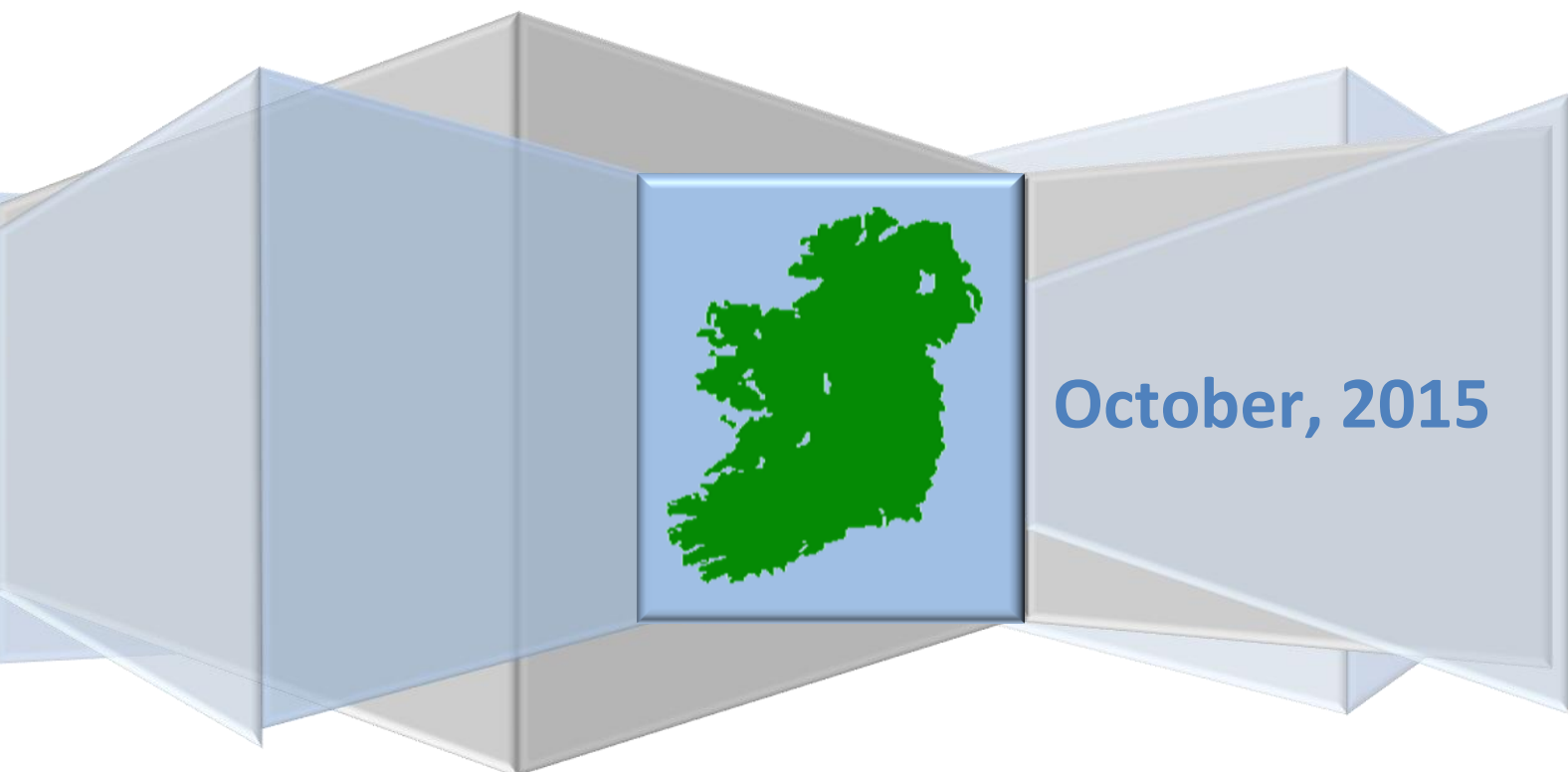


Evaluation of the uptake of voluntary calorie posting on menus in Ireland

Report commissioned by the Department of Health, Ireland

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Preface

Obesity is a public health problem in Ireland which is largely responsible for the increasing prevalence of diet-related diseases and growing financial burden on our healthcare system. Although overweight and obesity rates may have reached a plateau in Irish adults and children, they remain at an extremely high level as 1 in 4 children are overweight or obese and an estimated 61% of adults are overweight or obese. Urgent public health action is required to reduce the levels of obesity among our children and adults. A sustainable national intervention strategy that combines government and community-led interventions is required. These interventions need to incorporate both nutrition education and environmental modification strategies to reduce levels of obesity. International literature suggests that calorie posting has the potential to have a positive effect on the obesity crisis by encouraging people to make healthier food choices through informed consumer decisions.

This evaluation focuses on the uptake of voluntary calorie posting from a national representative sample of food service businesses in Ireland and explores the attitudes of food service businesses that do and do not display calories. This evaluation will explore the most effective and efficient way of implementing mandatory calorie posting on menus in Ireland.

This evaluation of the uptake of voluntary calorie posting on menus in Ireland was commissioned by the Department of Health. The review was led by Dr Fiona Geaney, Dr Mary McCarthy and Professor Ivan Perry, Department of Epidemiology & Public Health, University College Cork.

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Acknowledgements

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EXECUTIVE SUMMARY

Executive Summary

Background

Obesity is a critical public health problem in Ireland that is largely accountable for an ever increasing prevalence of diet-related diseases and a crippling burden on our healthcare system. Recent evidence suggests that although overweight and obesity rates may have reached a plateau in Irish adults and children they remain at an extremely high level as 1 in 4 children are overweight or obese and an estimated 61% of adults are overweight or obese. This preventable yet complex condition is embedded in the sedentary lifestyle of modern living and increased availability of unhealthy foods.

Urgent public health action is essential to reduce the levels of obesity among our children and adults. A sustainable national intervention strategy that combines government and community-led interventions is required. These interventions need to incorporate both nutrition education and environmental modification strategies to reduce the prevalence of obesity.

Recent data shows that almost a quarter of the total calorie intake of Irish adults under the age of 65 is consumed outside of the home. Out of home eating is associated with higher dietary intakes of calories and saturated fat and adverse health effects such as obesity. Out of home eating environments are therefore of key importance regarding the promotion of healthy food choices. There is sufficient scientific evidence to show that changing eating environments in the form of providing calorie posting on menus can be a powerful tool to improve the food choices of a large number of individuals at the same time. Implementing calorie posting on all Irish food service menus could support healthy food choices and potentially have a positive effect on the Irish obesity problem. Other countries including the United States, Australia and the UK have introduced either voluntary or mandatory calorie menu labelling over the past decade, which is proving to be effective in the action against obesity.

Approaches used to explore the uptake of voluntary calorie posting in Ireland

This evaluation focuses on the uptake of voluntary calorie posting from a national representative sample of food service businesses in Ireland. A mixed methods approach combining both quantitative and qualitative methods was used which incorporated three interlinked phases; a national telephone survey (Phase 1), structured observation visits (Phase 2) and semi-structured interviews (Phase 3).

Main Findings

The national telephone survey was completed by 604 food service businesses. When the number of outlets within each business was considered, the sample accounted for 2,308 food service outlets. Phase 2 included 80 observation visits to food service businesses and 13 semi-structured interviews were conducted with managers in food service businesses for Phase 3.

A poor level of uptake of menu calorie posting was recorded with 7% of businesses claiming to display calories in Ireland. The proportion of food service businesses displaying calories was heavily dependent on chain businesses and poorly reflected in single outlet owner establishments. Businesses mentioned that they displayed calories to portray a positive company image to customers. However, of the food service businesses who claimed to display calories during the telephone survey a small percent were not doing so, as verified by the research team during their observation visits of participating food service businesses.

The main reasons mentioned by food service businesses for not displaying calories included time and cost constraints and that it was not mandatory. Training and advice from professionals, financial support, easier methods of calorie calculation and the provision of comprehensive nutrition information were mentioned as necessary measures to encourage calorie labelling implementation among businesses. However, it is important to note that almost one in five businesses

said that ‘nothing’ could entice them to display calories, demonstrating that there may be a lack of support from the food service industry.

Conclusion

The findings of this evaluation report indicate that providing guidance and support (e.g. training sessions/workshop and tax incentives) and practical assistance (e.g. easy to use and standardised calorie calculation software technologies) is key to ensuring that mandatory calorie posting is implemented successfully. Furthermore, engaging a collaborative approach between policy makers, academics and food service business owners would ease implementation greatly. Menu calorie labelling is an important element of the overall national strategy to combat obesity in Ireland.

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1. BACKGROUND

1. Background

1.1 Obesity: a public health problem

1.1.1 Prevalence and burden of obesity in Ireland

The recent Healthy Ireland report 2015 suggests that overweight and obesity rates have reached a plateau in Irish adults but these rates remain at a high level with 61% of adults being classified as overweight/obese [1]. Similarly, overweight and obesity rates have reached a plateau in children but at extremely high levels with an estimated 1 in 4 Irish children overweight/obese [2]. Although it is impossible to measure the societal costs associated with overweight and obesity, a report carried out by Perry et al., estimated that the economic cost in the Republic of Ireland in 2009 was approximately €1.13 billion [3].

1.1.2 Causes of obesity

Obesity is caused by various factors, making it complex and multi-faceted. A magnitude of influences ranging from individual behaviours (physical activity and eating habits) to psychosocial and physiological factors have been identified as contributing factors [4]. Moreover, an obesogenic environment has been identified as a crucial driving force behind the obesity epidemic.

1.2 Obesogenic environment

1.2.1 Out of home eating

In 2014, Irish consumers spent €6.1 billion on out of home food and beverage consumption. The bulk of this was spent in the commercial channels (89%), in locations such as quick service restaurants, full service restaurants, cafes and pubs [5], showing that food service businesses significantly contribute to Irish individuals daily calorie consumption. Recent data shows that 24% of 18-64 year olds total energy comes from food and drink consumed outside of the home [6]. Out of home eating is associated with adverse health effects such as obesity (a higher BMI), higher body fatness [7, 8], higher calorie and saturated fat intakes, and lower intakes of fibre, calcium, fruit and vegetables [9, 10]. Given the increased consumption of out of home eating and the harmful health risks associated, out of home eating environments are of key importance regarding the promotion of healthy food choices.

1.2.2 Eating behaviour

No independent factor or group of factors accurately explains the reasons why people make the food choices they do [11] but individual characteristics such as knowledge, attitudes and awareness of health status are important. Evidence suggests that the interaction between human food

preferences and the environment in which we learn these preferences has a central role to play in the prevention of obesity [12]. Modifying environments may be an effective vehicle for behaviour change [13] and the food service sector can play a positive role in promoting these changes.

1.2.3 Modifying eating environments

Changing the eating environment by displaying calories on menus can positively influence food choices [14]. The Food and Drug Administration believe that providing calorie information raises consumer awareness of calories, promotes informed food choices and results in an increased availability and demand for lower calorie options on menus [15]. Recent studies from the US and Australia have also suggested this [16-18]. In addition, Bollinger et al. (2010) found that the introduction of calorie posting in the US significantly increased consumers' sensitivity to calories, particularly when making food purchase decisions [14]. Furthermore, a recent study showed that 95% of Irish customers expressed that they would like to see menu calorie posting in some or all food outlets [19].

1.3 Calorie posting

1.3.1 Defining calories

A calorie is a unit of energy and “energy balance” is the relationship between “energy intake” and “energy expenditure”. In the case of sustained

positive energy balance (i.e. when more calories are consumed than expended), overweight and obesity ensue. Therefore, energy is perceived to be the most prominent nutrition value related to overweight and obesity. According to studies from the US and Canada, it is for this reason, together with the fact that calories are considered by consumers as the most “looked at” nutrition information [20], that energy information (in the form of calories) is believed to be the most effective means of nutrition posting [21].

1.3.2 Background to calorie posting

Over the past decade, calorie menu posting has been introduced under voluntary agreements in the United Kingdom (since 2011) and Ireland (since 2012) and under mandatory regulation in various states of Australia (since 2011) and the USA (since 2008). In its primary form, calorie posting was displayed for standardised food in fast food chain restaurants. Now, however, in countries such as the US and Canada, this incorporates foods sold in a range of food service outlets such as cafés, convenience stores, service stations, pubs and table-service restaurants, as these outlets increasingly contribute to overall energy intake [22, 23]. In addition to menu boards, calorie information may also be presented on printed menus, chalk boards, leaflets and the internet.

Energy content of similar dishes can also fluctuate greatly between different food

service outlets. For example, in a study conducted in the US, a “small burger and chips” ranged from 480 to 1,100 calories between different food service outlets [24]. As reported by a Canadian study, these variations are largely due to portion sizes, as opposed to ingredient composition [25]. Additionally, it has been shown that table service restaurant meals are high in calories, even in comparison to meals from large fast food chains. This is due to large portion sizes and consequently, it is not uncommon for consumers to order three-quarters of the recommended average daily energy intake in a single meal [20, 26].

1.3.3 Evidence of effectiveness of calorie posting

A recent American survey reported that 57% of adults in the USA who noticed menu calorie posting when eating out used the information at least some of the time [27]. An Australian study showed the effects of calorie posting on consumer behaviour and reported a decrease of 9% in the median energy value of meals purchased from May 2011 to January 2013 [28]. In addition, Bollinger et al. (2010) showed a sustained reduction in the amount of calories purchased over a 10 month period in an American coffee chain displaying calorie menu posting. After the introduction of calorie posting in the study, total calories per transaction decreased by 6% (decrease from 247 to 232), with 74% of the reduction

attributable to customers purchasing fewer food items. Calorie posting was associated with a 26% decrease in calories per transaction among consumers who made high calorie purchases (upwards of 250 calories) [14]. Furthermore, an American study by Dumanovsky (2011) reported a mean decrease of 106 calories per purchase in the 15% of consumers who reported using the calorie information provided [16]. Even small calorie reductions would have a positive impact on levels of obesity in Ireland.

1.3.4 Evidence of effectiveness of additional nutrition information

Moreover, adding additional nutrition information on menu items along with calorie information (e.g. adding reference values or traffic light coding) may increase effectiveness. Reference values offer contextual guidance as to how energy values of menu items compare to a full day's energy requirement. A study conducted by Pang & Hammond (2013) that compared the effects of “calorie labelling” and “calorie labelling with reference values” showed that reference values enhanced the effects of calorie posting [22]. Geaney et al. (2015) showed that a traffic light coding system that also displayed the number of calories per meal/food item in a workplace canteen was significantly associated with improvements in employees dietary intakes, higher nutrition knowledge and

lower levels of employee obesity when combined with a complex workplace dietary intervention over a 9 month period (Food Choice at Work Study) [29]

1.4 Background to the evaluation

In 2012, the Minister for Health called on all standard food service businesses to voluntarily display calories on food and drinks served in Ireland under the calorie menu labelling scheme as part of a multi-faceted approach to reduce the burden of overweight and obesity. To assist this, the Food Safety Authority of Ireland (FSAI) published a guide to ensure that the calorie information provided was useful for customers. This guide revolves around four core principles: 1) to provide calorie information on all standard food and drink items sold, 2) to have this information displayed clearly and prominently at the 'point of choice' for the consumer, 3) to display this information per portion or per meal and 4) to include information regarding average daily calorie needs so consumers can 'make sense' of calorie references on menus.

An evaluation of the calorie menu labelling scheme conducted by the FSAI

between 2012 and 2013 highlighted that while the majority of food service businesses (58%) in the study were in favour of calorie menu posting, only 8% of businesses claimed to display calories. The key problems surrounding the low uptake centred on the lack of available skills and training resources within the food service community to facilitate accurate calorie menu posting [30]. Additionally, Thomas (2015) highlighted that the following acted as barriers to successful menu calorie posting implementation; lack of nutrition expertise, time, cost, ability to provide accurate nutrition information, risk of defamation, customer dissatisfaction, limited space on menu, staff training and resistance of employees to change current practice [31].

In April 2014, in response to the FSAI report, the FSAI launched a free "MenuCal" Application which was designed to allow food service businesses to calculate calories on their own menu items.

the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1999. The public sector has become a major employer in the UK, and its growth has been a key factor in the overall growth of the economy.

The public sector has also become a major provider of social services, and its growth has been a key factor in the overall growth of the economy. The public sector has become a major provider of social services, and its growth has been a key factor in the overall growth of the economy.

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2. AIMS AND OBJECTIVES

2. Aims and Objectives

The aim of this evaluation was to investigate the uptake of voluntary calorie posting from a representative sample of food service businesses in Ireland to inform any further action that might be undertaken in this regard.

Our objectives were as follows:

- I. Classify the sample of food service businesses in the evaluation by type, e.g. fast food chain, cafe, restaurant etc.
- II. Outline the percentage of food service businesses contacted that display calories on menus.
- III. Investigate the methods food service businesses are using to calculate calorie content of menu items.
- IV. Outline the percentage of food service businesses contacted that do not display calories on menu items and their reasons as to why not.
- V. Outline the percentage of food service businesses contacted that provide calories for ALL non, pre-packed standard food and drink items sold (a standard food or drink item is one that is on sale for at least 30 days a year and remains the same each time it is made).
- VI. Outline the percentage of food service businesses contacted that provide calorie information displayed clearly and prominently at the “point of choice” for the consumer (as clear and well displayed as the price, in the same size font and available before an order is given).
- VII. Outline the percentage of food service businesses contacted that provide calorie information on (a) printed menus, (b) menu boards, (c) chalk boards, (d) internet, (e) leaflets and (f) other.
- VIII. Outline the percentage of food service businesses contacted that provide calorie information; (a) per portion or (b) per meal.
- IX. Outline the percentage of food service businesses contacted that display information on how many calories an average person needs in a day (to help consumers “make sense” of calorie information on menus).
- X. Investigate food service businesses’ views on how calorie posting could work.

the 1990s, the number of people in the United States who are 65 years of age or older is projected to increase from 20 million to 35 million.

As the number of people in the United States who are 65 years of age or older increases, the number of people who are 75 years of age or older is projected to increase from 10 million to 15 million.

As the number of people in the United States who are 75 years of age or older increases, the number of people who are 85 years of age or older is projected to increase from 5 million to 7 million.

As the number of people in the United States who are 85 years of age or older increases, the number of people who are 95 years of age or older is projected to increase from 2 million to 3 million.

As the number of people in the United States who are 95 years of age or older increases, the number of people who are 100 years of age or older is projected to increase from 1 million to 2 million.

As the number of people in the United States who are 100 years of age or older increases, the number of people who are 105 years of age or older is projected to increase from 500,000 to 1 million.

As the number of people in the United States who are 105 years of age or older increases, the number of people who are 110 years of age or older is projected to increase from 250,000 to 500,000.

As the number of people in the United States who are 110 years of age or older increases, the number of people who are 115 years of age or older is projected to increase from 125,000 to 250,000.

As the number of people in the United States who are 115 years of age or older increases, the number of people who are 120 years of age or older is projected to increase from 62,500 to 125,000.

As the number of people in the United States who are 120 years of age or older increases, the number of people who are 125 years of age or older is projected to increase from 31,250 to 62,500.

As the number of people in the United States who are 125 years of age or older increases, the number of people who are 130 years of age or older is projected to increase from 15,625 to 31,250.

As the number of people in the United States who are 130 years of age or older increases, the number of people who are 135 years of age or older is projected to increase from 7,812 to 15,625.

As the number of people in the United States who are 135 years of age or older increases, the number of people who are 140 years of age or older is projected to increase from 3,906 to 7,812.

As the number of people in the United States who are 140 years of age or older increases, the number of people who are 145 years of age or older is projected to increase from 1,953 to 3,906.

As the number of people in the United States who are 145 years of age or older increases, the number of people who are 150 years of age or older is projected to increase from 976 to 1,953.

As the number of people in the United States who are 150 years of age or older increases, the number of people who are 155 years of age or older is projected to increase from 488 to 976.

As the number of people in the United States who are 155 years of age or older increases, the number of people who are 160 years of age or older is projected to increase from 244 to 488.

As the number of people in the United States who are 160 years of age or older increases, the number of people who are 165 years of age or older is projected to increase from 122 to 244.

As the number of people in the United States who are 165 years of age or older increases, the number of people who are 170 years of age or older is projected to increase from 61 to 122.

As the number of people in the United States who are 170 years of age or older increases, the number of people who are 175 years of age or older is projected to increase from 30 to 61.

As the number of people in the United States who are 175 years of age or older increases, the number of people who are 180 years of age or older is projected to increase from 15 to 30.

As the number of people in the United States who are 180 years of age or older increases, the number of people who are 185 years of age or older is projected to increase from 7 to 15.

As the number of people in the United States who are 185 years of age or older increases, the number of people who are 190 years of age or older is projected to increase from 3 to 7.

As the number of people in the United States who are 190 years of age or older increases, the number of people who are 195 years of age or older is projected to increase from 1 to 3.

As the number of people in the United States who are 195 years of age or older increases, the number of people who are 200 years of age or older is projected to increase from 0 to 1.

3. METHODS

3. Methods

A mixed methods approach combining both quantitative and qualitative methods was used to explore the uptake of voluntary calorie posting in Ireland [32, 33]. This approach incorporated three interlinked phases; a national telephone survey (Phase 1), structured observation visits (Phase 2) and semi-structured interviews (Phase 3). Ethical approval was granted by the Clinical Research Ethics Committee of the Cork Teaching Hospitals in the Republic of Ireland (April 2015). Informed consent was obtained from all participating businesses prior to participation and all research team members completed a confidentiality agreement. All data obtained was anonymised and no food service business is identifiable in the dissemination of findings.

3.1 Study sample

A stratified random sample ($n=1,781$) was obtained from the national sample of food service businesses in Ireland ($n=8,750$ food businesses and represented over 22,000 outlets in total) by a private third party data company. The food service businesses were then stratified by business category: (a) café/coffee shop/deli, (b) caterers, (c) convenience stores, (d) fast food retail, (e) restaurants (including hotel

restaurants), (f) pubs and (g) service stations) and ranged in size from one single outlet to businesses with hundreds of outlets. From the total sample received, 604 food service businesses completed the national telephone survey and a response rate of 60% was recorded. A total of 8.3% ($n=147$) of the random sample ($n=1,781$) reported that they were not interested or did not have time to participate in the survey. One fifth (21.1%) of the sample was excluded as they did not serve food or were controlled centrally by the franchise they operated. It was noted that 35% of the service stations and 43% of the pubs contacted did not serve food while a further 10.4% of caterers contacted were classified as catering distributors. We were unable to make contact with 19% of the sample due to invalid contact details and for 18% of the sample contacted, we were unable to speak to the person with a decision making role in the policies and procedures implemented in the their particular food service business. Table 1 illustrates that the number of businesses that completed the national telephone survey from each business category is proportionate to the numbers provided for each category from the third party data company.

Table 1: Study sample

	Total N=1781		Total N=604	
	%	N	%	N
Business type				
Café/coffee shop/deli	13.9	247	17.9	108
Caterer	9.9	178	6	36
Convenience store	9.8	174	11.3	68
Fast food retail	10.2	181	12.3	74
Pub	10.1	180	11.9	72
Restaurant/hotel	28.7	511	32.8	199
Service station	5.5	98	7.8	47
Caterer (no food)	1.2	22	-	-
Pub (no food)	7.7	137	-	-
Service station (no food)	3.0	53	-	-

3.2 Phase 1: National telephone survey

Businesses were randomly contacted from the list obtained from the third party data company. Data collection covered all three provinces in Ireland in addition to three counties in Ulster (i.e. Donegal, Monaghan and Cavan). Both urban and rural settings were targeted. A wide variety of businesses serving different ethnic cuisines were contacted.

Only individuals with a decision making role in the policies and procedures implemented within their food service outlets were eligible to complete the survey. Both open and close-ended questions were included in the survey. The open-ended questions were asked first to prevent participant priming.

Approximately 10 minutes was needed to complete the survey. The survey focused on (a) the structure of the food outlet (type of food outlet, service provided, customer point of order, number of meals served etc.) and (b) the delivery/non delivery of the calorie content (reasons for display/non display, where information was displayed, time of display, form of information, methods used to calculate calories, additional information provided etc.)

The telephone surveys were conducted by a research team which included qualified nutritionists, a dietician and trained research assistants. All received adequate training prior to data collection to ensure that all data was collected in a standardised manner. The survey was piloted with a small

representative sample (n=15) and data was analysed to ensure that the content was acceptable, to identify an excessive use of “don’t know” or neutral responses and to ensure that the questionnaire length was acceptable and easy to complete [32]. The study co-ordinator monitored the data collected from the surveys every 3 days to ensure systematic bias was not introduced.

Data was analysed using the Statistical Package for the Social Sciences (SPSS) software, version 21 for Windows (SPSS Inc., Chicago, IL, USA) and was assessed according to business category and display/non display of calorie information. For certain questions, new categories were created based on the responses cited as ‘other’. The findings from the survey are presented at the business level, (all food service businesses, including chains, are counted as 1 business, irrespective of the number of outlets).

3.3 Phase 2: Structured observation visits

Based on the findings from the national telephone survey, outlet observation visits were conducted to observe the visual application of calorie posting (appendix 1). A random number of food service businesses who claimed to display calorie information in the telephone survey were visited, in addition to a small number of businesses who did not complete the telephone survey. For the observation

visits, the outlet manager was contacted via telephone to set up a suitable time and day to visit. All food service businesses provided written informed consent on the day of the observation visit. Each observation visit took approximately 15 minutes to complete and was conducted by a qualified nutritionist and/or dietician who received adequate training prior to data collection to ensure that all data was collected in a standardised manner.

Data was analysed using the Statistical Package for the Social Sciences (SPSS) software, version 21 for Windows (SPSS Inc., Chicago, IL, USA) where differences between observations were assessed according to food business category.

3.4 Phase 3: Semi-structured interviews

The findings from the national telephone survey informed phase 3. Purposive sampling was used to recruit participants that had a decision making role in the policies and procedures implemented in the particular food service business.

All interviews were carried out by a qualified nutritionist and/or a dietician who had previous experience in conducting and analysing semi-structured interviews. The interview focused on participants’ perceptions and experiences, potential barriers and facilitators surrounding the implementation of calorie posting and identification of methods to overcome

RESULTS

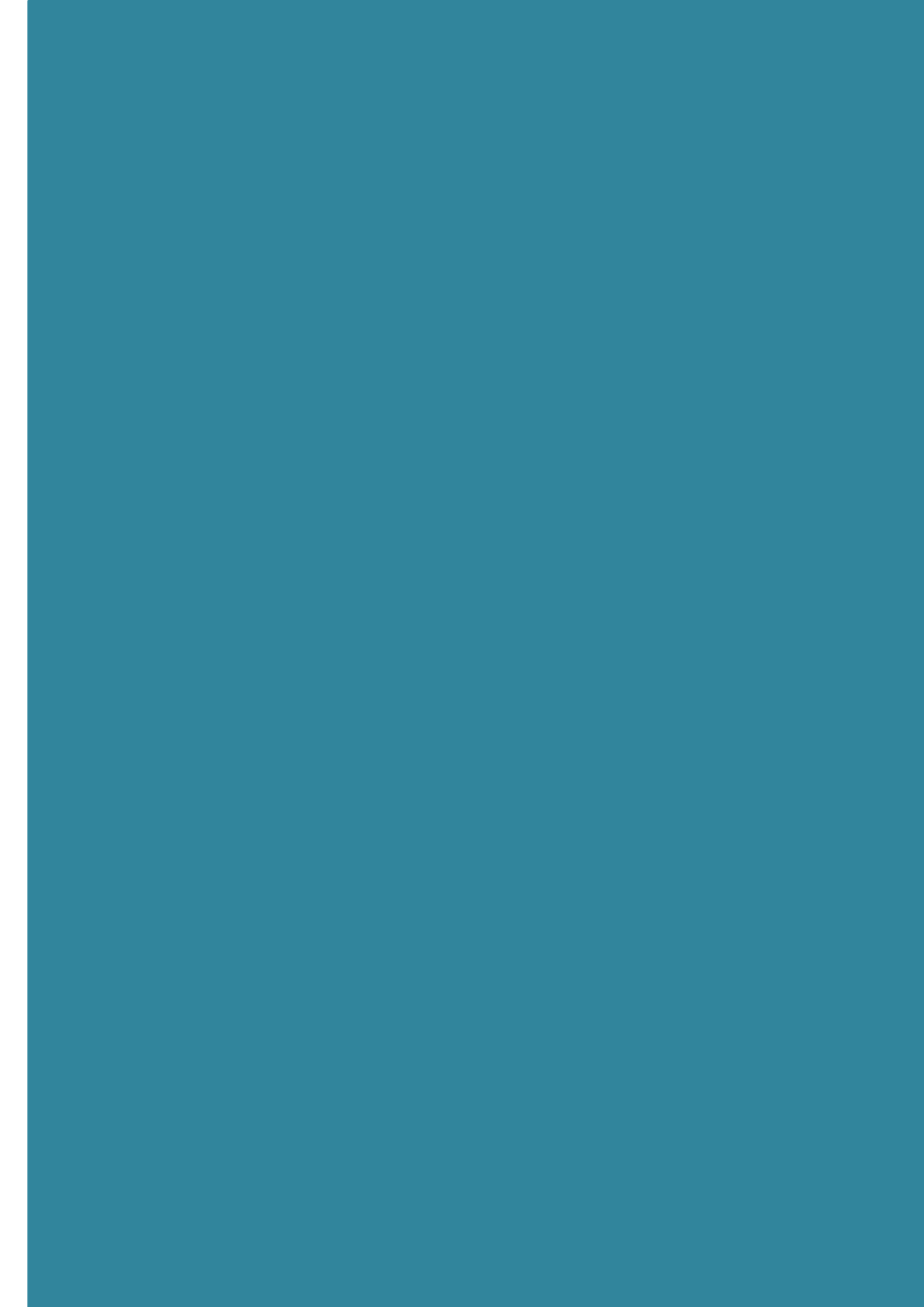
recognised issues. A semi-structured topic guide was developed to allow for comparisons of experiences and attitudes (appendix 2.1 & 2.2). However, the interviewer was also mindful to allow space for unique insights and perspectives to emerge. With participant consent, the interviews were digitally recorded, transcribed and analysed using NVIVO software [34].

For the interviews, individuals were contacted by telephone and followed up by email also. All participants provided written informed consent before the interview was conducted. Data was digitally recorded and transcribed verbatim. To preserve confidentiality, data was anonymised.

A pilot study was initially carried out with 1 business that displayed calorie information and with 1 business that did not display calorie information. A further 11 interviews were then carried out, with 5 businesses displaying calories and 6 businesses not displaying calories. Each interview lasted approximately 40 minutes to 1 hour. Incentives were provided to ensure participation.

Qualitative data was analysed using a Framework approach [35]. The Framework approach was used to organise and manage the data through the process of summarisation, resulting in a robust and flexible matrix output which allowed the research team to analyse data both by case and theme. This approach is common when there

are pre-specified aims and objectives however, the early analysis phase of familiarisation allows for unexpected themes to emerge. Thematic analysis was applied to the data to identify the main barriers and facilitators surrounding calorie posting including potential mechanisms for improving ease of implementation. Furthermore, differences in views and experiences by business category were identified and explanations for these variations were sought.



4. RESULTS

4. Results

4.1 Phases of analysis

A series of interlinked analyses were conducted using both quantitative and qualitative methods (Figure 1). Phase 1 consisted of a national telephone survey and was completed by 604 food service businesses. When the number of outlets was taken into account for each business, the sample consisted of 2,308 food service outlets. Phase 2 comprised of 80 observation visits in food service outlets. During phase 3, a total of 13 semi-structured interviews were conducted with food business owners and managers.

Figure 1: Phases of analysis

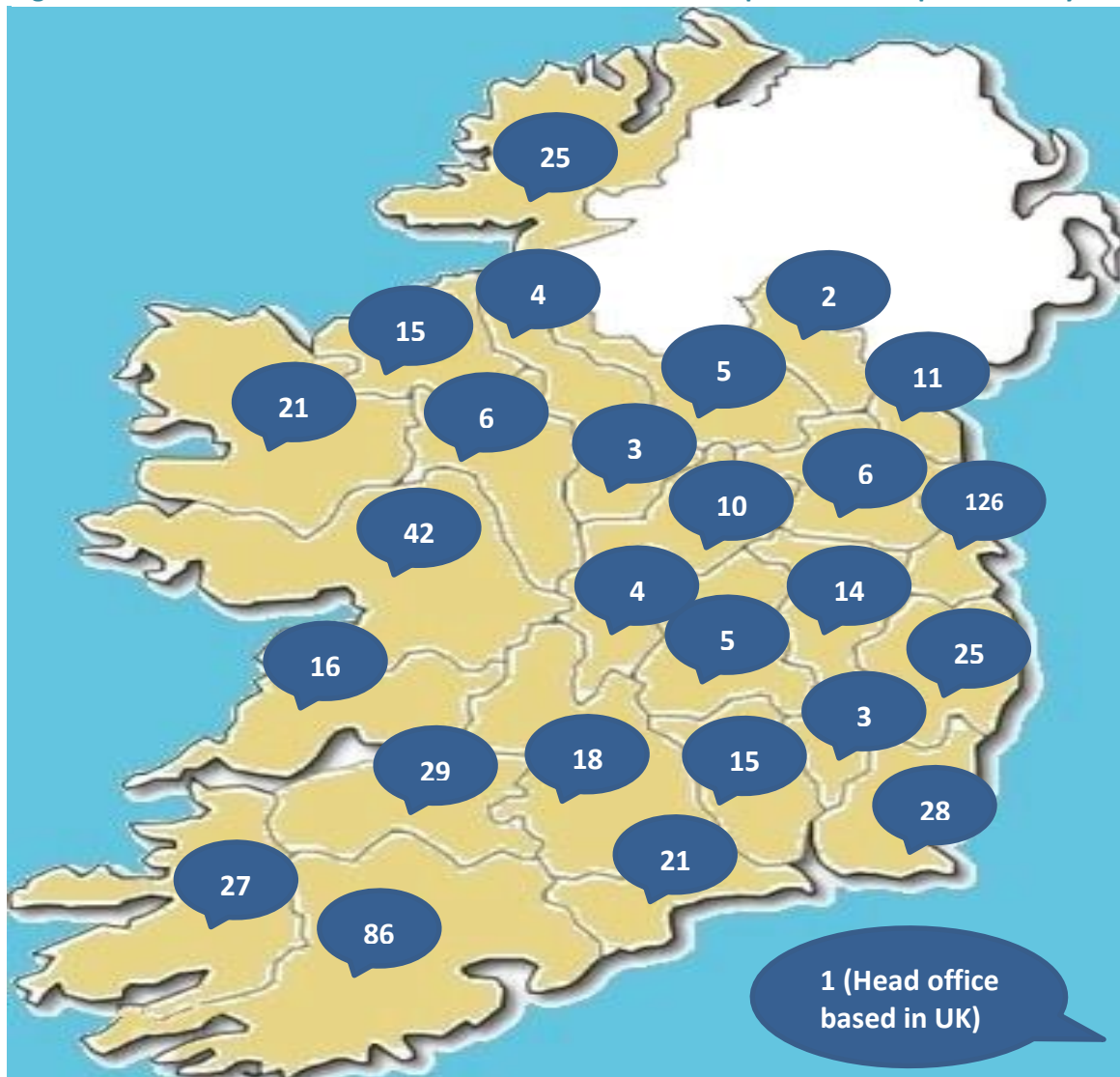


4.2 Phase 1: National telephone survey

4.2.1 Overview of the businesses that participated in the national telephone survey

The location and number of food service businesses that participated in the national telephone survey are illustrated in Figure 2 (n=604). The majority of the sample was located in Dublin and Cork as they have the highest proportion of food service businesses in Ireland. A smaller number of businesses participated from the other counties.

Figure 2: Overview of the number of food businesses that completed the telephone survey



Note: The numbers represent the number of food businesses from each county that participated in the study

RESULTS

As shown in Table 2 below, 604 food service businesses completed the national telephone survey. Participation in this survey varied according to business category. The highest level of participation was recorded among the restaurant/hotel category (32.8%) while catering companies and service stations represented 6% and 7.8% of the overall sample respectively. A total of 7% (n=42) of the food businesses reported that they displayed calories on their menus while 93% (n=562) reported that did not display calories.

Table 2: Overview of the number of food businesses that completed the telephone survey according to business category

	Total N=604		Chain N=82		Single outlet owner N=522	
	%	N	%	N	%	N
Business category						
Café/coffee shop/deli	17.9	108	28	23	16.3	85
Caterer	6	36	0	0	6.9	36
Convenience store	11.3	68	18.3	15	10.3	53
*Fast food retail	12.3	74	23.2	19	10.5	55
Pub	11.9	72	3.7	3	13.2	69
Restaurant/hotel	32.8	199	18.3	15	35.1	184
Service station	7.8	47	8.5	7	7.7	40
Display calories						
Yes	7	42	19.5	16	5	26
No	93	562	80.5	66	95	496

*Fast food retail – includes fast food restaurants and take-aways

**Chain – businesses that had more than 1 outlet

4.2.2 Proportion of food businesses with multiple outlets

Table 3 outlines the percentage of food businesses with multiple outlets according to business category. Over 78% of the café/coffee shop/deli category were responsible for 1 outlet, with 18.5% responsible for 2-20 outlets and 2.8% responsible for 20+ outlets. The majority of the convenience stores interviewed were responsible for 1 outlet (77.9%) with 17.6% responsible for 2-20 outlets and 4.4% responsible for 20+ outlets (n=3 large retailers). Businesses in the fast food retail category were primarily responsible for 1 outlet (74.3) with 18.9% responsible for 2-20 outlets and 6.8% responsible for 20+ outlets. All businesses classified as a pub were responsible for 1-5 outlets and this is reflective of the restaurant category (92.5%) and the service station category (85.1).

Table 3: Percentage of food businesses with multiple outlets according to business category

Business category	Single outlets		Chain**			
	1 outlet		2-20 outlets		20+ outlets	
	%	N	%	N	%	N
Café/coffee shop/deli	78.7	85	18.5	20	2.8	3
Caterer	100	36	0	0	0	0
Convenience store	77.9	53	17.6	12	4.4	3
*Fast food retail	74.3	55	18.9	14	6.8	5
Pub	95.8	69	4.2	3	0	0
Restaurant/hotel	92.5	184	7.5	15	0	0
Service station	85.1	40	12.8	6	2.1	1

*Fast food retail – includes fast food restaurants and take-aways

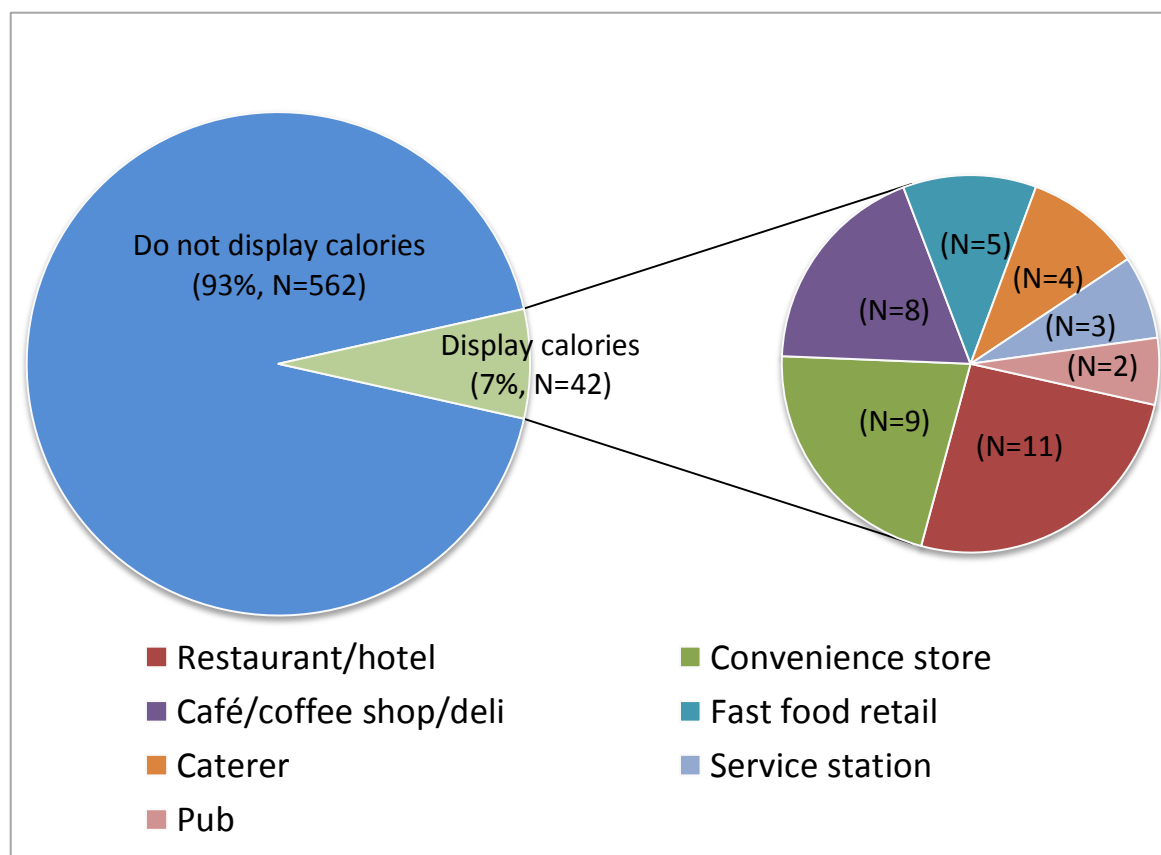
**Chain – businesses that had more than 1 outlet

RESULTS

4.2.3 The proportion of food businesses that display calories

Of the 7% (n=42) of food businesses that reported displaying calories, 26% were restaurants/hotels (n=11), 19.1% were convenience stores (n=8), 16.6% were fast food retailers (n=7), 16.6% were café/coffee shop/deli (n=7), 9.5% were catering companies (n=4), 7.2% were service stations (n=3) and 4.8% were pubs (n=2) (Figure 3). Of the total sample (n=42), 38% of food service businesses were classified as a chain (n=16 and n=1169 based on the total number of outlets) and 62% were classified as a single outlet owned business (n=26).

Figure 3: The percentage of food businesses displaying calories

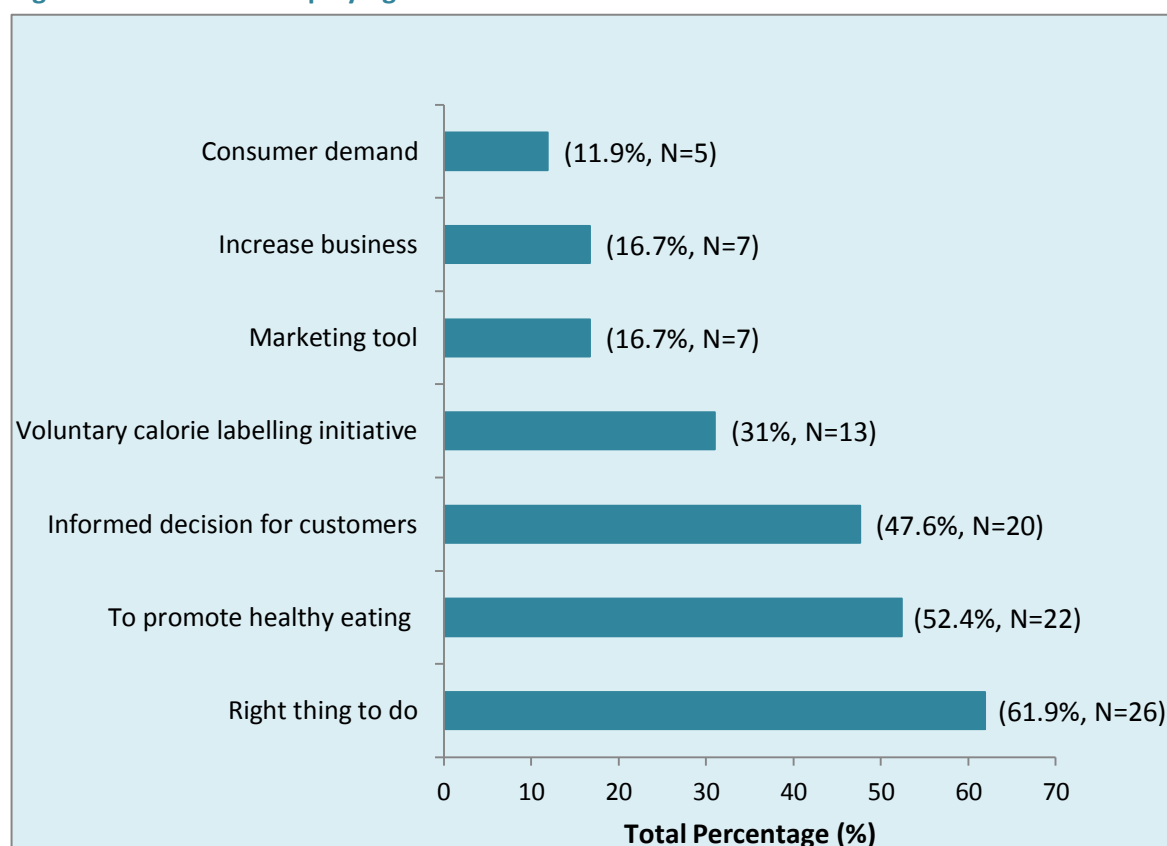


RESULTS

4.2.4 Reasons mentioned by food businesses for displaying calories

As illustrated in Figure 4, the majority of businesses displaying calories felt it was the right thing to do (62%, n=26), it helped to promote healthy eating (52.4%, 22) and allowed consumers to make an informed decision (47.6%, n=20). A small proportion of businesses displayed calories as part of the voluntary calorie menu labelling scheme (31%, n=13), as a marketing tool to help increase business (16.7%, n=7) or due to consumer demand (12% n=5). Food businesses were able to choose more than one reason.

Figure 4: Reasons for displaying calories

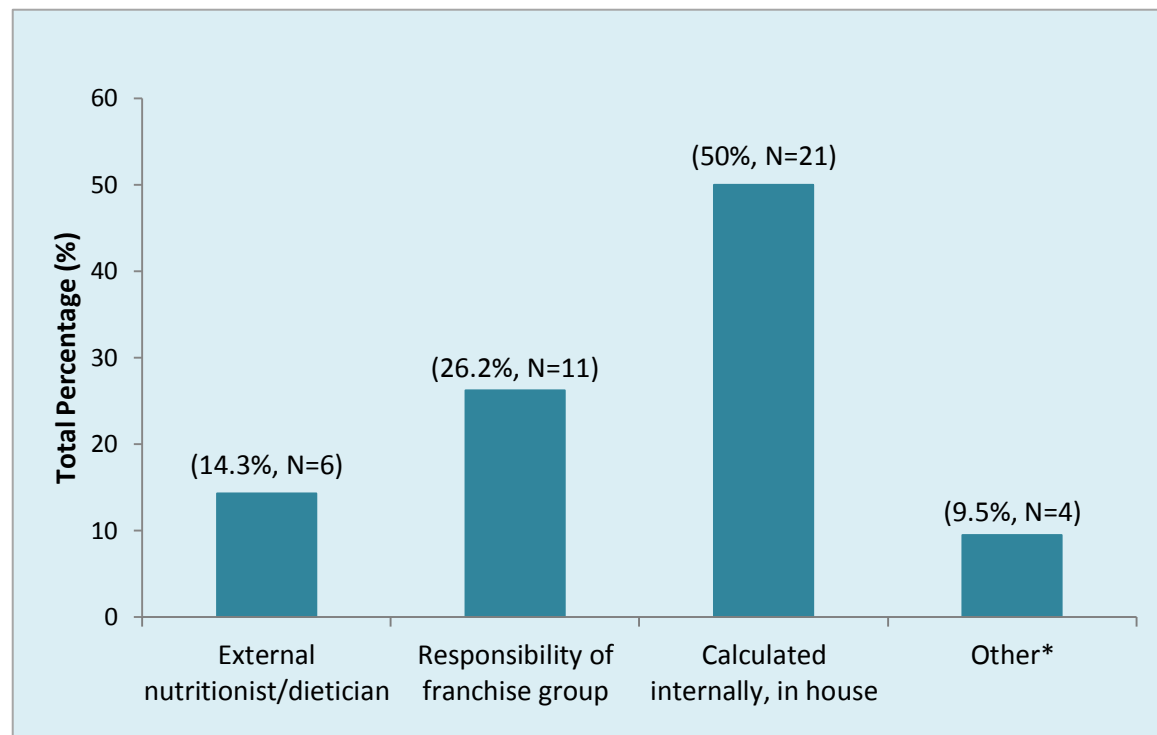


RESULTS

4.2.5 Individuals responsible for calculating calories

As illustrated in Figure 5, calorie information was calculated internally by 50% of food service businesses (n=21) followed by the responsibility of the franchise group (26.2%, n=11). An external nutritionist/dietician calculated calorie information for 14.3% (n=6) of businesses. Other approaches included external nutrition analysis labs and information provided by food suppliers (9.5%, n=4).

Figure 5: Individuals responsible for calculating calorie information

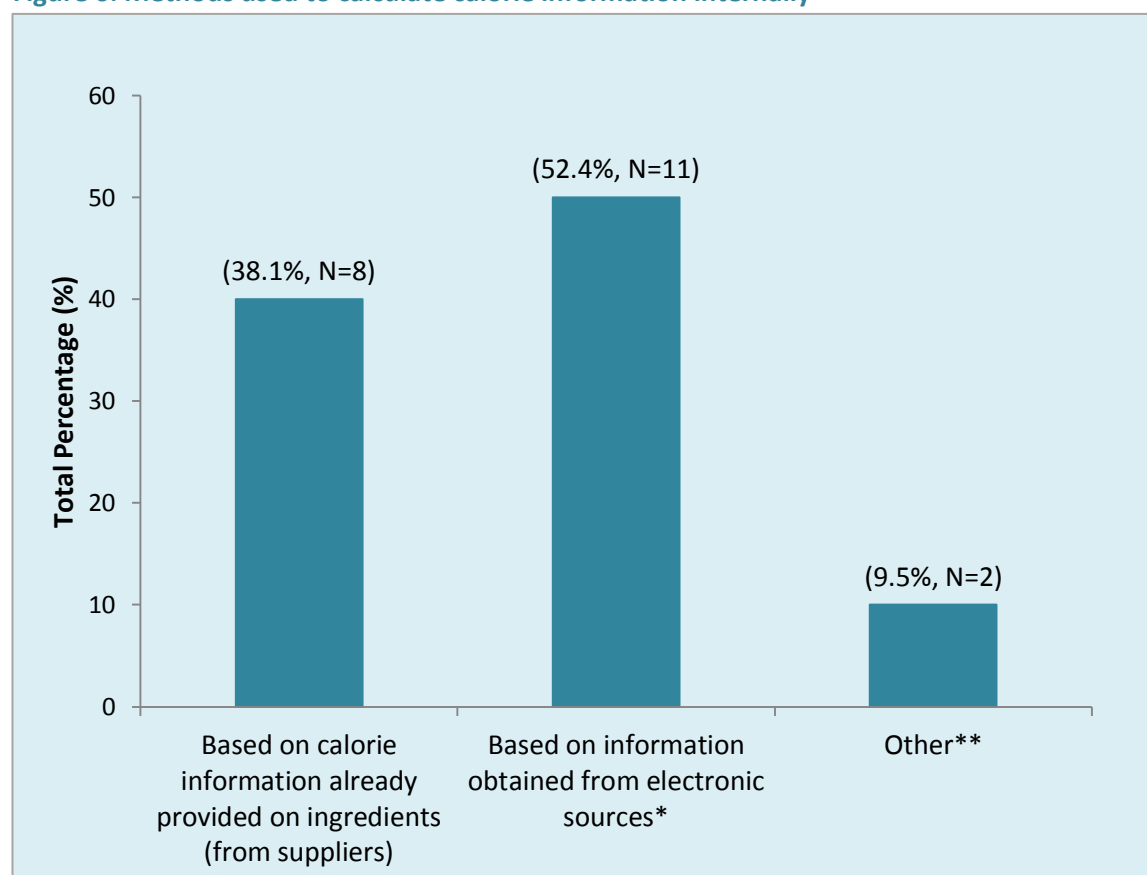


*Other: External laboratory or suppliers

4.2.6 Methods used to calculate calorie information internally

Food businesses (52.4%, n=11) predominantly used electronic sources such as MenuCal, NutriCal, “Source” electronic database and “My Fitness Pal” to calculate calorie information internally while 38.1% (n=8) based their calculations on calorie information already provided on ingredients from suppliers (Figure 6). Other methods included using books provided from diet and nutrition courses and online references to calculate an average calorie content of common dishes (9.5%, n=4).

Figure 6: Methods used to calculate calorie information internally



*Electronic sources included: MenuCalc, NutriCalc, “Source” electronic database, “My Fitness Pal”

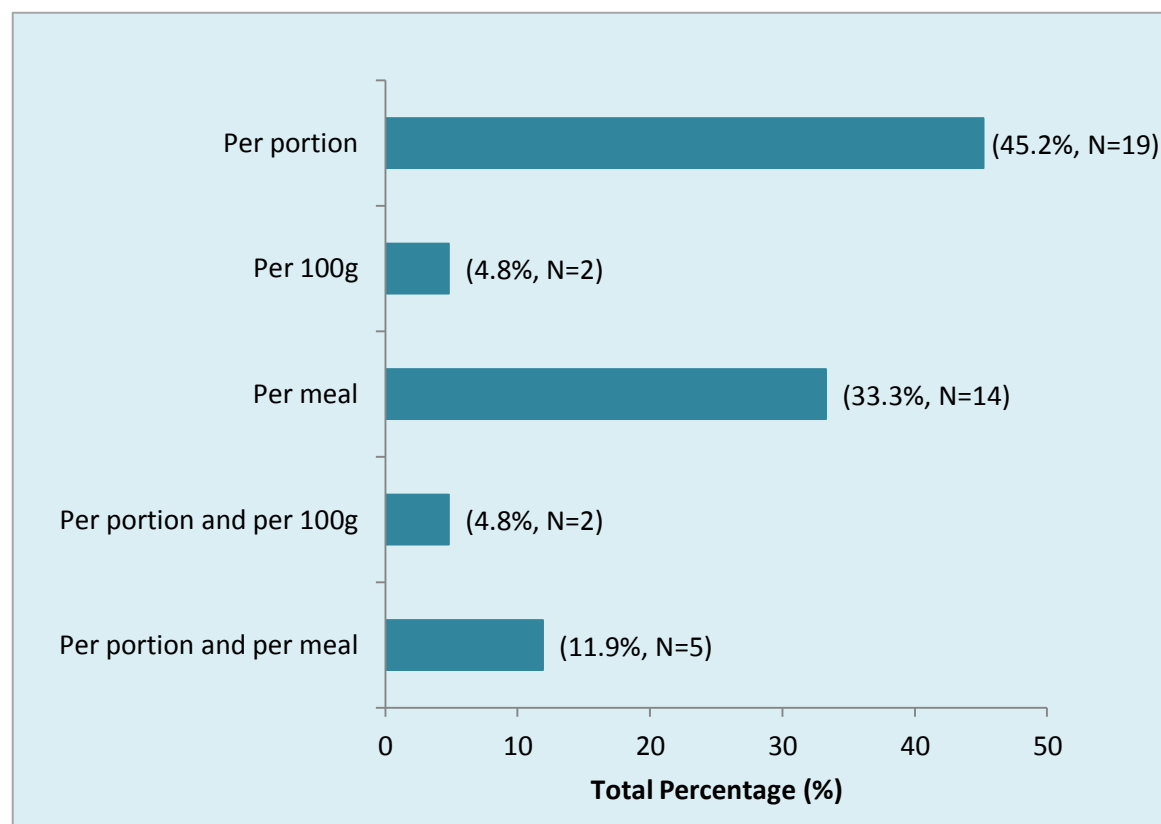
** Other: Used references and books to get an average calorie content of common dishes

4.2.7 Location and units used to display calorie information

Each business was asked to explain how they displayed calorie information and the units they used to display calorie information (Figure 7). The two most common units used by businesses to display calories were per portion (45.2%; n=19) and per meal (33.3%; n=14) while 11.9% (n=5) of businesses used both of these units. A further 4.8% of businesses displayed calories in units per 100g, per portion and per 100g (n=2, respectively).

The majority of businesses displayed calorie information in more than one place within a food business. Calorie information was displayed on a menu board by 33.3% of businesses (n=14), 31% (n=13) displayed calories on a printed menu, 14.3% displayed calories on a leaflet/table mat or through the use of electronic sources/ internet (n=6, respectively) and 8% (n=2) displayed calories on a chalk board. A large percentage of businesses chose "Other" (38.1%; n=16) with businesses using alternative locations such as posters, labels, customer request books, separate menus, flip displays and quick response codes, through the use of a mobile app as a means of displaying calories.

Figure 7: Units used to display calorie information



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4.2.8 Calorie information and customers' food choices

As shown in Figure 8, an equal proportion of businesses believed that calorie information influenced and did not influence customers' food choices (38.1%; n=16 respectfully). A further 23.8% (n=10) believed that it has influenced customers' food choices 'somewhat'. Businesses were also extremely confident in the calorie information displayed (Figure 9) (83.3%, n=35).

Figure 8: Impact of calorie labelling on customers' food choices

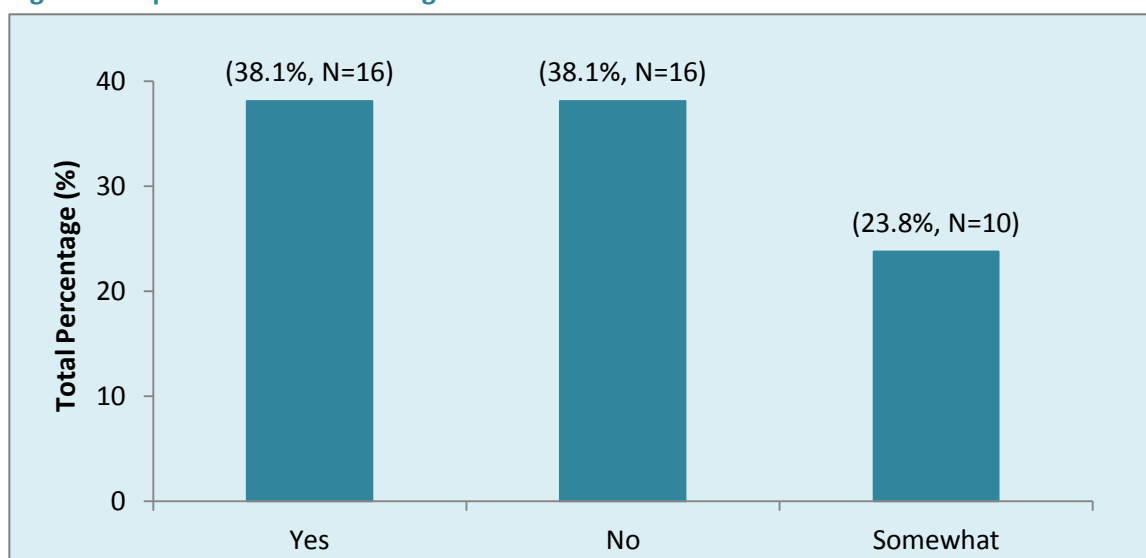
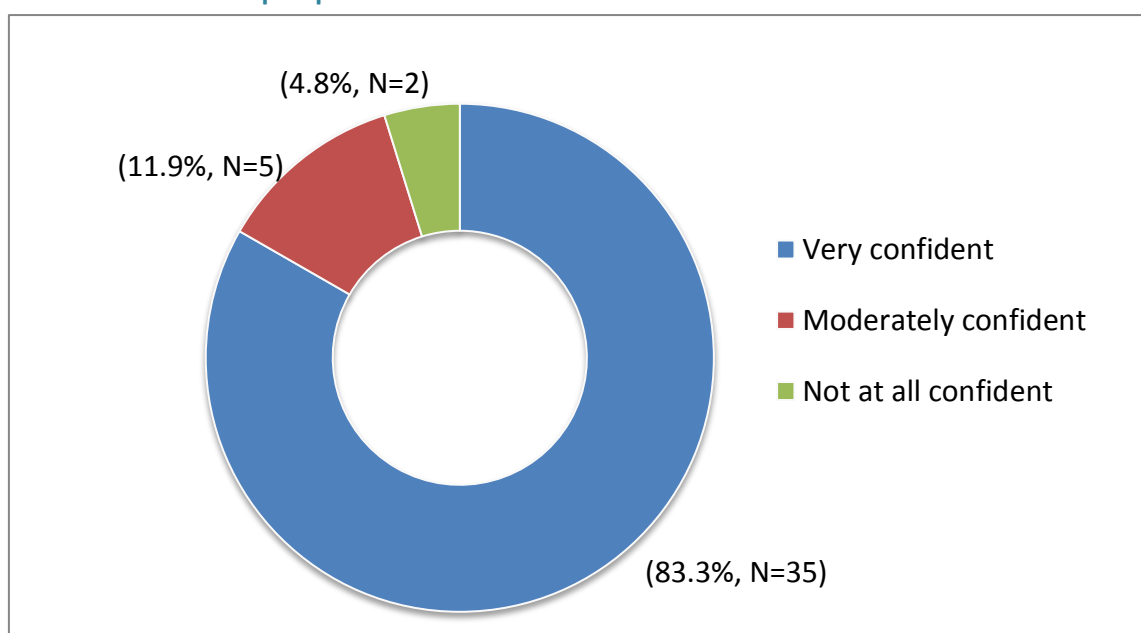


Figure 9: Level of confidence in the accuracy of calorie information displayed from the businesses prospective



RESULTS

4.2.9 Businesses that do not display calorie information

A high proportion of food service businesses reported not displaying calories (93%, n=562). From the single outlet owned food businesses (Figure 10), the majority of these businesses were from the restaurant/hotel category (35%, n=175), while most of the food service chain businesses (Figure 11) were from the café/coffee shop/deli category (27.3%, n=18) followed by the fast food retail category (22.7% n=15).

Figure 10: Proportion of single outlet owned businesses not displaying calories by business category

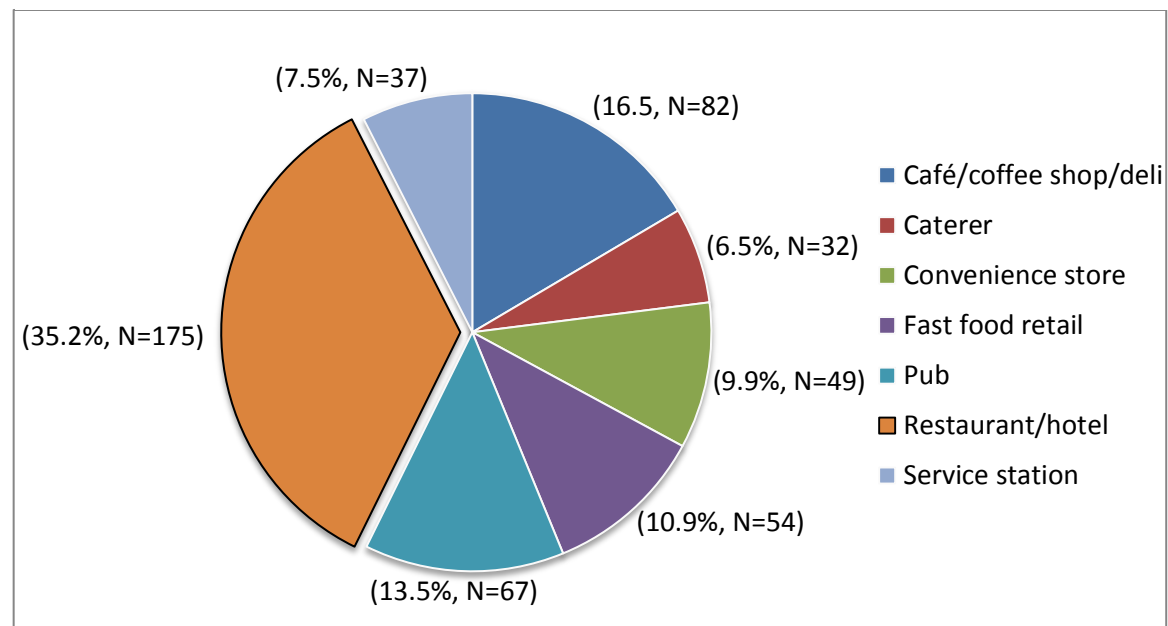
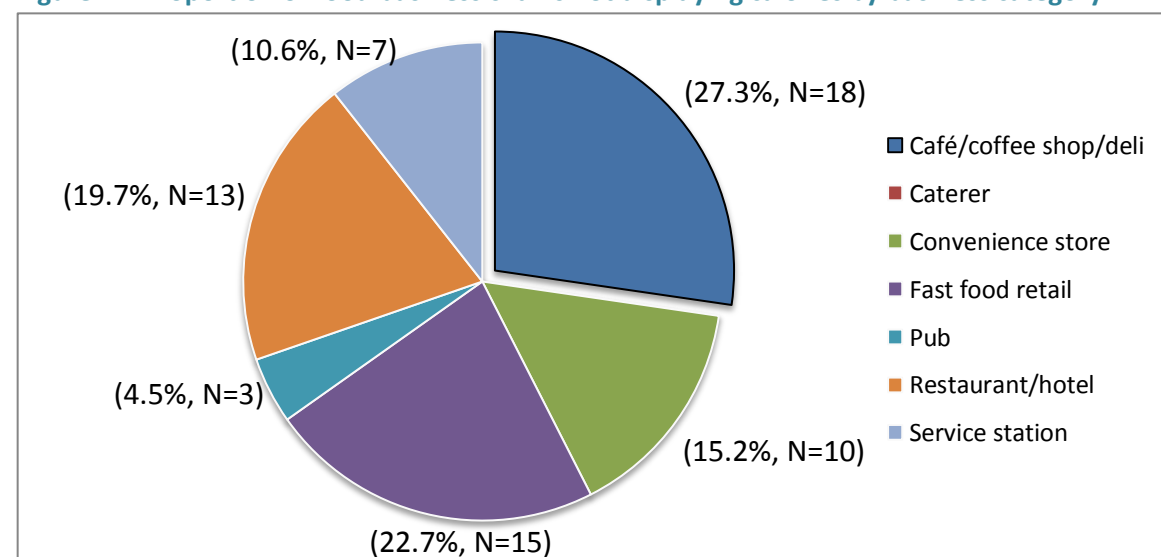


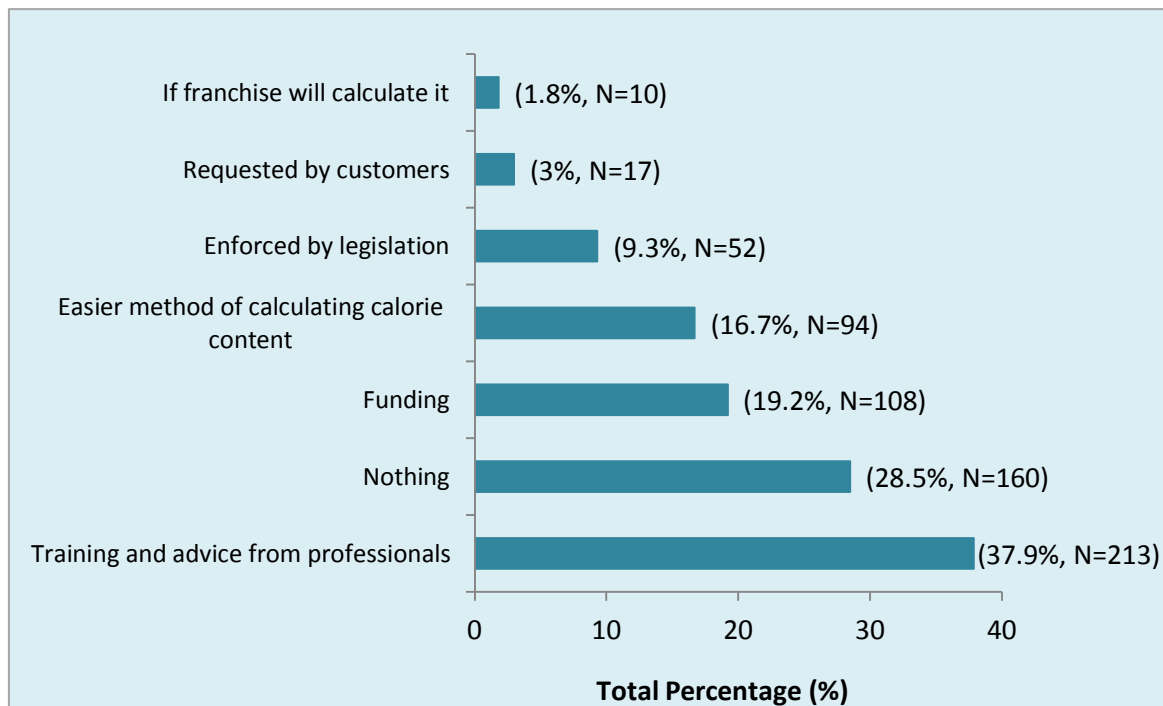
Figure 11: Proportion of food business chains not displaying calories by business category



4.2.10 Factors to encourage businesses to display calories

As shown in Figure 12, food service businesses reported 'training and advice from professionals' as the main factor that would encourage them to implement and display calorie information (37.9%, n=213). 19% of businesses (n=108) believed funding would encourage them to display calories. However over 28% (n=159) of businesses advised 'nothing' could be done to encourage them to display calories. Food businesses were able to choose more than one reason.

Figure 12: Factors to encourage food businesses to display calories

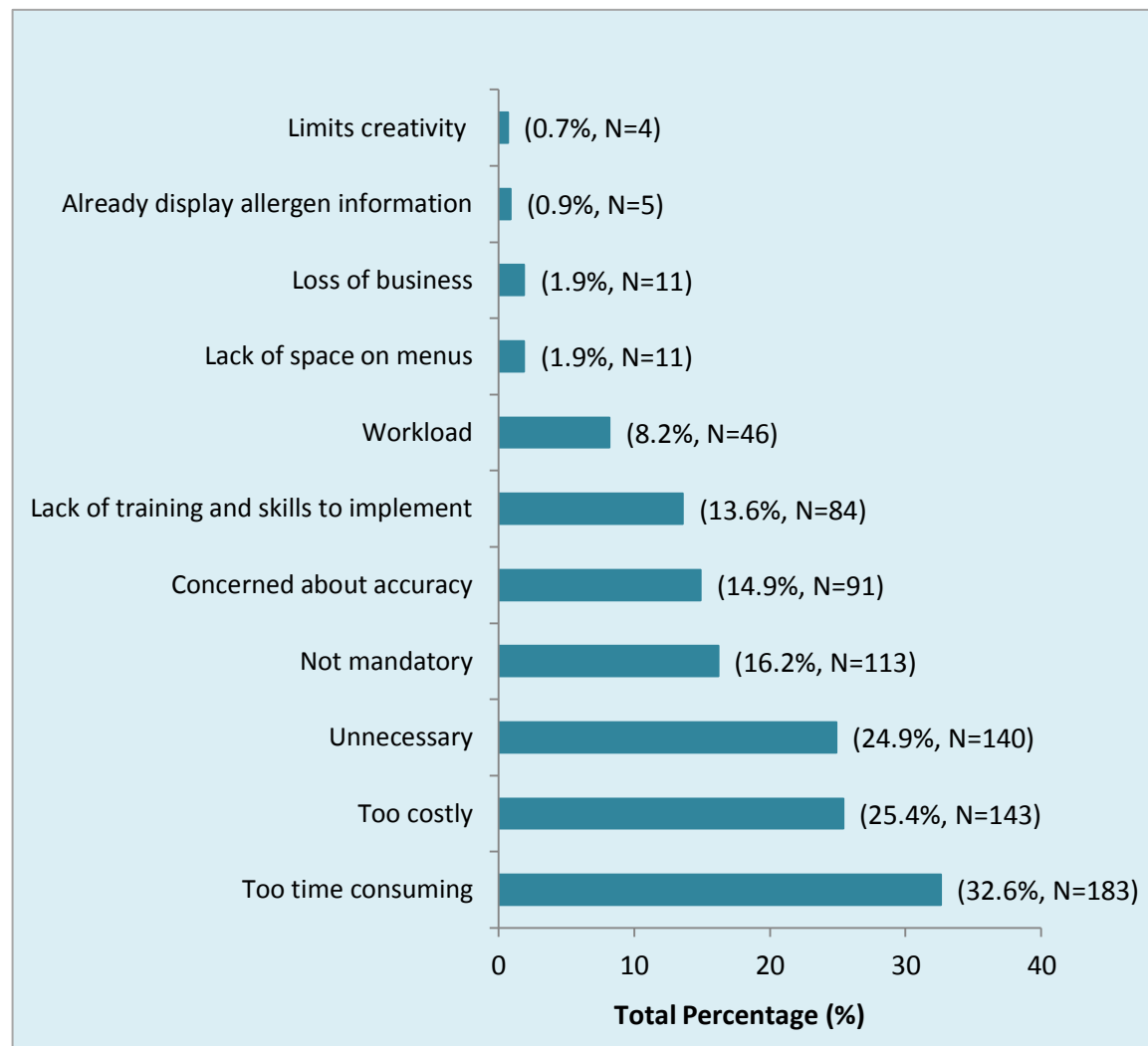


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4.2.11 Reasons for not displaying calories

As illustrated in Figure 13, the most common reasons reported by food service businesses for not displaying calorie information were that it was too time consuming to implement (32.6% n=183), too costly (25.4% n=143) and they believed it is unnecessary to display calorie information on their menus (24.9%, n=140). Food businesses were able to choose more than one reason.

Figure 13: Reasons for not displaying calories



4.3 Phase 2: Observation visits

Observation visits were conducted in 80 food service businesses in Cork, Dublin, Galway, Kerry, Kildare and Limerick to validate the data collected during Phase 1 (Table 4). Of the food service businesses visited, 38.8% were café/coffee shop/deli businesses, 30% were fast food retailers, 22.5% were convenience stores, 6.2% were restaurants/hotels and 2.5% were service stations. Calorie information was observed in 47.5% (n=38) of the food businesses while 52.5% of businesses (n=42) did not display calories. Of the 38 food businesses that displayed calories: 3 were single outlet owned businesses, 16 were outlets from 7 fast food retail chains, 15 were outlets from 6 café/coffee shop/deli chains and 4 were outlets from 1 large retailer.

Table 4: Overview of the number of observation visits completed

	Total N=80		1-20 outlets N=16		21-60 outlets N=19		60+ outlets N=45	
	%	N	%	N	%	N	%	N
Business category								
Café/coffee shop/deli	38.8	31	37.5	6	57.9	11	31.1	14
Convenience store	22.5	18	6.3	1	0	0	37.8	17
Fast food retail	30	24	25	4	42.1	8	26.7	12
Restaurant/hotel	6.2	5	31.2	5	0	0	0	0
Service station	2.5	2	0	0	0	0	4.4	2
Location								
Cork	27.5	22	12.5	2	31.6	6	31.2	14
Dublin	50	40	43.8	7	47.3	9	53.3	24
Galway	2.5	2	0	0	5.3	1	2.2	1
Kerry (Killarney)	8.8	7	6.2	1	5.3	1	11.1	5
Kildare	1.2	1	6.2	1	0	0	0	0
Limerick	10	8	31.3	5	10.5	2	2.2	1
Display calories								
Yes	47.5	38	37.5	6	78.9	15	37.8	17
No	52.5	42	62.5	10	21.1	4	62.2	28
Position in the business								
Manager	90	72	93.8	15	78.9	15	93.3	42
Non-manager*	10	8	6.2	1	21.1	4	6.7	3

*Fast food retail – includes fast food restaurants and take-aways

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Figures 14 and 15 show the location of food businesses visited and the location of food businesses that displayed calorie information.

Figure 14: Overview of the number of food businesses visited

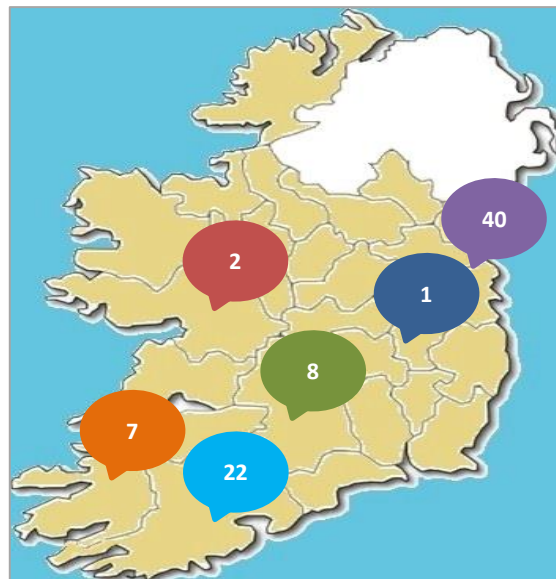
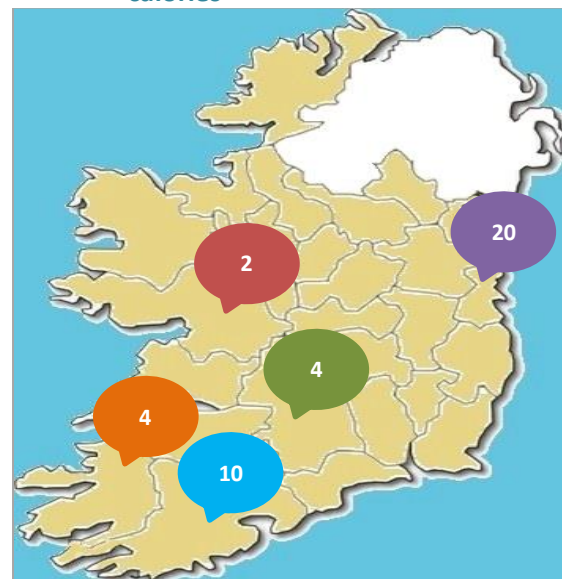


Figure 15: Overview of the number of food businesses visited displaying calories



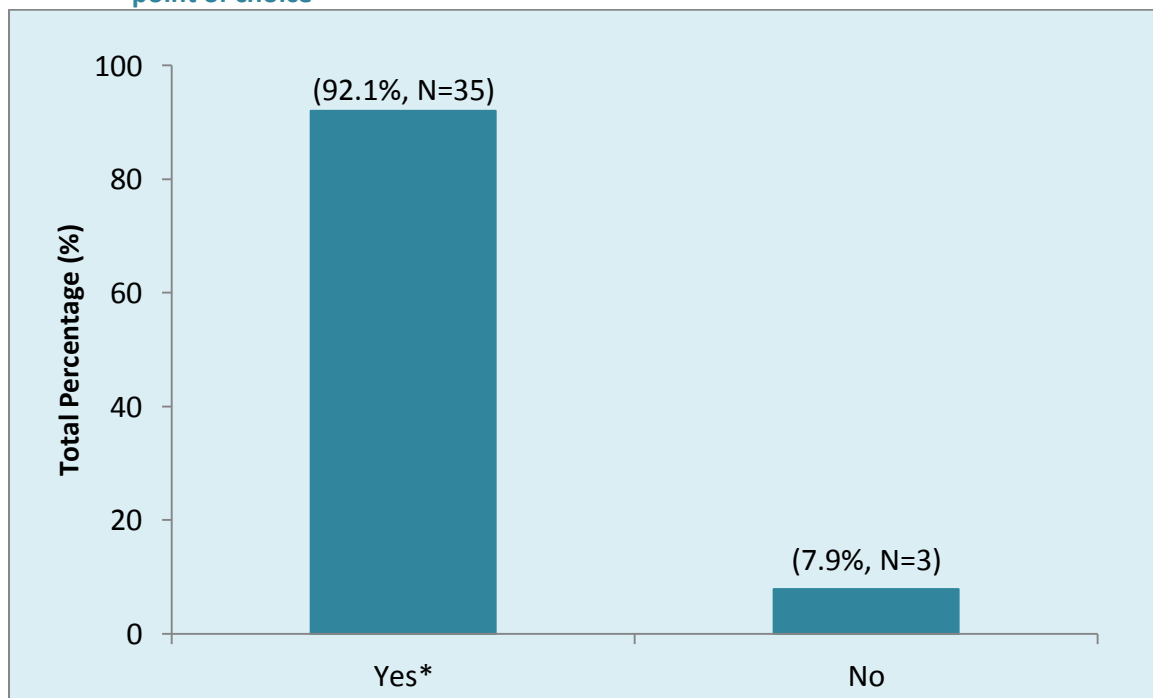
We found that 50.8% of food service businesses (3 single outlet owned businesses, 4 outlets from 2 fast food retail chains, 10 outlets from 1 café/coffee shop/deli chain, 14 outlets from 3 large retailers and 2 outlets from 1 service station chain) which claimed to display calories in the telephone survey, did not have calorie information on display.

All but one of the chains visited had a high level of concordance. For example for one large café chain that claimed to display calories in the telephone survey (Phase 1), only one of the 11 outlets visited provided calorie information and it was displayed only as a small pocket size leaflet on the deli counter and not at the 'point of choice'. Regarding one large fast food chain of 4 outlets visited 2 outlets had calories displayed at the point of choice while 2 outlets displayed calories on a small poster not clearly readable from the point of choice. In addition, only one of the 4 outlets displayed calories alongside the price of the food items (not in the same font size). For another large fast food chain, all 3 outlets visited displayed calories at the point of choice, alongside the price of the food items (not in the same font size) on the printed menu, of which only one had calorie information displayed on the menu board and on leaflets. However it is important to note that for 2 large retailers, calorie labelling had been recently introduced as a policy and individual chain stores were actively changing and rolling out calorie labelling at the time of this survey.

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As shown in Figure 16, 92.1% (n=35) of businesses visited displayed calories at the 'point of choice'. Of the 38 businesses that displayed calorie information, 57.9% (n=22) displayed calorie content on all non, pre-packaged standard food and drink items sold, 7.9% (n=3) provided calorie content on all non, pre-packaged standard food items sold, 15.8% (n=6) of businesses displayed calorie content on some non, pre-packaged standard food and drink items and 18.4% (n=7) provided calorie content on some non, pre-packaged standard food items.

Figure 16: The percentage of food businesses visited that display calorie information at the 'point of choice'

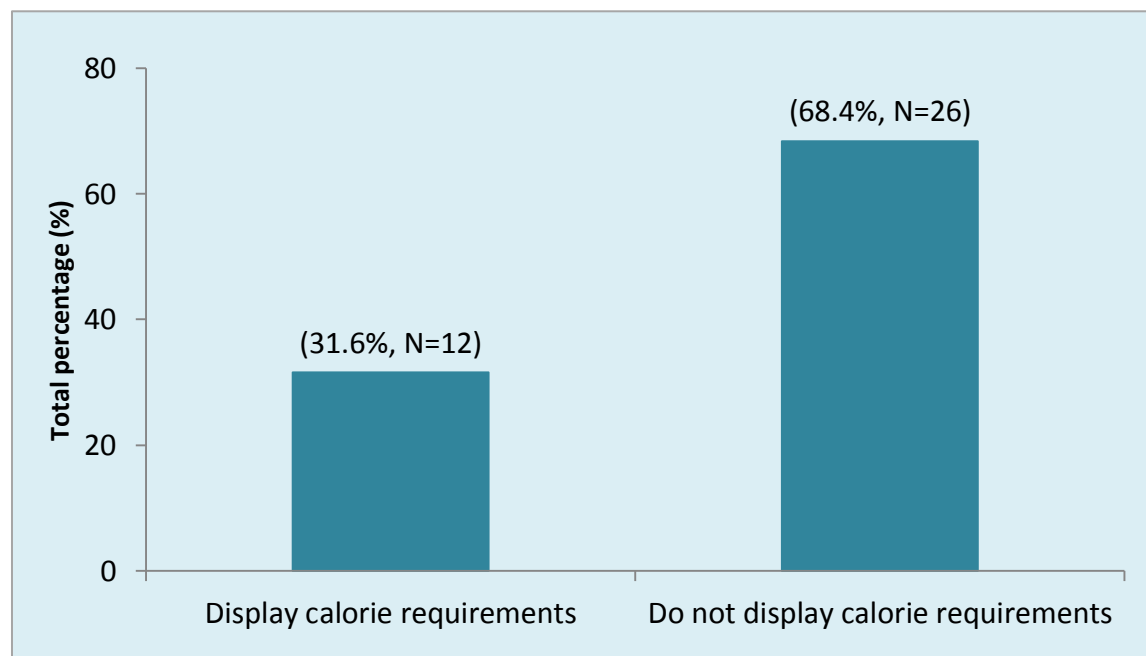


*30 food businesses provided calorie information alongside the price (not in the same size font) while in 5 food businesses calorie information was not displayed alongside the price.

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Finally, calorie requirement information was observed in 12 food service outlets (Figure 17). The majority of this information was displayed on posters (46.1%, n=6). Posters were either located on a window at the entrance of the establishment, at the point of choice or located near the counter but unnoticeable from the point of choice. 30.8% of businesses (n=4) displayed this information on tablemats with one of these outlets using both posters and tablemats as an area to display this information. A printed menu, leaflet or internet/electronic source were the location of choice for three separate businesses (7.7%, n=1 respectfully). The internet/electronic source consisted of a QR code as well as displaying this information on the business website for customers.

Figure 17: The percentage of food businesses visited that display information on how many calories an average person needs in a day



4.4 Phase 3: Semi-structured interviews

In phase 3, semi structured interviews were conducted with 13 food service businesses (6 chains and 7 single outlet owners) in Cork, Dublin, Galway and Kerry. Of the food service businesses participating, 2 were cafés/coffee shops/delis, 6 were fast food retailers, 4 were restaurants/hotels and 1 was a convenience store. Location and business category information along with information relating to interviewees position in the business and display of calories is illustrated in Table 5.

Table 5: Characteristics of interviews with chain businesses and single outlet owners

	Total N=13	Chain N=6	Single outlet owner N=7
Business category			
Café/coffee shop/deli	2	1	1
Convenience store	1	1	0
Fast food retail	6	4	2
Restaurant/hotel	4	0	4
Location			
Cork	5	3	2
Dublin city	4	1	3
Dublin county	2	0	2
Kerry (Killarney)	1	1	0
Galway	1	1	0
Display calories			
Yes	6	4	2
No	7	2	5
Position in the business			
Manager	12	6	6
Non-manager	1	0	1

4.4.1 Major themes

Three major themes emerged; 1) uncertainty, 2) impact on business, and 3) consumer nutrition knowledge. Depending on context, the preceding three themes were found to have both a positive and negative impact on implementation of calorie posting and are discussed as either facilitators or barriers. Findings are presented from the perspective of managing directors, owners, head chefs and franchisees of which some currently display and some do not currently display calorie information.

4.4.2 Uncertainty

Participants from all food service business categories, (i.e. those displaying and those not displaying calories) expressed varying degrees of apprehension regarding the implementation of calorie posting in their businesses. Ambiguity in relation to the accuracy of calorie information was central to these concerns. Further issues of concern included cost implications, time commitments and a lack of trust in the food service industry regarding the policing of the proposed legislation. Consistency in portion control facilitated implementation, particularly among businesses with calorie posting currently in place.

Accuracy: Concerns regarding the inability to provide accurate calorie information was highlighted as both an

anticipated barrier (from the perspective of those not displaying calories) and a realised barrier (by those currently displaying calories). Single outlet restaurant and café owners not displaying calories anticipated difficulties surrounding 1) the absence of a standardised menu and constant menu changes and 2) discrepancies in cooking methods among chefs, while the main concern among single outlet fast food establishment owners emerged as the impracticality of adhering to strict portion control in a fast-paced environment.

Those displaying calories highlighted that discrepancy in 1) preparation/serving sizes and 2) calorie information obtained from suppliers' hindered implementation of accurate calorie information. Stabilising portion sizes and ensuring recipe consistency was therefore highlighted as a crucial facilitating factor in the successful implementation for establishments displaying calories. This was particularly expressed by participants from chain convenience stores and fast food businesses that had standardised menus with little to no menu alterations. Some of the methods mentioned included the development of a "cup measuring system" and a "protocol toolkit" for outlets to use when preparing food items. However, an on-going challenge, particularly for chain businesses, was raised regarding franchisee and individual retailers' lack of compliance

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with measurement protocols; resulting in inaccurate calorie information being presented to customers.

"You've to start weighing how much sauce you're actually putting on a burger but then that's not accurate either because that's how much I put and then someone else may put a different amount and then it's even based on how busy you are. When you're busier you just kind of do it, you're not stopping and worrying 'Oh this might be a tad too much, a tad too little'" (Owner, independent fast food, not displaying calories).

"One of the things that we did do was we empowered a lot of our franchisees with tools to make sure the quantity of product that were going on the pizza were consistent. So we developed a cup system where there are individual measurements inside the cup. So for a 7 inch pizza, you would go to the 1st line and for a 9 inch you would go to the second line....So it was getting that consistency and giving the tools to the franchisees to make that happen" (Managing director, chain fast food, display calories).

Cost and time: Both those displaying and not displaying calories identified the implementation of calorie posting to be a "resource intensive" task which was a demanding, costly and time consuming process, which would add to the already extensive paperwork requirements. This was felt particularly for those with

changing/non standardised menus. Single outlet owners and participants from small chain establishments not displaying calories, expressed their financial inability to outsource (e.g. hire an external nutritionist), as a prominent barrier to implementation. Such participants indicated that they would attempt to calculate calories in house and therefore perceived the most costly step in the implementation to be staff time (in man hours) followed by analysis (purchase of software) and the necessary change of all point of sales. Single outlet establishment owners displaying calories and who did not outsource identified the most costly aspect to be the purchasing of adequate calorie labelling analysis software and the most time consuming step to be recipe collection and standardisation. Conversely, participants of large chain restaurants displaying calories identified their financial ability to outsource (i.e. hire external 3rd party company) as a key facilitating factor for implementation as this significantly eased workload and diminished accuracy concerns. The use of existing contacts (for example, availing of services provided by a third party company already in use by the food service business) was highlighted as being particularly beneficial among all establishments displaying calories. In addition, belonging to a franchise group and the use of standardised menus also facilitated the ease of implementation.

"I suppose for us, we don't have to go looking for all this information you know, it's there for us; we get emails, we get all the POS (point of sale) material for in-store so it's made quite simple for a franchisee here" (Franchisee, chain fast food, displaying calories).

"It is almost impossible, first of all, for someone like me, who changes the menu almost on a daily basis. Counting calories, you know, is a very difficult thing when you don't have a standardised menu. That is the best way to say it. I would have to calculate the calories every single day and I have not got time for that, basically. So you know, could I afford to outsource? No! So basically, it is impossible!" (Owner/head chef, independent restaurant, not displaying calories).

Lack of trust in food service business industry: Participants not currently displaying calories anticipated incompliance with proposed legislation and had concerns over accuracy of information which created a sense of mistrust. This was identified as a barrier for implementation. Some participants raised concerns over the level of compliance with the proposed legislation and felt that not all establishments would provide accurate calorie information, especially if calories were to be calculated internally (in house). Single outlet establishment owners, in particular, were sceptical as to how the larger chain establishments

would display calorie information. It was believed that such establishments would have the resources to employ "clever marketing tools" to conceal high calorie contents resulting in misleading information being presented to consumers. Single outlet establishment owners anticipated that they would be unable to compete in this instance due to limited resources. While there was a degree of apprehension surrounding the logistics of policing the proposed legislation, there was general agreement that rigorous enforcement and regulation by health authorities would be a key potential facilitating factor in ensuring that calorie posting is applied in a standardised way.

"I'm not going to all this bother to do it and then if the legislation comes in and any old clown can go and come along and just write whatever he thinks is the accurate thing on a menu without doing any kind of work. I'm sorry, that's not fair on us, you know. So it's like all these things, if they're going to put it in place, they're going to have to regulate it" (Head chef, independent hotel restaurant, displaying calories).

"I don't think businesses are going to be entirely 100% scrupulous about doing it. I think if there is not an easy way of doing it then businesses will end up guessing" (Owner, independent cafe, not displaying calories).

“What I don’t believe in is if you go up to some of our competitors there, some of the big boys, they have their calories count already printed on their cartons but the way they have done it is kind of sly if you like. They’re showing half the calories for half the weight if you know what I mean. They are trying to disguise the fact on some of it. I don’t think that is the way to go” (Owner, independent fast food, not displaying calories).

4.4.3 Impact on business

All participants indicated that the implementation of calorie posting would have an impact on their business. Those displaying calories had a desire to improve company image and stimulate customer loyalty and perceived displaying calories as a positive. While those not displaying calories highlighted hesitation to do so over concerns regarding the negative impact on the dining experience and portrayal of product.

Company image: Participants displaying calorie information had a strong desire to portray a positive company image to consumers. This desire served as a motivating factor for ensuring successful implementation. Such participants believed that displaying calories would help them to portray their businesses as dynamic and forward-thinking and thus they were supportive of implementation and were prepared to overcome perceived barriers (for example,

stabilising portion control to permit accurate calorie information). Aside from the desire to improve company image, participants introduced calories as they anticipated the legislation and wished to “stay ahead of the game”. Participants felt that implementing calories would result in them obtaining a competitive advantage over other businesses. However, among those not displaying calories and in particular, single outlet fast food establishment owners, it was feared that displaying calories may result in a negative company image. This was due to the fact that these establishments tended to be community based, relied on local business and practiced a “traditional workplace culture” and it was anticipated that implementing strict portion sizes to facilitate accurate calorie information would result in a negative customer outlook of the business.

“We heard they were coming in so we said ‘let’s get onto it and do it straight away, if we are going to have to do it, we might as well do it now’..... I suppose it was partly for the publicity end of it” (Owner, chain restaurant, displaying calories).

“We’re trying to be ahead of the curve and we’re anticipating legislation which would require us to do it anyway” (Head chef, independent hotel restaurant, displaying calories).

Stimulate customer loyalty: A desire to improve relations between business and customers was perceived as a motivating factor for food service businesses in the implementation of calorie posting. The majority of participants believed that being transparent with customers and displaying calorie information would create customer loyalty and result in increasing consumer confidence which may result in creating a competitive edge over similar businesses. Despite this, there was a minority (primarily among single outlet establishment owners not displaying calories) that felt displaying calories would not stimulate customer loyalty and may even result in loss of business as a result of a negative dining experience and product portrayal.

"By declaring calories, you're being open and straight up with the customer; they will have more confidence in you.....they will have more confidence going to your company rather than someone else's company" (Managing director, chain fast food, displaying calories).

"I would look at it to improve my day trade. If we could offer a service of a lower calorie menu by day, it might encourage more.....I believe that it could be positive in generating extra customers" (Owner, chain fast food, not displaying calories).

Impact on dining experience: Some participants not displaying calorie information foresaw a negative impact on dining experience to be an impending barrier to implementation. Logistical concerns were raised over the lack of menu space to display calories and the impact it would have on the aesthetics. Single outlet restaurant owners not displaying calories felt that it would "clutter" the menu and "bring down the standard" of the restaurant and that customers would be "overwhelmed" and "put off" by the large quantity of information. Participants believed that their customers came to their establishment for "an occasional treat" and to enjoy the "taste and flavour of food" as opposed to "just get fed". This negative outlook was observed to a lesser extent among those displaying calories. This may be attributed to the fact that these establishments had incorporated a marketing element in their implementation which was perceived to be a valuable facilitating factor for implementation. In addition, many participants considered their customers to be consciously aware of the dietary quality of food they chose to consume and felt that this impeded implementation. There was a perceived low customer demand for calorie information among fast food establishment owners in particular and they believed that most customers formed food preferences prior to entering their premises. Furthermore, many single outlet restaurant owners

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felt that as they catered for “occasion dining”; customers in this instance were not too concerned about eating particularly “healthy” foods.

“See we are a sit down take-away. When you walk in the door, you know what you are going to get. You are not shocked; you are going to eat chips! You are not coming in here for something with low calories in it; you know what you are coming in for” (Owner, chain fast food, not displaying calories).

“To put the calories on the menu you serve to every customer is ridiculous! It looks silly. This is a fine dining restaurant. You know, we charge a lot of money here so it would kind of bring the menu down. It would make it look less ‘high end’, let’s say..... People don’t come here to watch what they eat, you know. They come here to enjoy themselves and it is more for the taste and the flavours” (Owner/head chef, independent restaurant, not displaying calories).

“When you come here for afternoon tea, it’s a treat, you know, it’s a real treat. You’re going to come, you’re going to have your lovely tea, you’re going to have a glass of champagne and the lovely pastries and scones and so on and so forth so do you really want to know about calories?” (Head Chef, independent hotel restaurant, displaying calories).

Portrayal of product: Apprehension surrounding the negative portrayal of menu items was perceived as a barrier for implementation by the majority of participants not displaying calorie information. It was anticipated that menu items would be branded as “unhealthy” by customers if calories were displayed, which would be off-putting and would have a negative effect on business. Reshaping menus to reduce calorie content was seen to have a positive impact on product portrayal by those displaying calories. In addition, this was perceived to be a critical facilitating factor in overcoming negative product portrayal by those not displaying calories. The most likely way of achieving this was by 1) reformulating recipes and/or 2) reducing portion sizes and/or 3) adding additional “healthy options” to the menu. Furthermore, large chain establishments were facilitated by using marketing tools to enable them to portray products in a way that was not detrimental to business. Some participants, particularly single outlet fast food establishment owners, demonstrated a sense of powerlessness when it came to changing menus as they anticipated customer resistance to change, specifically with regard to portion size, particularly when large portion sizes are seen to be part of their business culture.

"It could be bad for trade....regular customers that you have been getting all the time , if they find out all of a sudden about the calorie content, their mind may just tell them "no"!....We'd just have to start coming up with recipes that are lower in calories" (Owner, chain fast food, not displaying calories).

"Our sandwich has 1,000 calories in it and that is the last thing customers wanted, as soon as they seen that it was like 'wow, didn't realise it was that high'..... so we did reduce certain items in a couple of dishes because when the calories came out, they came out so high" (Owner, chain restaurant, displaying calories).

4.4.4 Consumer nutrition knowledge

While some participants perceived that their customers were broadly aware of the dietary quality of their food preferences, a lack of consumer nutrition knowledge was envisaged as an impending barrier to implementation.

Nutrition education: Some participants were reluctant to invest their time and money into implementing calorie posting as they believed consumers lack the level of nutrition knowledge required to comprehend the calorie information. It was anticipated that consumers may misinterpret calories, causing them to opt for the "lower

calorie" option, rather than the "more nutritious and healthier" option. In addition it was feared that consumers may use calories as a measurement of "value for money" (i.e. that more calories translates to better value for money). Educating the nation from a young age on healthy eating was perceived as a crucial facilitating factor in implementing calorie posting. This was believed to be the responsibility of the government via national health promotion agencies such as SafeFood and FSAI.

"People don't have a breeze when it comes to nutrition....The government need to educate people on what proper nutrition is....like if you ask the general Joe Soap, "how many calories are in the average dinner"?, you know they won't have a clue....If people are not educated to make good food choices, how is putting a number beside each dish going to change that? It is not the way forward. It needs to come from an education background, not forcing people to look at these numbers all the time" (Owner/head chef, independent restaurant, not displaying calories).

"We have loads of young people coming in and they are all looking to spend about five or six euro on lunch and if they see that a chocolate muffin is the same calorific value as a bowl of soup, they don't know that it is not the same nutritional value so they will just have a chocolate muffin and they say 'yeah its only 280 calories'.....they would end up eating something that has much worse nutritional value but the same amount of calories" (Owner, independent cafe, not displaying calories).

4.4.5 Food service businesses recommendations

Among all food service business categories, a number of factors were identified as being central to enabling successful implementation. These included guidance and advice, financial support, easier methods for calorie calculation and providing comprehensive nutrition information. There was a perception that such factors would help alleviate barriers to implementation, specifically with regards to cost, time and accuracy.

Training, guidance and advice: Some participants expressed interest in attending seminars/conferences where they could receive guidance and advice regarding the logistics of how to go about implementing calories. It was anticipated that this would offer reassurance to businesses, primarily

with regard to accuracy concerns. In addition, participants expressed a need to create group cohesiveness with regards to communication and advised that all relevant parties involved in the proposed legislation should partake in open communication and work together in the implementation of calorie posting.

"I would like for the government to consult with us...I would like it to be as thorough as possible with honest and open communication" (Head chef, independent hotel restaurant, displaying calories).

Financial support: All businesses expressed the need for calorie posting to be cost neutral for businesses. As cost was perceived as the greatest impending barrier for single outlet establishment owners, such establishment owners felt there was a need for financial support in the form of grant or tax incentives/breaks. Among those unfamiliar with the FSAI MenuCal, it was suggested that the provision of a free calorie counting service would be beneficial in eliminating the financial burden of hiring an external source or purchasing software to calculate calories.

"It is an expense and it could end up being very expensive and I think there should be some sort of grant.....So if there was something like you register and you get X amount or even the 1st year off, it would encourage people to do it" (Owner, independent restaurant, not displaying calories).

Easier method of calorie calculation:

Those not accustomed with the FSAI MenuCal anticipated that it would be beneficial in alleviating cost concerns and felt that the use of “department approved” software would ease apprehension over accuracy, providing it was user friendly and time efficient. However, those participants that attempted to use the FSAI MenuCal felt that while the software’s principle was good, presently it was not strong enough in terms of its accuracy and labour intensive nature. Concerns were raised over the inability to find particular products in the system, the level of discrepancies between product types and the laborious necessity to replicate data entered previously. Such participants considered it essential for improvements to be made to MenuCal with regards making it more accessible and time efficient before use as a viable calorie calculator tool.

“If there was a program there for us to use where we just punch what is going into that dish and it will calculate the calories, we will go with that. And if it is an approved system it would be great. That way they can’t come back and say ‘oh, your chef is wrong’, because we used their approved system” (Owner, independent restaurant, not displaying calories).

“They have to make it as user friendly as possible, they have to sit themselves down in front of the computer and say ‘right, I’m a chef here; I have like five minutes to do this thing’ (Head chef, independent hotel restaurant, displaying calories).

Education programme to coincide with the implementation of calorie posting:

As participants perceived a lack of consumer nutrition knowledge as a barrier to implementation, they highlighted the need for an ‘education piece’ to be implemented along with the roll-out of calorie posting to ensure that the customers understood the application of calorie posting to food menus.

Comprehensive nutrition information:

The majority of establishments displaying calorie information displayed additional nutrition information alongside it. Among those displaying this information, it was felt that customers sought more than just calorie information alone. Many participants from establishments not displaying calories also believed that there was need to provide additional nutrition information to customers in relation to other nutrients like saturated fat, sugar and salt. It was suggested that a menu traffic light coding system may be more beneficial and more easily understood by customers than calories alone as it allows customers to quickly assess the relative healthiness of menu items using a simple colour coded system.

“Traffic lights would probably be something quick and easy that customers would see, you know and rather than going through and counting up the calories themselves they would have a high calorie, medium calorie, low calorie quick reference menu” (Franchisee, chain fast food, displaying calories).

5. DISCUSSION & CONCLUSION

5. Discussion & Conclusion

5.1 Discussion

In summary, we found a poor level of compliance of calorie posting on menus nationally. A higher proportion of chain food service businesses displayed calories on their menus relative to single outlet owned businesses. Qualitative data highlighted that this may be attributed to the fact that chain businesses tend to have a standardised menu and more resources available to help fund the implementation of calorie posting.

Businesses currently displaying calories have largely implemented calorie posting to portray a positive company image to customers. The main reasons for displaying calories were; 1) businesses felt it was the right thing to do, 2) it helped to promote healthy eating and 3) it enabled customers to make informed decisions. However, less than half of such businesses believed that displaying calorie information had influenced their customers' food choices.

Of those displaying calories, 50% calculated them internally, with the most popular method used being electronic sources. The majority of establishments displayed calories per portion, followed by per meal and most businesses displayed information on menu boards or printed menus.

In addition, the observation visits highlighted calorie display differences within outlets of the same chains. In 7 cases, some individual outlets did not display calories even though the chain business manager/owner reported that calorie posting was implemented throughout their entire chain.

Those not displaying calories mentioned that they have not implemented calorie posting mainly because it was too time consuming and/or too costly for them to do so.

Training and advice from professionals, financial support, easier methods of calorie calculation and the provision of comprehensive nutrition information were perceived as facilitating factors which would encourage calorie labelling implementation among businesses. However, it is important to note that almost one in five businesses said that 'nothing' could entice them to display calories, demonstrating that there may be a lack of support from the food service industry.

This evaluation process has several strengths. Data was collected from a representative sample of Irish food service businesses using an evidence-based mixed methods approach which allowed for a thorough exploration of the uptake of menu calorie labelling in Ireland. Quantitative data obtained during the telephone survey (Phase 1) was self-reported and informed both the observation visits (Phase 2) and the topic guide for the semi-structured

interviews (Phase 3). In Phase 2, observations were conducted which strengthened and validated data obtained in Phase 1. In addition, piloting of all study methods ensured that high quality data was obtained.

Limitations of this evaluation process should also be considered. A number of discrepancies were noted within the data as some businesses that reported to have implemented calorie posting had failed to do so when observed by the research team.

However it is important to mention that for some chain businesses, calorie posting had been recently introduced as a policy and individual chain stores were actively changing and rolling out calorie posting at the time of this survey.

In addition, it was challenging to make contact with some large chain businesses whose head offices were located outside of Ireland. Also, some businesses who were successfully contacted were unwilling to participate in the telephone survey due to company policy.

chain businesses and poorly reflected in single outlet owner establishments. The findings of this evaluation report indicate that providing guidance and support (e.g. training sessions/workshop and tax incentives) and practical assistance (e.g. easy to use and standardised calorie calculation software technologies) is key to ensuring that mandatory calorie posting is implemented successfully. Furthermore, engaging a collaborative approach between policy makers, academics and food service business owners would ease implementation greatly. Menu calorie labelling is an important element of the overall national strategy to combat obesity in Ireland.

5.2 Conclusion

There is currently a poor level of compliance with only 7% of food service businesses claiming to display calories on their menus in Ireland. The proportion of food service businesses displaying calories is primarily reliant on

APPENDICES

Appendix 1: Observation visit form

General Information	Please write in
Study Number if applicable:	
Name of Food Business:	
Category of food business:	<i>Please circle appropriate category</i> (a) Café/coffee shop/deli/ (b) Caterer (c) Convenience store (d) Fast food retail (e) Restaurant (including hotel restaurants) (f) Pub (g) Service station Other (<i>please specify</i>) _____
Location:	
Setting:	
Principle 1: Calorie information provided on ALL standard food and drink items sold	Please tick (✓) if present and mark with an X if not present and N/A if not applicable.
Calorie content provided on ALL non, pre packaged standard food and drink items sold	
Calorie content provided on SOME non, pre packaged standard food and drink items	
Calorie content provided on NO non, pre packaged standard food and drink items	
Calorie content provided on ALL non, pre packaged standard food items sold	
Calorie content provided on SOME non, pre packaged standard food items	
Calorie content provided on "customised" food and drink items e.g. made to order sandwiches	
Calorie content provided for "limited period" food items e.g. menu of the day	
Calorie content provided for "meal deals" or "combo meals"	
Principle 2: Calorie information displayed clearly and prominently at the "point of choice" for the consumer	Please tick (✓) if present and mark with an X if not present and N/A if not applicable.

APPENDICES

<i>Calorie information is provided alongside:</i>	
(a) the description of the menu item	
(b) the price of the menu item (in same size font)	
(c) the price of the menu item (not in same font size)	
Calorie information is provided prior to ordering menu items	
<i>Calorie information is provided on:</i>	
(a)Printed menu	
(b)Menu board	
(c)Chalk board	
(d)Leaflets	
(e)Other (please specify)	
Calorie information is provided at every possible “point of choice”	
Principle 3: Calorie information provided per portion or per meal	Please tick (✓) if present and mark with an X if not present and N/A if not applicable.
Calorie information is provided per portion	
Calorie information is provided per meal served	
Calorie information is provided in another format , please specify	
Principle 4: Information on how many calories an average person needs in a day given to help consumers “make sense” of calories on menus	Please tick (✓) if present and mark with an X if not present and N/A if not applicable.
Information on display indicating how many calories an average person needs in a day	
Calorie requirement information provided to customers prior to ordering of menu items	
<i>Calorie requirement information displayed on:</i>	
(a)Printed menu	
(b)Menu board	
(c)Chalk board	
(d)Leaflets	
(e)Other (please specify)	
Any other comments	

Appendix 2.1 Topic guide for food service businesses displaying calorie information

Topic Guide for Managers who are displaying calories

Firstly, I would like to thank you for taking the time to talk to me. My name is and I am a research assistant with the Department of Epidemiology and Public Health. I would like to briefly explain the rationale for the interview and, if you are happy to continue with the interview, I will ask you to sign a consent form before we commence the interview.

Rationale: *The aim of this research is to investigate the uptake of voluntary calorie posting from a representative sample of food service businesses in Ireland, to understand the underlying barriers and facilitators in the uptake of calorie labelling and to appreciate the personal opinions and experiences of food service businesses that apply calorie labelling and inform any further action.*

Duration of Interview: *The interview will take approx. 1 hour and I would just like to check a few details before we get started.*

- *Would you mind if I record the interview? Anything we discuss will be confidential and your identity will remain anonymous on any reports or publications. Finally you can stop the interview at any point, if you wish. Do you have any questions before we get started?*
- *Go through the consent form, sign and give copy.*

Before we start the recording, may I ask you to confirm your position within the company and how long you have been working in this role?

When you start recording: outline the following:

This is interview one recorded on (Date/Time)

Opening Question:

Firstly I would like to get an understanding of your views on calorie labelling on menus? What is your opinion of calorie labelling on menus (do you agree or disagree with the concept?)

A) Motivation behind implementation of calorie labelling

If calorie information is displayed on menu items, please ask the following questions:

- 1) What motivated you/your company to introduce calorie information on your menu items?
 - Who was involved in this decision? Was it solely your decision or a group decision?
 - Who did you/the company seek advice from?
 - How long did you/the company think about implementing before taking action?
- 2) When making this decision, what did you/your company consider being the potential benefits of introducing calorie labelling? What did you consider to be the potential risks?
 - Business process, staff and consumer perspectives
 - What did you worry about when making the decision to implement?

B) Logistics of Calorie Labelling

Now I would like to move on to talking about your/your company's experience around introducing calorie information on menu (having made the decision to do same).

1) What steps were taken to operationalise the posting of calorie information?

- Who was tasked with overseeing this project? Why was this person/people selected?

2) Were information sources used when creating the calorie labels: Why were these information sources used? Which were useful? Which would you/your company use again?

Probes (if needed):

1. Was a nutritionist hired to help calorie profile each food? If yes, how was this person identified? Why choose this route to implement calorie labelling?
2. Did you or any other staff get training on how to calorie profile meals? If yes, why was it decided to get this training? Who provided this? What was the focus of this training and was it valuable? If not, why not?
3. Did you/the company seek specific advice from experts (unpaid)/others who had already introduced such information? What type of information and why did you/the company go to these sources? Was it useful?
4. Did you/the company use any on-line tools/technology to help in the calculation of calories? If so, what were they? Are you aware of the FSAI MenuCal? Have you/any other staff member used this? What did you/other staff think of it?

3) When introducing the information were specific dishes selected to trail the approach or were all dishes calorie profiled at the same time? Why was this approach taken?

- Was the calorie information applied to all food and drinks on the menu in the same manner?
- Did you/the company encounter any difficulties when applying calories to different menu options e.g. specials, made to order items?

4) How long did it take to create this calorie information? Could it have been done more quickly? Why?

- Did it impact on your current recipes and menus? Did it affect them? Was it necessary to standardise and document recipes prior to applying calorie labelling? Was this possible to do?

5) What costs were involved in implementing calorie labelling?

- Approximately how much did it cost the business overall?
- What were the sources of this cost (and relative contribution of each cost source)?
- Will there be on-going costs?
- Has displaying calories had any effect on your profit margins within the business?

6) As a result of providing this information to your customers have any of the following changed: (1) practices in the kitchen and in the ordering of food (2) the information required from suppliers (3) the range and types of food offered to your customers?

- Why were these changes necessary?
- Will any more changes be made to your practices and your menu as a result of having displayed calorie information? Why?

7) How confident are you/the company in the accuracy of the calorie information provided?

- What procedures are now in place to update calories on new/amended menu items? Who is responsible for this?

C) Attitude and perception of calorie labelling

1) Looking back, to what extent did the risks/benefits (pros and cons) envisaged in making these materialise (from a business process, staff and consumer perspective)?

- Why do you think this was the case?
- Did you encounter any unexpected benefits/drawbacks from implementation?

2) How did your customers react to the calorie labelling?

- Do you think your consumers read/understand this information? Does it influence their food choice? How? Would some rather it not be displayed?

3) Do you think food service businesses should provide more than just calorie information to consumers?

- Do you think there is need to display “daily calorie needs” or other nutritional information in addition to calories? Why? Where should this information be displayed? What do you think the benefits/drawbacks of this are?

4) Are you familiar with traffic light displays as a means of displaying additional nutrient information like saturated fats, sugars, salt of menu items?

- Do you think this would be beneficial to consumers?
- Do you think this type of display would be understood by consumers/influence their choice?

5) If you were commencing the process of calorie profiling again, what would you do differently?

- Why?
- What were the main challenges?
- What facilitated the process?

6) If giving advice to a friend in the food service business who wanted to implement calorie labelling, what would you suggest they do?

- Why?

7) What advice would you give a government agency tasked with providing support to food service providers in the implementation of calorie posting?

- What type of support would you like to see them provide? Why?
- What do you think could be done to assist food service businesses in applying calorie labelling?

Debriefing/conclusion

- 1) Comment briefly on the main points of the discussion and ask interviewee if this is the case.
- 2) Thank the interviewee for their time and effort and ask if they have any questions or anything more to add.
- 3) Conclude the interview if there is no further questions and reassure participant around the issues of confidentiality, anonymity and privacy and state that findings will not reveal personal details.

Appendix 2.2: Topic guide for businesses not displaying calorie information

Topic Guide for Managers who do NOT display the calorie content of menu items

Firstly, I would like to thank you for taking the time to talk to me. My name is and I am a research assistant with the Department of Epidemiology and Public Health. I would like to briefly explain the rationale for the interview and, if you are happy to continue with the interview, I will ask you to sign a consent form before we commence the interview.

Rationale: *The aim of this research is to investigate the uptake of voluntary calorie posting from a representative sample of food service businesses in Ireland, to understand the underlying barriers and facilitators in the uptake of calorie labelling and to appreciate the personal opinions and experiences of food service businesses that apply calorie labelling and inform any further action.*

Duration of Interview: *The interview will take approx. 1 hour and I would just like to check a few details before we get started.*

- *Would you mind if I record the interview? Anything we discuss will be confidential and your identity will remain anonymous on any reports or publications. Finally you can stop the interview at any point, if you wish. Do you have any questions before we get started?*
- *Go through the consent form, sign and give copy.*

Before we start the recording, may I ask you to confirm your position within the company and how long you have been working in this role?

When you start recording: outline the following:

This is interview one recorded on (Date/Time)

Opening Question:

Firstly I would like to get an understanding of your views on calorie labelling on menus? What is your opinion of calorie labelling on menus (do you agree or disagree with the concept?)

IF YOU DO NOT HAVE CALORIE POSTING IN PLACE BUT ARE CURRENTLY PREPARING ITS IMPLEMENTATION, PLEASE ASK THE FOLLOWING QUESTIONS:**A) Motivation behind preparing to display calorie labelling**

- 1) What has motivated you/your company to prepare calorie information on your menu items?
 - Who was involved in this decision? Was it solely your decision or a group decision?
 - Who did you/the company seek advice from?
 - How long did you/the company think about implementing before taking action?
- 2) When making this decision, what did you/the company consider being the potential benefits of introducing calorie labelling? What did you consider to be the potential risks (pros and cons)
 - Business process, staff and consumer perspectives
 - What are you/the company worried about regarding the implementation? Why?

B) Logistics of Calorie Labelling

Now I would like to move on to talking about your experience around preparing calorie information for your menu

1) What steps were taken to operationalise the posting of calorie information?

- Who is overseeing this project? Why was this person selected?

2) Where do you think you will get the necessary information from to create the calorie labels? Why do you think you will use this information source? If in the process of using a particular source, do you find it useful and would you recommend this source?

Probes (if needed):

- Do you think you will hire/are you hiring a nutritionist to help calorie profile each food? If yes, how will/did you identify this person? Why have you chosen this route to implement calorie labelling?
- Will/have you or your staff members undertake/undertaken training on how to calorie profile meals? Why? Who provides this? What is the focus of this training and is it valuable? If not, why not?
- Will/have you seek/sought specific advice from experts (unpaid)/others who had already introduced such information? What type of information and why will/have you gone to these sources? Is it useful?
- Do you think you will use/are you using any on-line tools/technology to help in the calculation of calories? Are you aware of the FSAI MenuCal? What did you think of it?

3) Do you plan to trial your approach with specific dishes or will you calorie profile all dishes at the same time? Why will/are you take/taking this approach?

- Do you intend to apply calorie information to all food and drink items in the same manner?
- Do you envisage any difficulties with different menu options like specials or made to order items?

4) How long do you think it will take you to create this calorie information?

- Why?
- What are you finding the most time consuming?
- Do you think it will impact on your current recipes and menus? Do you think it will affect them? Do you think you will need to standardise/document recipes prior to calculating?) Do you think this would be possible in your establishment?

5) What costs do you think will be involved in implementing calorie labelling?

- Approximately how much do you think it will cost the business overall?
- What are the sources of this cost (and relative contribution of each cost source)?
- Will there be on-going costs?
- Do you think displaying calories will have an effect on your profit margins within the business?

6) As a result of providing this information to your customers do you think you will have to make any changes to (1) practices in the kitchen and in the ordering of food (2) the information you require from suppliers (3) the range and types of food you offer your customers?

- Why do you think these changes will be necessary?

7) How confident are you that the calorie information will be accurate, once calculated?

- Have you thought about how you will update calories on amended items?

8) What are the main challenges you are facing in implementing calorie labelling?

- What are you doing to overcome these challenges?

IF YOU DO NOT HAVE CALORIE POSTING IN PLACE AND CURRENTLY ARE NOT PREPARING ITS IMPLEMENTATION, PLEASE ASK THE FOLLOWING QUESTIONS:

C) Motivation NOT to provide calorie information

1) What influenced your decision to not implement calorie posting on your menu?

- Have you considered implementing at any stage?
- Have you ever sought advice from anyone regarding the matter?
- Do you believe that your menu offers healthy options? Do you have any thoughts on how many calories are in your menu options?

2) What do you consider to be the potential benefits of introducing calorie labelling? What are the positional risks?

- Business process, staff and consumer perspective
- Do you have concerns over its application?

D) Logistics of Calorie Labelling

Now I would like to move on to talking about what you think implementing calorie labelling would involve.

1) If you were to go down the route of calorie posting, how do you think you would go about getting the necessary information to create the calorie labels?

- Who would you ask for advice?
- Would you create calorie labels internally, or would you source external help?
- Are you aware of any on-line tools/technology which can assist in calorie calculation? Are you aware of the FSAI MenuCal? Have you tried it/what did you think of it?

2) How much work do you think would be involved in implementing calorie posting in your establishment?

- How much time would you think would be needed to implement? Why? Would you need to standardise and document recipes prior to applying calorie labelling? Do you think this would be possible in your establishment?
- What would you envisage the cost to be? What would be the sources of this cost?

3) If you were to provide calorie information to customers, do you think it would be necessary to alter (a) current kitchen practices and/or (b) recipes/menus?

- Why would these changes be necessary?
- Do you think it would be difficult to keep calorie information accurate/up to date?

The following questions are directed at all interviewees

E) Attitudes and Perception of Calorie Labelling

- 1) What are your thoughts on the government's proposed regulation regarding making calorie posting on menus mandatory in all food service outlets?
 - What implications (good and bad) do you think this would have on (a) your establishment, (b) the food industry (c) consumers?
- 2) How do you think consumers would react/respond to the calorie labelling?
 - Do you think consumers read/understand this information? Do you think it influences their food choice? How? Do you think some consumers would rather it not be displayed?
- 4) Regarding nutrition labelling, do you think it is necessary to provide more than just calorie information to consumers?
 - Do you think there is a need to display "daily calorie needs" or other nutritional information in addition to calories? Why? Where should this information be displayed? What do you think the benefits/drawbacks of this are?
- 5) Are you familiar with traffic light displays as a means of displaying additional nutrient information like saturated fats, sugars, salt of menu items?
 - Do you think this would be beneficial to consumers?
 - Do you think this type of display would be understood by consumers/influence their choice?
- 3) What advice would you give a government agency tasked with providing support to food service providers in the implementation of calorie posting?
 - What type of support would you like to see them provide? Why?
 - What do you think could be done to assist food service businesses in applying calorie labelling?

Debriefing/conclusion

- 1) Comment briefly on the main points of the discussion and ask interviewee if this is the case.
- 2) Thank the interviewee for their time and effort and ask if they have any questions or anything more to add.
- 3) Conclude the interview if there is no further questions and reassure participant around the issues of confidentiality, anonymity and privacy and state that the findings will not reveal personal details.

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