP Centre, Aarhus University, Denmark; [2] Nutrition Institute, Slovenia; [3] University of Surrey, United Kingdom. [4] on behalf of the REDICLAIM Consortium (www.rediclaim.eu)

In EU legislation, the evidence behind health claims based on new scientific knowledge or risk reduction claims (13.5 and 14.1a claims) needs to be assessed case-by-case. These types of claims offer food and supplement industry a possibility to differentiate themselves from competitors and gain a competitive advantage. The process of authorisation acceptance process of new claims based on new knowledge could also be a tool to support innovation in the food industry, especially as EU allows proprietary material be used in the dossiers submitted to the European Food Safety Authority (EFSA) to substantiate the evidence behind the claims. However, there is very little systematic analyses of what kind of data are used to support these applications, who has funded the research, and how new the used scientific evidence is. The objective in this presentation is to explore the scientific literature used in applications to support 13.5 and 14.1a claims application dossiers in related with cardio-vascular health and submitted by the end of 2013, regardless whether the result of EFSA's evaluation has been supportive or negative.

The data basis of these analyses is 33 opinions, of which in 32 opinions referenced documents were used to substantiate the claim. The number of documents used varied widely, but half of the dossiers used over 10 documents. The vast majority of the documents used were publications in peer-reviewed journals (344 out of 418; 82%), followed by non-published documents (10%). In risk-reduction claims EFSA's published scientific opinions consisted 5% of the documents used. On average, the used peer-reviewed papers were published in journals that had a good impact factor, with positive outcomes having a slightly higher impact factor publications supporting the claim (ANOVA, p=0.008). The majority of the peer-reviewed papers were published between 2001 and 2010, with very few recent publications from the past two years at the time of application. Companies are mentioned most often as sources of funding, but 28% of the peer-reviewed articles do not reveal any source of funding. Furthermore, instead of claiming direct funding, companies could appear in the list of authors in the publication. EU as a funding source was only mentioned in 2% of the articles.

The scientific substantiation dossiers submitted to EFSA on new scientific knowledge and risk reduction claims related to cardiovascular health are mainly based on peer-reviewed articles that are publicly available. The claim substantiation was rarely based on very recent publications or reports suggesting that there is a time delay before scientific findings are implemented into product development. Although the use of non-published material is limited, the companies have been heavily involved in the peer-reviewed articles working together with the universities, hospitals and research centres.

The work was supported by the European Union's FP7 programme (FP7-603036) and by the Slovenian Research Agency (P3-0395). The funding bodies are not liable for any use that may be made of the information contained.

Challenges for risk reduction claim applications from a scientific viewpoint

Christiane Alexander; analyze & realize GmbH, Germany

The Health Claim Regulation requires for risk reduction claims that a food ingredient of food convincingly modifies an accepted risk factor for a given diseases. This leads to several questions:

(1) What known risk factors exist for human diseases?

(2) What is the definition of a risk factor for a human disease?

(3) What data is necessary to be able to ague for a factor to represent a risk factor?; (4) Which risk factors have been accepted by EFSA?

(5) What is the challenge of arguing for a biomarker to be a risk factor?

I will discuss these questions from our experience at a&r and try to provide answers.

International comparison of the requirements for the use of health claims on foods: Different jurisdictions, different requirements

Igor Pravst [1,4], Anita Kušar [1,4], Živa Korošec [1,4], Liisa Lähteenmäki [2,4], Rosalind N. Malcolm [3,4], Amanda Cleary [3,4], Anastasia Karatzia [3,4] and Monique M. Raats [3,4]; [1] Nutrition Institute, Slovenia; [2] Aarhus University, Denmark; [3] University of Surrey, United Kingdom. [4] on behalf of the REDICLAIM Consortium (www.rediclaim.eu)

Healthy lifestyle, particularly nutrition, is recognised as an important factor influencing the growing incidence of non-communicable diseases. Although we are experiencing a global rise in obesity, some specific populations are still at risk of nutrient deficiencies. When appropriately formulated and available to those in need, functional foods could support these nutritional challenges. Many countries regulate the use of health claims on such foods to ensure non-misleading labelling. Research in the "REduction of DIsease risk CLAIMs on food and drinks" project (REDICLAIM) compares how health claims are being substantiated and used in different jurisdictions, focusing on the advantages and disadvantages of different regulatory models.

Comparison was done for some jurisdictions with well-documented regulation and use of health claims, namely European Union (EU), USA and Australia. Desk research and key informant interviews were used to establish the processes used, including regulatory criteria for the substantiation and use of health claims.

In all of the selected countries health claims need to be substantiated with generally accepted scientific

evidence. However, substantial differences exist in the use of health claims on foods. Notable differences relate to the regulation of nutrient function claims, the use of nutrient profiling for rating of the overall composition of final foods, and extent to which there is stimulation of research and development activities in the industry. Only in the EU claims can be officially authorised with protection of proprietary data.

In all three jurisdictions disease risk reduction claims must be substantiated with generally accepted scientific evidence and pre-approved by authorities. Evaluation standards are on a high and comparable level; only a few such health claims have been authorised. On the contrary, there are major differences in the use of health claims based on functions of nutrients and other substances in the body. In the US, function claims are not covered by the definition of health claim and therefore no pre-approval is required. In EU and Australia, such claims are considered as health claims. In the EU pre-approval is similar to disease risk reduction claims, while in Australia such "general level health claims" can be either pre-approved or self-substantiated by the company using the claim. New health claims can be a driving force for innovation, yet significant investments in R&D are needed. The health claims substantiation process should therefore be well defined and efficient to support innovation and global competitiveness in the food industry on one hand, and public health on another.

The work was supported by the European Union's FP7 programme (FP7-603036) and by the Slovenian Research Agency (P3-0395). The funding bodies are not liable for any use that may be made of the information contained.

Designing legislation and promoting public health - The Brazilian Experience

Giovanna Fiates; Universidade Federal de Santa Catarina, Brazil/University of Surrey, United Kingdom

The Brazilian Health Surveillance Agency (ANVISA) is responsible for rulemaking on food labelling. Nutrition labelling of packaged goods has been mandatory since 2001, regulation on supplementary nutrition information was introduced in 2012 (Resolutions #360/2003 and #54/2012). In 2014, ANVISA created the 'Working Group on Nutrition Labelling', where members of government, academy, industry, consumer and professional associations were invited to appoint members. The Nutrition Department from Federal University of Santa Catarina (UFSC) was one of the two academic institutions invited. Aside from advising ANVISA on technical and/or scientific matters related to nutrition labelling of packed foods, the group is identifying problems/limitations in the present regulatory model, and providing suggestions for revisions.

At the first meeting in December 2014, Working Document #1/2015, dealing with problematic issues in nutrition labelling and transmission of nutrition information was presented. Members were asked to submit individual written comments and analyses. At the second meeting (March 2015), the World Trade Organization and Codex Alimentarius agreement terms and norms on food labelling regulations were discussed, highlighting the fact that previous commitments by the Brazilian government must be considered. Results of ongoing academic research on food labelling were presented. At the third meeting

(May 2015), contributions on Working Document #1/2015 were presented and discussed.

Direct input from academia, albeit on a small scale, and academic participation have been achieved, enabling researchers to share their informed views and opinions as part of discussions of key nutrition labelling issues at the highest regulatory level.

Debating the future of food innovation and legislation through inclusion, safety and health

Giuseppe Pellegrini; Observa Science in Society, Italy

The European Union has long promoted several development programs to search for safe food, health and the environment. Among the initiatives launched through EU-funded programs, the FP7 project Inprofood (www.inprofood.eu) involved numerous stakeholders during 2012 and 2013. Within the project, 35 Scenario Workshop in 13 European countries have been carried out to identify possible future scenarios for the next two decades on the issues of production, research and nutrition. The Scenario Workshop addressed three main topics: the development of appropriate research policies, lifestyles and innovations produced by research. The results of the meetings were studied by selecting the main topics of discussion and negative scenarios for the three areas proposed to the stakeholders. In some cases, the participants proposed themes and scenarios with a strong legislation, such as when they suggested the need for more control by the public authorities on imported food. In other cases they argued thesis with a strong values such as the approval of lifestyles caused by foods too standardized. This contribution will explain the comparison between negative and positive scenarios raised in the Italian scenario workshops that allowed to highlight what are the standards and values desirable for the development of safe food; in this way it was possible to identify and discuss the stable elements that should be taken into account in the drafting of law.

Integrating perspectives on food safety, nutrition, and food waste

Gulbanu Kaptan; University of Leeds, United Kingdom

Promoting better food safety, healthy diet, and reduced food waste are high priority for the EU and the UK. Improvement is needed because (1) foodborne illnesses amount to 17 million cases/year in the UK, (2) consumers are increasingly making unhealthy food choices, contributing to 62% of UK adults being overweight or obese, and (3) UK domestic food waste is 7 million tons/ year, of which 4.2 million tons is deemed preventable. In this workshop, I will present two projects on integrating perspectives on food safety, nutrition, and food waste. The first project is an ESRC research seminar series on Food Options, Opinions and Decisions that I am co-directing. With project partners from the University of Leeds, Newcastle University, Food Standards Agency, and Waste and Resources Action Programme, the project brings together practitioners and academics worldwide through 9 seminars over 3 years (2015-2017) to understand and improve UK consumers' decisions about food safety, nutrition, and food waste. The second project, which is funded by the Leeds University Business School, aims to summarize domain experts' perspectives of the interactions between food safety, nutrition, and food waste, and

their relevance for informing consumers' food choices. The project is grounded in the 'mental models approach' that draws on methods from cognitive psychology, ethnography, and anthropology, and has been applied in diverse domains including health, environment, and safety. The findings will inform new research projects to develop communications that promote consumption of safe and healthy food with minimum waste

Understanding how consumers categorise health related claims; a consumer derived taxonomy of health claims

Charo E. Hodgkins [1,6], Bernadette M. Egan [1,6], Katja Pfeifer [2,6], Stephanie Leick [2,6], Sabrina Rammo [2,6], Jure Pohar [3,6], Krista Miklavec [3,6], Azucena Gracia [4,6], Evelien van de Veer [5,6], Marij Cornielje [5,6], Matthew Peacock [1,6] and Monique M. Raats [1,6]; [1] University of Surrey, United Kingdom; [2] Saarland University, Germany; [3] University of Ljubljana, Slovenia; [4] Agrifood Research and Technology Centre of Aragon, Spain; [5] Wageningen University, The Netherlands; [6] on behalf of the CLYMBOL Consortium (www.rediclaim.eu)

The EU regulation on nutrition and health claims utilises an expert taxonomy to describe and differentiate between categories of claims within its scope. Since experts typically demonstrate a more sophisticated categorisation than non-experts i.e. consumers, comparison between the two can provide valuable insight into consumer understanding of health claims.

A study was performed with 100 consumers recruited across 5 countries; the UK, the Netherlands, Germany, Slovenia and Spain. The Multiple Sort Procedure and Multiple Scalogram Analysis were utilised to elicit how consumers categorise different forms of health claims and to further develop understanding of the conceptual systems they use. By utilising this approach we aimed to develop a consumer-derived taxonomy of the nutrition and health claims domain and gain deeper insight into how well this aligns with the expert taxonomy.

A consumer-derived taxonomy based on 'familiarity', 'statement type' i.e. simple vs complex and 'relevance' is proposed. Since 'familiarity' and 'relevance' are by necessity constructs with individual differences, different consumers are likely to receive the same claims differently based on their established networks and beliefs. There is a need to support consumers in establishing appropriate networks and beliefs to derive appropriate meaning from health claims.

This study was funded by the EU 7th Framework Project CLYMBOL – Role of health related claims and symbols in consumer behaviour, grant agreement no.311963.

Exploring the attitudes and dietary behavioural aspects amongst young adults: a qualitative study

Mei Yen Chan; Newcastle University, United Kingdom

Nutrition plays a vital role in preventing deaths and disabilities from major non –communicable diseases

such as cardiovascular disease, diabetes, obesity and several forms of cancer, osteoporosis as well as dental disease. An effective public health nutrition policy can help to reduce the burden of these diseases by contributing to the development of regulatory frameworks and interventions which can work on several levels. Firstly, policies can aim at targeting individual behaviours (e.g., public education campaigns, taxation, providing incentives to promote healthy dietary behaviours). Secondly, on a wider context, the food laws can regulate the reformulation of food products, nutrition claims on food labels, food advertisement, food production and access. In order for these strategies to be effective and relevant to the populations, understanding the process whereby people make decisions about their food choices is important. We carried out a qualitative study to examine young peoples' attitudes and various socio-psychological factors in contributing to their dietary behaviours. Six focus groups were conducted with University students (aged 20-25 years old) from various study disciplines. A thematic approach was used for data analysis. Generally, these young adults are aware and receptive towards health and dietary messages. However, they are often constrained in trying to implement these changes due to individual, social and environmental factors. Relevant stakeholders need to understand these concerns as these continue to play a major role in peoples' deep seated preferences for their dietary habits even in young adults.

Can public health initiatives decrease consumption of sugar-sweetened beverages in childhood?

Elisa Vargas Garcia; University of Leeds, United Kingdom

Evidence for higher intakes of sugar-sweetened beverages (SSBs) with increased risks of obesity, type 2 diabetes and cardiovascular disease is increasing. As a result, there has been much interest in targeting SSBs across public health interventions. Emphasis has been placed on childhood, as it represents a critical period where dietary habits are developed, reinforced and permanently established. Consequently, a systematic review and meta-analysis has been undertaken on the impact that initiatives to reduce SSBs have had on consumption in childhood, and other age groups. A search strategy was developed and executed in 6 databases so that studies published after 1990 in any language, that had a control group available and that reported changes in daily intake of SSBs were retrieved, screened and analysed for internal and external validity. Quality appraisal was assessed in duplicate following Cochrane principles. From a total of 5461 original records, 201 full papers w ere obtained, and 34 met the inclusion criteria. Only 16 studies, involving 10,110 participants, had complete data for meta-analysis on SSB intakes in children (< 18 years old). Overall, interventions significantly decreased consumption of SSBs by 74 millilitres/day (95% CI: -132, -16 millilitres/day) compared to controls. Heterogeneity was high across studies (I2 96%), and this was explained after subgroup analyses were conducted on potential confounders (setting of interventions, randomisation and use of certain behaviour change techniques as rationale). Results here highlight the need to support initiatives targeting SSBs in younger populations, as one way of addressing a modifiable dietary behaviour linked with obesity.

Papers

Development of an economic model of functional food enriched with plant sterols or stanols in the prevention of coronary heart disease

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Adding plant sterols or stanols enriched functional food to the diet has the potential to reduce the risks of coronary heat diseases, and thus reduce costs associated with treating these diseases. While the clinical effectiveness of plant sterols or stanols in reducing cholesterol is well-established, evidence on the cost-effectiveness of plant sterols or stanols in the prevention of coronary heart disease remains limited. This paper describes how a decision making model has been built to appraise the cost-effectiveness of the plant sterol or stanols for the management of people with hypercholesterolemia at increased risk of coronary heart diseases (CHD). We will subsequently use the model to produce estimates that will enable an evaluation of the cost-effectiveness of plant sterols or stanols incorporated in dairy products or margarine spreads when compared to a normal diet. Long-term health effects measured as quality-adjusted life-years gained, and costs for health states will be compared for a plant sterol or stanols enriched functional food group and a normal diet group. We use U.K. as a case study, and the analysis will adopt the perspective of the British National Health Service.

Health economic view on nutrition-related policy-making

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This presentation will illustrate the basic concepts of health economic evaluation to evaluate the consequences of nutrition-related policy-making using Finnish experiences as an example. To support evidence-based policy-making, information about the health and economic consequences of different regulative policies is needed. In a Finnish salt and saturated fat reduction study, a health economic model was developed to predict the health economic consequences of modest reductions in the daily intake of salt and replacement of saturated fat with polyunsaturated fat in the Finnish population aged 30–74 years. The results of the study showed that during the next two decades, a population-wide hypothetical intervention directed at salt intake and dietary fat quality could potentially lead to 8000–13 000 prevented CVD cases among the Finnish adults compared the situation in year 2007. In addition, the reduced incidence of CVDs could gain 26 000–45 000 quality-adjusted life years (QALYs) and save 150–225 million euros over the same time period. These findings suggest that policies leading to a modest reduction of dietary salt and replacement of SFA content with PUFA in food products can substantially reduce the total burden of CVDs in the adult Finnish population, with large cost savings from the public health point of view.

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7359-0515

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