Reformulation experiences: Reducing fat, salt and sugar in the Welsh food and drink manufacturing industry

Leanne Ellis, Jessica Lacey, Kate Pressdee, Helen R. Taylor and Ellen W. Evans*
ZEROFIVE Food Industry Centre Research Group, Cardiff Metropolitan University, Wales, UK
*Corresponding author: elevans@cardiffmet.ac.uk

Introduction

In Wales, consumption data indicate consumer reliance on convenience food, under consumption of fruit and vegetables' intakes of fat, salt and sugar exceeding dietary recommendations, and consumption of high fat, salt and sugar food and drink products. Consequently, in Wales 58% of adults' and 25% of children are overweight. Food-related ill-health, particularly among children is reportedly greater in Wales than the rest of the UK. The cost of food-related ill-health has a significant impact on the National Health Service in Wales. It may be suggested that Welsh food and drink manufacturing and processing businesses have a role to play in providing Welsh consumers with more nutritionally beneficial choices. The Welsh Government Food, Wales, Food from Wales 2010-2020 strategy aims to nurture a food sector which can provide high standard food that is sustainable, safe, affordable and healthy.

Reformulation can produce food of greater nutritional benefit to consumers. UK voluntary reformulation has reduced levels of saturated fats, the Childhood obesity action plan, aims for FMDBP reformulation to lower levels of all nutrients. However, reformulation is not a straightforward process, many factors may limit the feasibility of reformulation. Currently, little is known about the reformulation experiences of food and drink manufacturers in Wales.

Research aim

Explore the reformulation activity of manufacturers in Wales to identify associated drivers, barriers, benefits and required support mechanisms to facilitate effective reformulation activity.

Methods

As part of a large Welsh Government funded research project, food and drink manufacturers in Wales participated in the two phases of research:

• In-depth interviews regarding reformulation experiences giving insight to the drivers and barriers to conducting food product reformulation (n=7);
• online questionnaires regarding reformulation activity and reduction estimates (n=21).

Ethical approval for the study was obtained from the Cardiff School of Health Sciences Ethics Committee.

Acknowledgements

The ZEROFIVE Food Industry Centre Research Group wish to acknowledge the funding received by the Welsh Government Food Division to conduct the project.

Results

Reformulation experiences of Welsh food and drink manufacturing businesses

Reformulation can involve the reduction, removal or replacement of target nutrients such as fat, salt and/or sugar, given the function of these nutrients in food products, reformulation can have an impact on the product in terms of sensory changes, shelf life reduction and on production costs (Figure 1).

Not only can reformulation have an impact on the food product, it can have an effect on the manufacturer and the consumer. These factors may limit the feasibility of reformulation. The drivers, barriers, benefits of reformulation were explored and potential support mechanisms required to enable manufacturers to facilitate effective reformulation activity were identified.

Drivers for reformulation

Consumer demand for "healthier" food products and pressures by retailers to maintain competitive advantage were drivers for reformulation among food businesses in Wales:

"The main driver for reformulation was to improve product profiles and to meet with changing consumer needs," (Savoury pastry, breads and cake producer)

"Reformulation is typically customer driven. Some reformulation activity is driven from within the business in an attempt to reduce production costs."

(Mediterranean vegetarian snack producer)

"The drivers included reformulating for customers who are on moderate trends and consumer buying behaviour."

(Resturaunt and fine producers)

"Reducing Na levels, reduction in fat, and reducing sugar or sugar substitutes from foods." (Restaurant and fine producers)

"Reducing sugar, fat and salt have been identified as areas which consumers are interested in, the benefit to the manufacturer is that this can be linked to consumer trends."

(Independent Product Innovation Specialist)

"One of the advantages is that in some recipes yields have increased as a result of reformulating."

(Independent Product Innovation Specialist)

"A reduction in levels of sodium, fat or sugar."

(Independent Product Innovation Specialist)

Benefits of reformulation

The identified benefits of reformulation in some cases included reduced costs through waste reduction, reduced cooking time, increased yield and increased products stability:

"Cuts in sugar and fat content results in a reduction of cooking time."

(Independent Product Innovation Specialist)

"A reduction in oil content."

(Independent Product Innovation Specialist)

"One of the advantages is that in some recipes yields have increased as a result of reformulating."

(Independent Product Innovation Specialist)

Support to enable reformulation

As the process of reformulation was deemed to be time and budget consuming, manufacturers identified the need for potential support mechanisms to assist and support reformulation activity.

"Government must commit the resources to facilitate the development process and its cost may encourage smaller businesses to invest in reformulation."

"Without government funding and support to reformulation, businesses would be unable to improve products."

("Other benefits included significant commercial opportunities to develop new products to meet changing consumer demand.

"Small businesses are ill equipped and resourced to facilitate effective new product development and may require access to independent, technical support to support this activity."

("What would make reformulation easier for the business, and in general, a wider availability of knowledge and information on approaches to successful reformulation?"

("In order to assist reformulation within the food and drink manufacturing industry."

"If there were a central point of reference where some of the barriers can be addressed and barriers reduced."

("The government must fund reformulation activity in order to reduce the barriers."

("What would enable reformulation activity to reduce salt content included:"

(Independent Product Innovation Specialist)

Examples of reformulation activity to reduce salt content included:

• Reducing or replacing sodium with other nutritional ingredients.

Examples of reformulation activity to reduce salt content included:

• Replacing salt with natural alternatives to enhance taste.

Examples of reformulation activity to reduce sugar content included:

• Replacing sugar with sweeteners.

Examples of reformulation activity to reduce sugar content included:

• Reducing sugar in cakes.

Examples of reformulation activity to reduce sugar content included:

• Replacing sugar with alternative ingredients.

Conclusions

The study has determined significant reformulation efforts have already been made by Welsh FMDBPs, however support mechanisms are required to be added to the manufacturer's toolkit.

It must be considered that as the majority of food consumed in Wales is not produced in Wales, future policies directed at Welsh FMDBPs to improve nutritional content of foods will have limited impact. Interventions that influence Welsh consumer's point-of-purchase/consumption decisions will have greatest impact.

References

7. Public Health Wales.[121] Childhood Dental Health Survey.

Reformulation reductions in the Welsh food and drink manufacturing industry

Three-quarters (76%) reported reformulation activity to reduce fat intake (33%), salt (48%) and sugar (52%) content of foods (Figure 2).

Various methods facilitated reformulation. Creating a bespoke seasoning enabled a sausage producer to reduce salt by 25% thus resulting in an annual reduction of £63,513k in salt usage.

Conclusions

The study has determined significant reformulation efforts have already been made by Welsh FMDBPs, however support mechanisms are required to be added to the manufacturer's toolkit.

It must be considered that as the majority of food consumed in Wales is not produced in Wales, future policies directed at Welsh FMDBPs to improve nutritional content of foods will have limited impact. Interventions that influence Welsh consumer's point-of-purchase/consumption decisions will have greatest impact.