Institution: Newcastle University

Unit of Assessment: UoA 3

Title of case study: Front of Pack "traffic lights" nutrition labelling adopted across the UK

1. Summary of the impact

One solution proposed to contribute to the resolution of the current UK obesity crisis has been to provide clear, visible and easily understood nutritional information to help consumers make informed decisions when purchasing food. Newcastle research provided two insights: first that consumers found it hard to interpret multiple versions of nutritional labels, and secondly that the label with the highest overall comprehension included traffic light colouring, Guideline Daily Amounts and the words "low", "med" and "high" to aid decision making. This information was used by the Department of Health in their approval of a new, consistent food labelling in June 2013. This system has now been adopted by major manufacturers including MARS, Nestlé UK, PepsiCo UK and Premier Foods, and retailers including Sainsbury's, Tesco, ASDA, Morrisons, The Co-operative Food and Waitrose.

2. Underpinning research

Newcastle research staff

Professors John Mathers (Professor of Human Nutrition 1983 to date), and Rugg-Gunn (Professor at Newcastle 1988–2001) were investigators with Adamson (Lecturer 1998–1999, Senior Lecturer 2005–2006, Professor of Public Health Nutrition 2009 to date) on the 'Family Food and Health' Project funded by MAFF/FSA. This work led to the publication of R1 and contributed to work included in R2. The Wellcome Trust-funded ASH30 study 'Does diet 'track' from childhood to adulthood?' led to R3.

Background of Newcastle research into food choice

Professor Ashley Adamson at Newcastle University has a long track record of research into food choice by consumers, and its importance in addressing diet-related disease. An early study (R1) identified factors influencing consumer food choice regarding starchy foods in families. The study found a lack of nutritional knowledge; for example 15% of adults believed starchy foods to be "fattening", and that there was no relationship between the perceived healthiness of the family diet and the relative contribution of energy by starch, fats and sugars. This indicated the need for objective, clear information on the nutritional content of food. A later study (R2) stated that addressing food choice by an individual, and the environment that surrounds that choice, is key to reversing current trends in diet-related disease. The study concluded with the importance of addressing the context of food choice and the importance of policy that addresses the individual and their access to appropriate food choices. Thirdly, a 2006 article (R3) investigating food shopping habits amongst adults in their 30s identified that even in this younger age group food shopping was carried out largely by women, regardless of presence or absence of children in the home, and that women were more health conscious than men, with implications for health educators and policy planners in targeting of messages.

Newcastle's role in development of the Food Standard Agency report

In 2006, Professor Adamson was invited by the joint Department of Health (DH) and Food Standards Agency (FSA) Nutrition Strategy Steering Group to join an Independent Project Management Panel to develop a consistent front-of-pack food labelling system. The Food Information and Promotions Manager at the DH confirmed that two factors contributed to Professor Adamson's selection: the first her "*independence from any associated manufacturer or retailer*" and the second her "*wealth of experience and expertise in the area of food choice, represented by such publications as:*

- Lake *et al… British Food Journal 2006* [R1]
- *Adamson et al… Proceedings of the Nutrition Society 2004* [R2]
- *Adamson et al… Nutrition & Food Science 2000* [R3]."

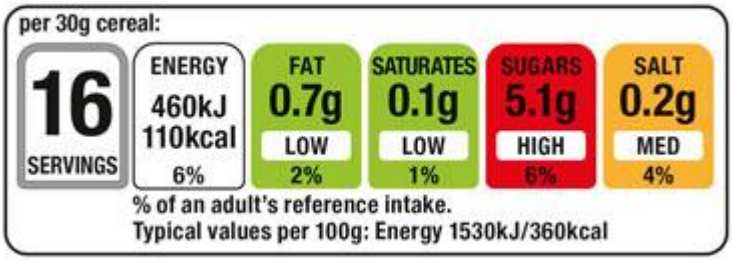
The project management panel oversaw a research study commissioned by the UK Food Standards Agency in 2008 to investigate how consumers interpret different systems of food labelling (R4). Professor Adamson worked with the panel and the FSA to manage the project, formulate the tender for the research and also contributed quantitative analysis and project management. The Food Information and Promotions Manager at the DH confirmed that Professor Adamson "*brought unique insights to the panel that informed experimental design. Your contributions to the analysis of project findings subsequently formed a key part of the publication of the 2009 FSA report 'Comprehension and use of UK nutrition signpost labelling schemes report'* [R4]*"* (EV a).

This 2009 report specifically investigated public opinion regarding front-of-pack (FOP) food labelling, with the aim of identifying which scheme was easiest to interpret in terms of conveying key nutritional information, to allow consumers to make informed choices. The report addressed three main questions:

1. How well do individual signpost schemes (or elements of the schemes) enable consumers to correctly interpret levels of key nutrients?
2. How do consumers use FOP labels in real life contexts in the retail environment and at home?
3. How does the coexistence of a range of FOP label formats affect accurate interpretation of FOP labels?

The first main finding was that two labels achieved highest overall comprehension: the first combining text ("high", "medium" or "low"), traffic light colours and contribution to Reference Intake (RI) or Guideline Daily Amount; and the second, text and traffic light colours. However, inclusion of RI figures allows consumers to determine the level of individual nutrients. The second major finding was that a range of FOP label format leads to difficulty for consumers in understanding the product's nutritional value, and that a single, standard, format would increase comprehension and use of FOP labels.

The 2013 article (R5), which expanded on this report, presented evidence that multiple front-of-pack designs are confusing and require persistence on the part of the consumer to assess the healthiness of product, and secondly that consumers fared better with a common element to the design. The conclusion was that consistent, standardised labelling would facilitate healthier food choices by increasing understanding and wider use by promotion of one format to consumers.



Example of easily understood front of pack label, including traffic light colour and guideline daily amount (now known as Reference Intake)

3. References to the research (Scopus citation data at as 31.7.13, Newcastle researchers in **bold)**

R1. **Adamson A, Curtis P, Loughridge J, Rugg-Gunn A, Spendiff A, Mathers J**. A family-based intervention to increase consumption of starchy foods. *Nutrition & Food Science* 2000, 30:19-23. Citation count unavailable in Scopus.

R2. **Adamson AJ**, **Mathers JC**. Effecting dietary change. *Proceedings of the Nutrition Society*. 2004, 63(4), 537-547. Citation count 19.

R3. **Lake AA, Hyland RM, Mathers JC, Rugg-Gunn AJ, Wood CE**, **Adamson AJ**. Food shopping and preparation among the 30-somethings: whose job is it? (The ASH30 study). *British Food Journal*. 2006, 108(6), 475-486. Citation count: 19

R4. Malam S, Clegg S, Kirwan S, McGinigal S and BMRB Social Research. Comprehension and use of UK nutrition signpost labelling schemes. Prepared for the Food Standards Agency 2009. Available at http://www.food.gov.uk/multimedia/pdfs/pmpreport.pdf

R5. Front of Pack nutrition labelling: are multiple formats a problem for consumers? (2013, e-published 2011 ahead of hard copy). Draper AK, **Adamson AJ**, Clegg S, Malam S, Rigg M, Duncan S. *European Journal of Public Health*. 23(3):517-21. This new article is yet to be cited in the academic press. Newcastle contribution: quantitative analysis and project management.

Awards by funder: PI is Professor Adamson unless otherwise stated.

- Department of Health. Five awards totalling £1,731,179.
- Medical Research Council. Two awards totalling £525,217.
- Ministry of Agriculture, Fisheries and Food (MAFF), whose responsibilities were transferred to the Food Standards Agency during the research period. Six awards totalling £1,498,797 including £507,000 to Professor Mathers.
- NHS Executive – Northern & Yorkshire. One award 1999–2000 of £58,581.
- Wellcome Trust. One award 1999–2001 of £167,683.

4. Details of the impact

The risks of a poor diet

A poor diet is one containing unbalanced proportions of nutrients, especially excessive consumption of saturated fat, salt and sugar and insufficient intake of fruit, vegetables and fibre. Poor diet contributes to a range of health risks, including nearly 50% of all deaths from coronary heart disease, a third of all cancer deaths, diabetes, obesity and dental caries. Obesity alone costs the NHS more than £5 billion every year, with over 60% of adults overweight or obese.

A proposed solution to tackle poor diet

One proposed approach to poor diet has been to clarify the nutrition information on the front of food packaging to ensure that consumers are able to make informed choices when purchasing food. A report from January 2008 entitled "Healthy weight, healthy lives" set out Government expectations of companies in every food sector to promote healthy eating under the Healthy Food Code of Good Practice, stating "*A single, simple and effective approach to food labelling used by the whole food industry, based on the principles that will be recommended by the FSA in light of the research currently being undertaken*" (pg. 18). This research, culminating in the publication of R4 and R5, confirmed that different label formats were difficult for participants to interpret and took time and effort to understand, and proposed that front-of-pack labels be consistent.

The impact of Newcastle research on Government policy regarding front of pack food labelling

In October 2012, the Department of Health announced the introduction of a new, consistent labelling format (EV b), directly citing R5: "*Consumers are confused when more than one scheme is used and this reduces their ability and inclination to use this information. Available online at the European Journal of Public health website* [link given to R5]."

The final design was announced by Health Minister Anna Soubry in June 2013 (EV c) in a press release that also directly cites R5: "*This comes after research* [embedded link to R5] *shows that people can end up bewildered by the different nutrition labels on food.*"

Many food manufacturers have signed up to this scheme, including MARS, Nestlé UK, PepsiCo UK, and Premier Foods. As well as this, seven of the top ten UK retail brands have agreed to take part in the scheme, including Tesco Food Stores Ltd, Marks and Spencer, Boots, Asda Stores Ltd, Sainsbury's, Waitrose Ltd (EV d), Morrisons Ltd (EV e) and The Co-operative Food (EV f).

Health Minister Anna Soubry states: "*Research shows that, of all the current schemes, people like this label the most and they can use the information to make healthier choices.*" (EV c). The Executive Director of Which?, Richard Lloyd, states: "*We welcome this big step forward towards making it easier for consumers to make healthy choices*" (EV c). Finally, Simon Gillespie, the Chief Executive at the British Heart Foundation states: "*This is undeniably a first-class scheme that will*

make it easier for shoppers to scan the shelves and make more informed choices about what's going in their trolley." (EV c).

The announcement has generated a high level of public awareness and debate: the BBC website covering the announcement accumulated over 500 comments in the two days the article was open for comment (EV g).

In summary: with the introduction of a standardised front of pack labelling system, consumers are given clear information about the food they purchase, helping them to be more aware of food that contributes to a poor diet and therefore of the health risks, such as obesity, that are linked to poor diet.

5. Sources to corroborate the impact

EV a. Letter from the Food Information and Promotions Manager at the Department of Health, available on request.

EV b. Government press release "Hybrid system for food labelling given green light" October 2012: https://www.gov.uk/government/news/hybrid-system-for-food-labelling-given-green-light

EV c. Government press release "Final design of consistent nutritional labelling system given green light" June 2013: https://www.gov.uk/government/news/final-design-of-consistent-nutritional-labelling-system-given-green-light

EV d. Waitrose announce their adoption of the FSA system: http://www.waitrose.com/home/inspiration/health_and_nutrition/nutrition_advice_and_healthy_eating/labelling.html

EV e. Morrison's announce their adoption of the traffic light system: http://www.morrisons.co.uk/food-and-drink/healthy-eating/Traffic-Light-Labelling/

EV f. The Co-operative Food announce their adoption of the traffic light system: http://www.co-operativefood.co.uk/health/the-multiple-traffic-light-labelling-scheme/

EV g. BBC Health news article on the UK adoption of the labelling system: http://www.bbc.co.uk/news/health-22959239