

SIGnposting Nutrition Study (SIGNS)

Final report

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Executive Summary

Background

Nutrition labelling on food has been mandatory in New Zealand since 2002. Nutrition labels are intended as a tool to help people make healthier choices at point of purchase. However, consumer research suggests that current labels are not well understood, and rarely used by some groups. There has been increasing interest in front-of-pack nutrition labels due to their ability to provide a simple, quick, easy to understand label format.

Aim

To determine the potential for front-of-pack labels in New Zealand and the feasibility of a supermarket-based trial to determine their impact on consumer purchasing behaviour in a real-life setting.

Methods

Multi-method research consisting of three phases. Phase 1 consisted of a literature review on nutrition labels, focus group research with consumers, and key stakeholder consultation. Phase 2 was development of the intervention and the nutrient profiling system to support a front-of-pack label. Phase 3 was a pilot supermarket-based front-of-pack labelling intervention.

Results

Phase 1 of the feasibility study has been completed. The literature review and focus groups showed consumer demand for front-of-pack labels. Overall, the most effective label format in a New Zealand context appeared to be simple traffic light labels. Key informant interviews highlighted the issues and difficulties surrounding implementation of front-of-pack labels and the value of a supermarket-based front-of-pack labelling intervention. Phases 2 and 3 of the trial have not yet been completed. Delays have occurred in obtaining food industry consent to the trial. The barriers and pitfalls to conducting a supermarket-based front-of-pack labelling intervention are discussed.

Conclusion

Negotiations continue with the food industry and will determine the feasibility of running a supermarket-based labelling intervention. The research conducted to date has provided a greater understanding of the value of front-of-pack labels and issues surrounding their implementation.

1 Introduction

This paper reports on research to explore the feasibility of introducing front-of-pack (FOP) nutrition labels in New Zealand supermarkets (SIGNposting Nutrition Study SIGNS). The research was conducted by a team of Māori, Pacific and Pākehā researchers. The research included a literature review¹; focus groups with Māori, Pacific and low-income communities²; and key informant interviews with stakeholders from the food industry, government and non-governmental organisations.³ The purpose of this report is to summarise findings from the SIGNS study, and document the feasibility issues identified in undertaking a large supermarket intervention trial to measure the effectiveness of FOP labelling.

Improving the nutrition of New Zealanders is a key focus of government policy, most notably in the Health Eating Healthy Action strategy. Approximately 40% of deaths in New Zealand are due to the joint effects of poor diet, including high cholesterol levels, high blood pressure, obesity, and inadequate fruit and vegetable intake.⁵ Healthy eating helps to prevent heart disease, stroke, diabetes, and some cancers. Furthermore, poor nutrition is a major determinant of health inequalities; 47% of deaths among Māori are nutrition-related compared to 39% among non-Māori.⁶ Similarly, low-income people have high mortality rates from cardiovascular disease and cancer.⁷ Pacific peoples also have a high number of nutrition-related health problems such as obesity and type 2 diabetes mellitus compared to New Zealand Europeans.⁸ Thus, improving nutrition is vital to improving health.

This research has been conducted at a time when there is growing interest in, and support for, the use of FOP nutrition labelling to encourage healthier food choices, both in New Zealand and internationally. The New Zealand Health Select Committee on Obesity and Type 2 Diabetes recommended government consider traffic light labelling as the preferred FOP system⁴.

Environments that assist people to make healthy food choices are important in promoting good nutrition, and nutrition labels can form part of that supportive environment. Nutrition labels on food packaging provide valuable information to

consumers at point of purchase and have the potential to improve food choices and eating behaviours. More than 90% of consumers report checking nutrition labels on packaged foods on at least some occasions (eg. when buying a product for the first time or trying to lose weight).⁹ However, despite high rates of self-reported use and understanding of nutrition labels, actual consumer use and understanding of nutrition information is quite low.¹⁰ Recent consumer surveys in the UK and Australia on understanding of nutrition labels found that half of the sample misinterpreted the nutrition information.^{11 12}

How people understand and use nutrition labels is strongly influenced by sociodemographic factors such as sex, age, income and ethnicity.^{13 14} Recent New Zealand research found that Māori, Pacific and low-income New Zealanders rarely use nutrition labels despite their significantly higher risk of nutrition-related disease.¹⁵ These communities recommended a FOP nutrition label that is simple, colourful and easy to understand.

The focus on a possible research trial of FOP labels was driven by findings from a review of the literature that indicates a lack of research on whether this type of scheme actually changes behaviour in a real life setting (or whether any nutrition labels in fact change behaviour).¹ Furthermore, and importantly for equity considerations, if FOP labelling schemes do change behaviour, what sections of the community are influenced most?

2 Project objectives

Original project objectives included:

- (1) evaluating consumer preferences and understanding of FOP labels, and effective ways to promote them (*completed*);
- (2) working out how different foods should be classified (nutrient profiling systems);
- (3) engaging with stakeholders regarding implementation (*completed*);
- (4) assessing differences in cost and availability of healthier foods as classified with selected profiling systems; and
- (5) a pilot to assess practicalities related to implementation of the intervention.

Findings from completed objectives are summarised herewith. Issues which have arisen from attempts to complete remaining objectives are also discussed.

3 Key

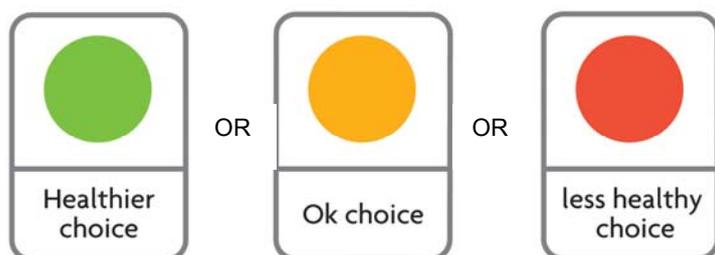
Several FOP label formats will be discussed in this report. An explanation of each is provided below.

Figure 1: Multiple traffic light label



The multiple traffic light label (Figure 1) gives a green (low), amber (medium), or red (high) light to indicate the level of each of fat, saturated fat, sugar, and salt in a product. The colour is based on the gram amount per 100g compared with guideline thresholds. The label shown is the format recommended by the UK Food Standards Agency following a series of consumer research.

Figure 2: Simple Traffic Light label



The simple traffic light (Figure 2) gives one overall green (healthier), amber (ok), or red (less healthy) light to the product to indicate the healthiness of the food. This is the simple traffic light label format trialled by the UK Food Standards Agency.

Figure 3: Percentage daily intake label (%DI)



The percentage daily intake label (%DI) (Figure 3) shows the amount of a range of nutrients provided by one serving of that food, expressed as a gram amount and percentage of a typical daily energy intake (8,700kJ). Serving size is not regulated and is usually determined by the manufacturer. This label is the full format used by the food industry in New Zealand.

Figure 4: Hannaford Brothers Company guiding star system



The star system was designed by the Hannaford Brothers Company supermarket chain in the United States. It rates the healthiness of food sold in the store and gives it a rating of zero to three stars. Three stars indicates the most nutritious products.

Figure 5: Colour-coded GDA label

	Per serving	GDA
FAT	7.7g	70g
SATURATES	2.0g	20g
SUGAR	42.4g	40g
SALT	2.0g	6g
■ HIGH ■ MEDIUM ■ LOW		

This label uses red, amber, and green colour-coding to indicate a high, medium, or low level of a nutrient. It also lists the gram amount per serving next to the recommended guideline daily amount. This label was tested by the UK Food Standards Agency.

Methodology

There were three phases to the SIGNS feasibility study. The first phase was a literature review, focus group research with consumers, and key stakeholder consultations. In view of nutrition-related health inequalities, the views of priority population groups of Māori, Pacific and low-income peoples on FOP labels were sought. The second phase of the trial was development of the intervention, which included selecting or developing a nutrient profiling system and classifying foods accordingly; and the third phase was a pilot trial. The first phase of the trial has been completed, and the methodology is presented below. Development work in phases 2 and 3 has commenced but has been delayed, pending approval from food manufacturers for their products to be included in a trial.

3.1 Literature review

Methods and findings from the literature review have been reported in detail elsewhere.¹ In summary, a structured search of 11 academic databases was completed, along with searches of relevant websites and hand-searching bibliographies. As this review updated an earlier review, it only included literature published between August 2005 and September 2007. Inclusion criteria were that the study related to consumer understanding, use or behaviour in relation to nutrition labelling; and was a review or original research. Research was excluded if it related to health claims; general food labelling (eg. date marks); labelling of allergens, dietary supplements or genetic modification; or labelling of non-packaged or catered foods.

3.2 Focus groups

Methods and findings from the focus group have been reported in detail elsewhere.² In summary, six focus groups were conducted with food shoppers, two focus groups with Māori, two with Pacific people, and two with low-income people. There were 68 participants altogether, six of whom were men. They ranged in age from 20 to 61 years. Of the low-income group, only two had a total

household annual income above \$15,000 and no one had an income higher than \$35,000. Participants were asked questions about influences on their choice of food, use of nutrition labels, interpretation of a range of labels, and effective ways to promote labelling systems. Labels tested included %DI, simple and multiple traffic lights, the Hannaford Brothers guiding star system, and combinations of the above.

The focus group research was a collaboration between Māori, Pacific and Pākehā researchers. Māori and Pacific participants were recruited through community networks and low-income participants were recruited through a letter box drop at council flats. Results were analysed and reported according to the research questions and to the themes that emerged from the data, with careful attention paid to both similarities and conflicts in the data.

3.3 Key informant interviews

Details of the methods and findings from the key informant interviews have been reported in full elsewhere.³ In brief, a strategic sample of 17 key stakeholders from the food industry, government and non-governmental organisations were interviewed. Their views were sought on the likelihood of FOP labelling being implemented in New Zealand, its advantages and disadvantages, the value of potential labelling systems, the potential nutrient profiling system to be used, and the feasibility of a large supermarket intervention trial to measure the effectiveness of FOP labelling. Data were analysed according to the research questions as well as by the themes that emerged. Points of agreement and disagreement were focused on to understand where consensus and conflicting views arose.

3.4 Discussions about pilot

Further to the key informant interviews, the research team has been in discussions with a supermarket chain and the Food and Grocery Council to explore the implementation of a pilot to assess practicalities of a full supermarket

trial. The team has also discussed the research with NZFSA. Information from these discussions has informed the research.

4 Results

4.1 Literature review

Forty-two papers and reports met the inclusion criteria for the review. One-quarter of the research was from New Zealand and Australia, with much of the remainder from Europe and the United States. Nearly half of the research related directly to consumer use and understanding of nutrition labels and claims.

Whilst self-reported use of nutrition labels was good, objectively measured use was substantially less. Understanding of labels remained problematic for many consumers, who found current labelling schemes technical and confusing. There has been increasing focus on FOP labels as a means to simplify labels, however debate remains on the preferred format. The two formats most favoured in consumer research were multiple traffic light labels and colour-coded guideline daily amount (GDA) labels (Figure 5).

Multiple traffic light labels appear to provide the most consistent consumer benefits because they are well understood across multiple consumer groups, including populations of different ethnicity, income, and education levels; as well as amongst infrequent label users. They also increase objectively measured accuracy and speed of decision making. In New Zealand, they were the labels preferred by consumers in a large survey, whereas the %DI label was not well liked and generally not well understood.¹⁶ Other New Zealand and Australian research suggests that %DI labels are best understood by people who already use labels, and are likely to require extensive consumer education in order to be successfully used.¹⁷ A similar type of label, the GDA, was trialled in the UK. Differences to the %DI label are that it was colour-coded with traffic light colours and listed fewer nutrients. In the UK studies, it was popular with consumers, possibly due to the greater level of detail on the label providing reassurance that consumers are not being misled, ie. there are numbers showing the level of the nutrient, therefore the label can not state that a product is for example, low in a nutrient, when it is in fact not.

Only a limited amount of research has been undertaken with Māori, Pacific, and low-income shoppers. Nutrition labels were rarely used by Māori and Pacific and are largely seen as irrelevant.¹⁸ When understanding of labels was assessed quantitatively, most could find nutrition information on the label, but found it more difficult to use the information to determine if a food was healthy.¹⁶ Māori and Pacific shoppers preferred traffic light labels and were able to use these labels to determine if a food was healthy.

Overall, there appears to be consumer demand for FOP labels. However, there remains an obvious lack of research on the impact of nutrition label use on dietary behaviour in a real life setting.

4.2 Focus groups

Influences on choice of food

Focus group participants reported that price was the most important influence on the types of food they buy. There was a widely held view amongst participants that healthy food is expensive and unaffordable. Many participants stated that they often settled for quantity rather than quality in food, especially Māori and Pacific participants with big families. Habit and taste were identified by Pacific and Māori participants as a very strong influence on their food choices. Nearly all Māori and Pacific participants know that some of the food they buy is unhealthy. Some Māori and Pacific participants, especially those with health problems, indicated that they were slowly modifying their diets to replace unhealthy with healthy food. Many also stated that children influenced their food choices. All agreed that choosing healthy food was vital but price was more important. Participants with health problems stated that they felt vulnerable because they had no choice but to buy expensive healthy food.

Use of nutrition labels

The vast majority of the Māori and Pacific participants reported little, if any, use of nutrition labels. However, the majority of the low-income (mainly Pākehā) group

reported using nutrition labels regularly. Of those that occasionally read labels, they did so only when purchasing new products or if they had health concerns.

Habit was identified as a major barrier to using nutrition labels. The majority of participants reported that they do not look at nutrition labels when buying foods they were familiar with. Another barrier to using nutrition labels was lack of time. Many stated that price was the only information they looked at while shopping because it was their most important priority. They indicated they would buy healthy products instead of not so healthy products only if the cost difference was not significant.

Interpretation of labels

Of the range of labels studied many participants thought the %DI had too much written information. However, whilst they did not like having too much information, they liked to know the 'evidence' behind the health rating of a product. Most did not understand terms such as sodium and the difference between fat and unsaturated fat.

All of the participants understood the simple traffic light system. However, both the simple traffic light and the Hannafords NY star system were considered by many participants to lack sufficient information to enable them to make informed choices. Some participants questioned the range of one to three stars in the NY star system. They referred to the five stars used to rate hotels and wondered why this was not used instead of the three star range.

Many felt that the multiple traffic light label was easier to understand but admitted that their preference was highly influenced by the colours and style. All participants in the study interpreted that the presence of two red lights (out of four) on the label meant the food was unhealthy and two green lights meant it was healthy. It appears that in each case they merely added the number of red or green lights together to make their decision. There was overwhelming support for the multiple traffic light label amongst Māori participants.

There were mixed feelings about a combination of multiple and single summary traffic light labels. Many participants stated that they based their decision on the summary traffic light only. Others indicated they prefer the combined label because the multiple traffic light provided more information than the summary one alone.

The most popular label option for the Pacific and low-income groups was the combination of %DI and simple traffic light. They felt this label provided more information than any other label yet was simple and easy to understand. Some Māori participants preferred this label as well but felt that it was probably a lot of information to have on the front of a pack.

Ways to promote FOP labels

Most participants indicated they would like to attend courses on health and nutrition. Māori and Pacific participants suggested an education programme led by people from their communities for their communities. In particular, Pacific participants pointed out that mass media marketing was not an effective way to reach their communities. They strongly advised targeting churches and community groups in addition to marketing in the Pacific media. All participants suggested using a well known role model in the marketing campaign would be useful. Television advertising was recommended by the largely Pākehā low-income groups. A few stated that a healthy aisle in supermarkets, in addition to FOP labels, would enable consumers to easily identify healthy food.

4.3 Key informants

Current situation in New Zealand

Interviews with key informants found that FOP labels already exist in New Zealand eg the National Heart Foundation's Tick Programme and %DI labelling on the products of some food companies, eg Kelloggs have used %DI FOP labelling in New Zealand for over two years. Food industry participants indicated that industry has undertaken quite a lot of work in the last two years to develop a joint FOP label. One food industry informant noted that "there is commitment from the major food companies that they will, on a voluntary basis, support FOP %DI labelling". It should be noted that %DI labelling is allowed under the current Food Standards Code.

It appears there is leadership on this issue from the Food and Grocery Council in New Zealand, and its Australian counterpart. This has resulted in voluntary agreement with members to adopt %DI labelling and the development of a template for use by the sector in order to ensure consistency. Information about the Daily Intake Guide can be found on the Food and Grocery Council website (http://www.fgc.org.nz/daily_intake.asp). Foodstuffs have adopted %DI for their house brand Pams and are in the process of introducing it over a four year period in order to give them a "first mover advantage".

Currently, there is no one consistent national FOP labelling system. Given international momentum, particularly in the European Union, it seems likely that a consistent national system could be introduced to New Zealand. It is an issue that is currently being explored by Food Standards Australia New Zealand (FSANZ). Key considerations are what FOP labelling system to use, the timeframe for its introduction and whether the system is voluntary or mandatory.

Further introduction of FOP labelling in New Zealand

Key informants from the food industry, government and non-governmental organisations identified a number of advantages of FOP nutrition labelling, including:

- the provision of simple, easily understood information available at-a-glance to consumers;
- the likelihood that consumers would be better informed;
- possible changes in consumer behaviour and a concomitant reduction in chronic disease; and
- reformulation of products by food manufacturers.

One food industry participant stated that FOP labelling was one way for the food industry “to do our bit ... to be seen to be doing our bit” [to promote health]. A policy maker and an NGO participant described FOP labelling as “another tool in the tool box” and as “part of the jigsaw”.

Research participants identified a number of barriers to the further introduction of FOP nutrition labelling in New Zealand. These included: lack of agreement on a consistent system to use; limited evidence upon which to make this decision; and lack of agreement about how to categorise food. Food industry compliance costs and relatively few private brand labels (making FOP labelling less attractive to industry on a voluntary basis than in the UK) were also noted. Food industry opposition, depending on the system proposed, was suggested by policy and NGO participants.

The clash of cultures between industry with their ‘profit motive’ and public health with their ‘improved nutrition motive’ was identified by one policy maker as a barrier. Consumer understanding and acceptance of FOP labels, the global nature of the food market, the possible constraints of Trans Tasman food regulations, conflicting political ideology both here and in Australia, and the need for a lead-in time to any new system were also identified as key barriers.

Participants identified the need for a robust process, including five key factors (listed below), to develop FOP labelling in New Zealand. They are a process that:

- Involves consulting with and getting buy in from a variety of stakeholders;
- Involves identifying and agreeing on achievable goals and objectives for the labelling system;
- Is based on research evidence;

- Considers the costs to industry; and
- Includes education of the public about the system.

There was no consensus amongst participants about the most appropriate nutrient profiling system to use for FOP labelling, although a number of industry participant noted the %DI does not need a classification system.

Preferred labelling system

Policy and NGO participants did not indicate a preference for any particular labelling system (except one who preferred traffic light labelling) in part because they could identify strengths and weaknesses with each system. A number of these discussed the principles that should be used to make a decision on a labelling format and a list of possible criteria proposed by one NGO is included in Appendix A. Criteria include being evidence-based and having the greatest impact on public health. This list may provide a good place to start discussion about how to move forward on this issue.

In contrast, a majority of food industry participants support the %DI labelling system, because it gives more information than other labels including information on positive nutrients, “it is not a judgement system on the food”, and the industry has research that shows that consumers prefer this scheme over others, although this research does not appear to be in the public domain.

Participants identified the strengths and weaknesses of a number of labelling systems. These included the e mark, a system owned by the New Zealand Nutrition Foundation, based on the Food and Nutrition Guidelines, that provides information on energy density and glycaemic load of food. It was suggested by one policy maker that “at first glance it looks very simple but you have to understand the system”.

The National Heart Foundation Tick programme was identified by a number of participants as simple, well recognised and proven to work. Although it was criticised because not all companies participate in the programme and it uses a within-category nutrient profiling system.

One NGO and one industry participant criticised traffic light labelling for giving negative messages about food and not placing this information in the context of consumers' diets. One NGO participant stated that simple traffic light labels are too simple and multiple too complicated.

Voluntary versus mandatory FOP labelling

There were mixed views from policy and NGO participants about the introduction of voluntary or mandatory FOP labelling. In part their views were tempered by the perceived challenges of introducing consistent FOP labelling discussed earlier. Mandatory labelling would bring consistency. However, industry opposition was noted as a challenge, as was perceived public opposition. There was a suggestion from one policy maker that it may be necessary to start with a voluntary system and move to a mandatory one "if there is sufficient support".

There was support by industry participants for a voluntary scheme because it is easier and quicker to change. One industry participant suggested that a voluntary scheme should be adopted by all food manufacturers "otherwise the system is not going to work". An NGO participant suggested that a voluntary approach could mean the introduction of different systems, as has happened in the UK, which could lead to consumer confusion.

Large supermarket intervention trial

There was agreement amongst nearly all participants that a large supermarket intervention trial would provide valuable information about the impact of FOP labelling on consumer behaviour at point of purchase. It was suggested by both government and industry participants that this would assist policy makers. However, one industry participant stated that such research was not necessary and that it would be too difficult and costly.

Certainly, participants were able to identify a number of difficulties with running such a trial, including: how to ensure a rigorous research process; agreeing on a labelling system to trial; getting research participants to use the labels; how to determine that FOP labels are driving the purchase; assessing the impact of FOP

labelling on total diet and consumption; how to gain support from industry and supermarkets; how to put the preferred label on the product; and the likely expense of the research.

Solutions were identified including: good planning and consultation; being clear about the research aims and objectives; a careful sampling frame; conducting the research over 6-12 months; working with the supermarkets; and engaging social scientists or experts in societal change. Other suggestions included: testing simple traffic light labels on a few staple products that are easy to categorise; waiting for results from the UK before commencing research here; and studying the impact of the introduction of %DI labelling in New Zealand. Alternative approaches suggested by industry participants included further focus group research, spending money on consumer education rather than research and studying the impact of FOP labels on on-line shoppers.

5 Proposed Supermarket trial

5.1 Current status

Policy, NGO and industry key informants largely expressed support for a supermarket-based trial to assess the effect of FOP labels on consumer purchasing behaviour. They stated such a trial would provide valuable information that would assist policy makers in further implementation of FOP labelling.

In order for a trial in a real-life setting to be viable, cooperation is needed from a supermarket chain and individual food manufacturers. Conditional verbal agreement was given by a supermarket chain to run the study in their stores, provided manufacturer consent is obtained. At the present time, negotiations continue with food manufacturers via the Food and Grocery Council to obtain consent to place a label on their food products. The outcome of this process is uncertain.

5.2 Issues to be resolved prior to a trial

Various barriers and pitfalls to running this type of research have been identified during this feasibility study, both through the key informant interviews and through the process of negotiating a feasibility trial. Key issues appear to be obtaining food industry agreement, identifying a suitable nutrient profiling system, technical issues such as placing and keeping labels on products, and the growing presence of %DI labels on food.

Food Industry consent

FOP nutrition labels have existed in various formats for many years and have been used widely by the food industry. The potential value of FOP labels seems well accepted by both the food industry and public health practitioners. Contention remains, however, on the preferred format of FOP labels, and whether use of such labels should be mandatory or voluntary. The food industry

strongly favour %DI labels, and have begun voluntarily implementing these on products in New Zealand and Australia. They have expressed opposition to traffic light labels, criticising them as too simplistic and not showing how a food fits within a balanced diet,¹⁹ arguments also made in the current research both by industry and NGO stakeholders. It is interesting to note that the same argument is not used by the food industry in relation to health claims, for which the same could be said.

Cooperation from the food industry is essential to enable a trial to proceed. Firstly, there needs to be collaboration with the supermarket chain, as sales data is owned by the chain and not individual store owners. Secondly, it is a requirement of the supermarket chain that manufacturer/brand owner consent is obtained for labels to be placed on their products (or on shelf labels). Whilst, a supermarket chain has indicated their willingness to host the study, discussions continue with manufacturers/brand owners (through the Food and Grocery Council) to gain their participation. These negotiations are conducted in the context of the food industry's opposition towards any system that might put a red light on their product/s.

Nutrient profiling system

Nutrient profiling has been described as the science of characterising foods based on their nutrient content.²⁰ Behind most FOP labels lies a nutrient profiling system which determines the product's eligibility to carry the label or determines its 'score'. The exception to this is labels such as %DI, which simply lists values (similar to the nutrition information panel); hence a nutrient profiling system is not needed, as pointed out by a number of key stakeholders in this research.

Nutrient profiling systems can be either category-based or have across-the-board criteria; focus only on nutrients to limit (such as saturated fat) or also include beneficial nutrients (such as fibre); take into account serving size or be based on 100g; and may be aimed at specific populations. There are a number of nutrient profiling systems that currently exist in New Zealand, such as Pick the Tick and the Food and Beverage classification system for schools (both category based), and the FSANZ Health Claims system (across the board).

For the SIGNS study, key stakeholders discussed the importance of using a nutrient profiling system which is consistent with existing systems in use in New Zealand, and one that is consistent with public health messages and does not send contradictory messages to consumers, for example, by sending a different message to a health claim. It should also be noted that, whilst the profiling system gives manufacturers a goal and incentive for reformulation, it should not make it necessary for food to become highly processed in order to meet the criteria.

Technical issues

There are certain technical aspects related to physically placing and keeping labels on food which must be addressed prior to conduct of the trial. Whilst these are not considered barriers, they present some logistical difficulties.

For the sake of the trial, FOP stickers would be placed on food packages. Food products are packaged in a variety of materials and stored in various ways (eg. chilled, frozen, or on the shelf). Thus, labels must be used that can be applied, and adhere to, a variety of packaging materials and to products that may be frozen or chilled (if such products are amongst those included in a trial).

Furthermore, supermarkets employ 'just in time' ordering, whereby they do not hold replacement stock on the premises, but order it in as needed, and stack it directly onto the shelves. This leaves little opportunity for labels to be applied to the food. There are two options: have the FOP label printed on at the manufacturing stage or apply it at the supermarket just before or as the product is shelved. The second option appears most viable, and would necessitate one or two research assistants remaining on site at intervention stores throughout the trial in order to place the labels as shelves are continuously stocked and restocked.

Presence of %DI labels on products

The food industry has been progressively introducing %DI labels onto food products. Thus, consumers are likely to already have been exposed to them and

may have already made changes to purchasing behaviour based on this. It is possible that some products within the food categories to be labelled are already carrying %DI labelling, and these would need to be over-stickered.

6 Discussion

This paper reports on research to explore the feasibility of introducing front-of-pack (FOP) nutrition labels in New Zealand supermarkets (the SIGNS study). The research included a literature review;¹ focus groups with Māori, Pacific and low-income communities;² and key informant interviews with stakeholders from the food industry, government and non-governmental organisations.³

Literature review

The literature review found current labels are considered technical and difficult to understand. Consumers showed support for FOP labels, with traffic light labels (especially the multiple traffic light) and the GDA label being most favoured. Features consumers regarded highly included: labels that were simple, quick and easy to understand, colourful, did not require numerical skills, in large print, and consistent. There is a real need for research looking at whether FOP labels impact on consumer purchasing behaviour in a real-life setting. Nutrition labels ultimately aim to encourage healthier food choices, and in order to do so they must be both used and understandable for all consumers.

Focus groups

The focus group research found that price was the most important influence on the types of food Māori, Pacific and low-income peoples purchase. Habit, taste, and children's preferences were other important influences. This research suggests that Māori and Pacific people rarely use nutrition labels to guide their food choices. Barriers identified were taste, habit, lack of time and a paramount focus on the price of food. This finding contrasts with that of the largely Pākehā members of the low-income groups, the majority of whom report using labels regularly. This finding is largely consistent with previous research that found that Māori, Pacific and low-income (including Pākehā) people rarely use nutrition labels.¹⁵ However, the difference in the low-income group may indicate an ethnic difference in nutrition label use amongst those with low-income. One of the potential advantages of a FOP label would be the ability to quickly identify healthier options within a price bracket. Thus, even though cost is perceived as a barrier to healthy eating, consumers could more easily identify

the best options that they can afford, rather than assuming that all healthy food is expensive.

All participants agreed that FOP labelling would assist them to identify healthy food. The research suggests that the labels need to be simple and quickly understood given the pressure of time. Participants were able to interpret simple traffic light labels correctly but wanted more information than they provided. The fact that all packaged products have a Nutrition Information Panel, which provides more information, was not mentioned by these communities, likely because they rarely use them. Consideration could be given to making the existing Nutrition Information Panel easier to interpret so shoppers can use it to obtain more detailed nutrition information if they chose to.

The focus groups suggest that one option for FOP labelling with more information is multiple traffic lights. However, complex variations of this label option may prove difficult to interpret. Alternatively, the use of a combination of multiple and simple traffic light labels, %DI and simple traffic light, or colour-coded, simplified %DI labels could be considered, although in practice it appears that consumers would ultimately rely on the simple traffic light to assess the health of the food, if it is provided. A balance is needed between what people say they prefer, what they can understand (most people do not understand what saturates means, for example) and how any labelling system is promoted.

Any labelling scheme would need to be accompanied by supporting education that was effectively delivered, particularly to Māori and Pacific communities because they rarely use labels at present. Education programmes led by people from Māori and Pacific communities for their communities are considered likely to be effective by participants. Pacific participants advised targeting churches and community groups in addition to marketing in the Pacific media, possibly using a well known role model. As well as this, ensuring that healthy food is priced at a level that these communities can afford is critical. This would enable Māori, Pacific and low-income people better access to healthy food, particularly if simple FOP labelling was also available.

Key informants

Food industry, government and NGO key informants interviewed for this research see many advantages to FOP labelling including: the provision of simple, easily understood information available at-a-glance that will likely result in better informed consumers; possible changes in consumer behaviour and a concomitant reduction in risk factors for chronic disease; and an incentive to food manufactures to reformulate products. Key informants also identified a number of barriers to the further introduction of consistent FOP nutrition labelling in New Zealand such as lack of agreement on the best system to use and limited evidence upon which to make this decision.

Participants identified the need for a robust consultative process to develop FOP labelling in New Zealand. The experience of changing labels for the NIP requirements of 2002 shows that this can be done. Lessons from the change to NIPs may thus inform any introduction of FOP labels. Given the current lack of agreement on a way forward; the limited evidence that is publicly available; and the difference in values between industry, with their fundamental requirement to make a profit, and public health, with its goal of nutrition and health; agreement may not be easy to achieve. This suggests the need for government leadership in resolving the way forward. It also suggests that publicly available, independently conducted research is essential in assisting a resolution to this issue. This has been the case in the UK, where the Food Standards Agency took a lead on the issue and commissioned a series of research studies into FOP labels before recommending that multiple traffic light labels be shown on food labels.

There does not appear to be a consensus on which FOP label to use in New Zealand. Policy and NGO participants did not indicate a preference for any particular labelling system in part because they could identify strengths and weaknesses with each. A number discussed the principles that should be used to make such a decision which include being evidence-based and having the greatest impact on public health. The list of proposed criteria for an effective FOP labelling system may provide a good place to start discussion about how to move forward (see appendix A).

In contrast, a majority of food industry participants support the %DI labelling system, because it gives more information than other labels, including information on positive

nutrients, “it is not a judgment system on the food”. They have research that shows that consumers prefer this scheme over others, although this research does not appear to be in the public domain. A further issue with %DI labels is that they are not based on the latest Nutrient Reference Values for New Zealand. This has major implications for sodium, since the recommended intake was substantially reduced.

In a recent survey conducted for the National Heart Foundation, 76% of main grocery shoppers use the Tick and 82% place some importance on the Tick when making purchasing decisions.²¹ This research suggests that a simple, colourful, FOP label can be effective in assisting consumers with their food purchases.

A simple traffic light label has some similarity to the simplicity of the Tick, a label not seen as “too simple” for many consumers as discussed above. Any lack of support for traffic light labelling may be the result of the often expressed view that food manufacturers do not want their products labelled as “bad foods”; that FOP labels should not, in the words of one NGO participant, be “demonising food”.

While it may be true that %DI information is preferred by consumers as food industry participants claim, whether consumers can actually understand this information and use it accurately is another matter. The focus group research suggests that at least for Māori, Pacific and low-income New Zealanders %DI labels may be too difficult to understand. However, given that %DI is in the public domain, albeit on a small percentage of products to date, the issue of consumer education about %DI is a matter that should be resolved.

In New Zealand we already have detailed nutrition information on food in the form of NIPs, a different situation from the UK where multiple traffic light labels are being introduced voluntarily. Therefore, in New Zealand it may be possible to introduce a very simple FOP label to complement this more detailed information. It should be noted that due to the joint Food Standards Code between Australia and New Zealand, usually changes made to food labels would apply in both countries. However, there are exceptions to this such as the introduction in Australia only of ‘place of origin’ labelling.

There was no consensus amongst participants about the nutrient profiling system that was best to use for FOP labelling, although a number of industry participant noted the %DI does not need a classification system.

There were differing views amongst participants about the introduction of voluntary or mandatory FOP labelling, in part the views of government officials and NGOs were tempered by the perceived challenges of introducing consistent FOP labelling discussed earlier. There was support by industry participants for a voluntary scheme because it is easier and quicker to change. However, experiences in the UK have shown that a voluntary scheme did not achieve the desired outcome of the recommended multiple traffic light label being placed on the front of food packages. Rather, an array of labelling systems were developed with no consistency between them.

There was agreement amongst nearly all participants that a large supermarket intervention trial on FOP labelling would provide valuable information about the impact of FOP labelling on consumer behaviour at point of purchase. While participants were able to identify a number of obstacles to running such a trial they also provided many solutions.

7 Conclusion

The introduction of further FOP nutrition labelling has the potential to assist in the effort to promote healthy eating in New Zealand by providing easily understood nutrition information at the point of sale. While there are challenges to doing this there are feasible ways to address many, if not all, of these challenges. A robust consultative development process is needed with strong government leadership that draws on the experience of introducing NIP labelling in 2002 and experiences of the government and Food Standards Agency in the UK when faced with similar challenges.

While there is no consensus on the preferred FOP label to use, there is evidence that traffic light labels are most able to be correctly used. Our research suggests that simple traffic light labels should be preferentially considered for a FOP label as they are the label most likely to drive consumer behaviour. In focus groups, they were the label

participants were most able to correctly interpret.² Earlier research has supported this, showing them to be the best understood label across all ethnic groups and income levels in New Zealand. Thus, they have the most potential to decrease health inequalities compared with other systems that favour specific sectors of the population. The effectiveness of a simple label is supported by the evidence of the effectiveness of the National Heart Foundation's simple Tick FOP label as discussed above.²¹ In New Zealand we already have detailed nutrition information on food in the form of NIPs, a different situation from the UK where multiple traffic light labels are being introduced voluntarily. Therefore, in New Zealand it may be possible to introduce a very simple FOP label to complement this more detailed information. It may also be possible to amend the NIP to make it more comprehensible to the public who want, or need, meaningful detailed information.

Should it not be feasible to conduct the proposed SIGNS trial in supermarkets, policymakers will need to rely on less direct evidence on which to base FOP labelling decisions. Considerations when deciding on the merits of a FOP label include what consumers have indicated they want; that the label is understandable for all sectors of the population, and not just well-educated consumers; that it is standardised and consistent, in order to limit potential for further consumer confusion; it is on most food products to enable product comparison and to ensure labels are available on foods in all price brackets and product categories; and it overcomes frequently cited barriers to label use by being simple, quick and easy to understand, colourful, large enough to read, does not require good numeracy skills, appears credible, and is not seen as a marketing gimmick. We have learnt from the NIP that labels which require education in order to understand them are never going to be well understood by large segments of the community. Labels that assist with interpretation of the information, such as with colour coding to indicate levels of a nutrient, would seem most beneficial.

It appears that independent, robust and publicly available research to measure the effectiveness of FOP labelling would be valuable in producing evidence-based policy change. While there are challenges to implementing such research there are also solutions to these challenges that deserve to be explored. Our discussions with key stakeholders continue.

8 Recommendation: Proposed Supermarket trial

It was originally proposed to run a short supermarket-based trial as part of the feasibility study, but delays in the development stage coupled with ongoing consultation with industry and lengthy grant application timelines mean that if it progresses it should now proceed straight to a full trial. The outcome of the feasibility study would therefore be completion of the preparatory work discussed in this report, and manufacturer consent to a trial (if obtained).

Based on this research it is proposed that the full trial would be a three-arm cluster-randomised controlled trial, with individual supermarket stores as the unit of randomisation. Stores will be randomly assigned to either a traffic light label, %DI label, or control (current nutrition information panel only). Within each store, all products within the selected categories will have a sticker with the relevant FOP label applied (or no sticker applied in the case of the control arm), based on its nutrient profile. Proportional change from baseline in sales of labelled products will be compared between supermarkets. The impact of any change in sales on the amount sold of key nutrients such as energy, saturated fat, sugar and sodium will also be assessed.

It is anticipated that the proposed research design (three-arm cluster-randomised controlled trial), will address key stakeholders concerns for a rigorous research process. While there is not agreement amongst key stakeholders about which FOP label to trial, the simple traffic light system is the only label that all participants in the focus groups interpreted correctly, and thus is the preferred label to trial. At the same time, it makes sense to independently test the food industry preferred label %DI, which is currently being introduced.

The trial presents both an opportunity and a potential challenge to the food industry. They have invested in providing %DI labels, and continue to expand the number of products showing the label. Thus, this trial will provide independent, rigorous research to determine the effectiveness of %DI labels, and whether their investment is justified. Similarly, the trial will determine the effectiveness of traffic light labels and hopefully

provide an answer to current debate on whether they are a worthwhile public health intervention. Thus, depending on the outcome, it may provide evidence that traffic light labels change consumer purchasing behaviour, and likewise it may find they do not. Either outcome will help inform policy decisions on FOP labelling in New Zealand.

The nutrient profiling system most likely to be used for a simple traffic light label is one that is being tested and modified by FSANZ to determine whether foods are eligible to make health claims. This is based on the nutrient profiling system developed by Offcom for the UK standards on advertising to children, and was being amended for the same purpose in New Zealand, as well as for health claims. The system is dichotomous, whereby products either meet criteria or not. For a simple traffic light system, however, there are three tiers: green, amber and red. Therefore, the FSANZ profiling system would need to be adapted with suitable cut points for three levels. Determining these cut-points would require extensive modelling and key stakeholder consultation should the trial progress. If a more suitable nutrient profiling system became available then it would be considered for use.

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9 Appendix A

Proposed criteria for an effective FOP labelling system

- The system should be in line with evidence-based healthy eating guidelines sourced from the government
- The impact on public health should be the priority when considering the nutrients to be part of any labelling system and should take a 'disease prevention' approach. For example, reducing total fat, saturated fat, sodium, energy density and increasing dietary fibre etc to encourage healthier eating habits
- Criteria should be developed by experts specifically trained in the nutrition/public health fields and address the nutritional needs of the general healthy population, not consumers that may have a specific dietary or health conditions
- The system should take a 'holistic approach' to the nutrition profile of a product rather than looking at each individual nutrient
- The system (the label itself or the social marketing campaign that sits around it) should help consumers put individual foods in the context of a healthy balanced diet
- The system should have an effective and regular evaluation and review process
- Should be appropriate for all products – packaged and unpackaged
- The system should be complemented with a comprehensive and planned communications/educational campaign including the public reporting of evaluation and research
- Should be an effective guide for the 'general healthy population' to easily identify the "healthfulness" of products at a glance
- Should be acceptable to low literacy, lower socio-economic and ethnic groups
- Should be consistent with FSANZ and any other appropriate regulatory body. It should also be appropriate for use in both Australia and New Zealand
- Ideally the system should have majority 'buy-in' from the food industry, manufacturers and retailers

- The system should demonstrate its ability to have a positive impact on the food supply and the nutritional profile of foods in New Zealand/Australia and thus improve the health of New Zealanders and Australians
- The system should be able to co-exist with positive voluntary food industry activities and should be complementary to existing signposting systems that have high consumer awareness and relevance.