

Executive summary

Volume 2 Nutrition-related behaviour on the island of Ireland

This report:

1. Gives an account of the major public health nutrition issues on the island of Ireland and explains the related behaviours
2. Outlines food behaviour research conducted on the island of Ireland to date and describes research carried out by *safefood* for the purposes of the report.
3. Identifies research gaps and communication priorities.

In the past 150 years, industrialisation, urbanisation, commercialisation and social changes have transformed the social and economic landscape on the island of Ireland (IOI). Much of the current legislation, policy and structure in public health nutrition is influenced by this historical landscape and in particular by the growing comprehension of the link between diet and health during the same period. With this revolution came a transformation of the often meagre, monotonous diets of the population into the highly diversified and ample diets of today. This has resulted in the population changing from being largely undernourished to a situation where approximately two thirds of the population is overweight. In response to this evidence, since 1990 there have been significant developments on the IOI in relation to research, policy and infrastructure to promote better nutritional health among consumers.

Current public health nutrition issues on the island of Ireland

Changes in lifestyles and finances in recent decades have resulted in a shift in eating patterns, a breakdown of traditional eating habits and the availability of high energy foods. In the UK and the ROI, overconsumption of food is now the norm and a high rate of lifestyle associated diseases such as cardiovascular disease (CVD), diabetes and cancer is apparent.

In response, like in most countries, health authorities in the UK and Ireland set population dietary goals for macronutrients and certain micronutrients aimed at preventing long-term NCDs. These are also used as a reference to monitor dietary changes at a population level through surveillance. Table 1 outlines details of current foods and nutrient intakes of specific population groups compared to national guidelines. The level of achievement of various dietary recommendations across different population groups on the IOI is summarised in Table 2. Currently, many of the population dietary targets are not being met.

Imbalances in dietary intake have many health consequences including excess weight, obesity and increased risk of NCD. With being overweight and/or obese regarded as the 'norm' among adults, coupled with an increasing prevalence among children and adolescents, excess weight has become the most important public health nutrition issue of our time. Tackling this issue is particularly important given that excess weight is a risk factor for many of the other NCDs. At an individual level NCDs impact hugely on health and quality of life. Five of the top seven leading risk factors for ill health in Europe, including the IOI, are diet-related and include blood pressure, alcohol, cholesterol, high body mass index, and low fruit and vegetable intake.

With dietary imbalances having a strong impact on NCD it is not surprising that they have a major economic cost on the IOI. For obesity alone the direct health costs in the ROI in 2004 were €13.3 million with estimated indirect costs of €4 billion per year. In the UK, the costs of excess-weight and obesity to the National Health Service has been estimated at £1 billion while the total impact on employment may be as much as £10 billion.

Table 1: Current mean food and nutrient intakes of populations surveyed on the IOI compared to population target (3)

		Actual mean intake of food/nutrient in the different surveys									
Survey title		NCFS	NTFS	NSIFCS	NANS	Low Income Diet and Nutrition Survey					
Region		ROI	ROI	NI & ROI	ROI	UK					
Year of survey		2003/4	2005-6	1997/8	2008/10	2003/5					
Sample size (n)		594	441	1379	1500	3728					
Age group (y)		5-12	13-17	18-64	18-90	2-10	11-18	19-34	35-49	50-64	65+
Food/Nutrient	Target**										
Fruits and vegetables (g/d)	>400	208	200	251	192	M 169	M 145	M 200	M 178	M 257	M 230
						F 202	F 180	F 209	F 195	F 247	F 234
CHO (% energy)	≥50	52	49	44.3	45.5	M 51	M 50.5	M 48.5	M 47.3	M 48	M 47.5
						F 51.5	F 50.4	F 50.1	F 48.1	F 48	F 48.1
Total Fat (% energy)	≤35	34	35.6	35.2	36.9	M 35.9	M 36.4	M 36.2	M 36.4	M 35	M 36
						F 35.3	F 36.3	F 34.8	F 35.5	F 35	F 35.2
SFA (% energy)	≤11%	14.7	14.4	14		M 14.6	M 13.7	M 13.4	M 13.4	M 13.3	M 14.4
						F 14.4	F 13.5	F 13.0	F 13.6	F 13.6	F 14.5
PUFA (% energy)	~6.5%	4.9	5.8	7		M 5.3	M 6.1	M 6.0	M 6.2	M 5.7	M 5.7
						F 5.2	F 6.3	F 6.0	F 6.0	F 5.7	F 5.9
MUFA (% energy)	12%	11.6	12.7	12		M 12.0	M 12.8	M 12.7	M 12.7	M 11.8	M 11.6

							F 11.9	F 12.7	F 11.9	F 11.9	F 11.5	F 11.1
Added (NMES)(g/d)	Sugar	<11%	14.6	12.4	9.3		M 17.0	M 17.2	M 16.2	M 14.8	M 14.5	M 13.1
							F 16.7	F 16.3	F 16.3	F 12.6	F 11.6	F 12.1
Fibre or (g/d)	NSP*	Adults:18 g NSP or 25g fibre Children: Age + 5g	9.4	11.6	14.8	19.2 (fibre)	M 10.1	M 12.6	M 13.4	M 12.2	M 12.9	M 12.3
							F 9.2	F 11.5	F 10.6	F 10.4	F 11.2	F 10.9
Salt (g/d)		<6	4.6 (5-6y)	6.3	10	7.4	M 5.3	M 7.4	M 8.0	M 7.3	M 7.1	M 6.7
		Less for children <10y	4.3 (7-10y) 6 (11-12y)				F 5.0	F 6.2	F 5.5	F 5.3	F 5.3	F 5.0

*NCFS – National Children’s Food Survey (46), NTFS – National Teens’ Food Survey (47), NISFCS – North South Ireland Food Consumption Survey (53); NANS – National Adult Nutrition Survey (50), LINDNS – Low Income National Food and Nutrition Survey (33).

CHO- Carbohydrate; SFA – Saturated Fats, PUFA – Polyunsaturated fats; MUFA – Monounsaturated fats; NMES – Non-milk extrinsic sugars; NSP – Non-starch polysaccharides; M – males; F- females,

** Targets (3) except for Fibre –NSP values given for LINDNS, American Heart Association guidelines for fibre applied in NCFS (57).

Table 2: Broad summaries of the achievement (√) and non achievement (x) of dietary recommendations across different population groups on the island of Ireland

	Children (5-12y)	Teenagers (12+y)	Adults
Fruit and vegetables (>400g)	x	x	x
CHO content (>50% energy)	√	x	x
Added Sugar (<10% energy)	x	x	√
Fat content (≤35% energy)	√	x	x
Total PUFA (<6% energy)	√	√	√
MUFA (12% energy)	x	x	x
Fibre (≥18g/d)	x	x	x
Salt (≤ 6g/d)	x	x	x

Key dietary behaviours of public health concern

Maintaining a healthy weight has a major beneficial effect on protecting individuals from many NCDs. A number of other common dietary-related factors and behaviours are also protective. These include the daily inclusion of 400g fruit and vegetables and other fibre rich foods such as whole grains and oily fish. Selecting appropriate portion sizes and low energy dense foods (i.e. low in fat and calories) is also vital for good health. Choosing mostly plant-based foods supports a lower energy-dense diet and a more favourable balance in terms of fatty acid content in the diet. Choosing fewer processed foods or processed foods with a low salt content is a key behaviour for CVD and certain cancers. In addition to the types of foods chosen, the timing and frequency of consumption of sugary and acidic foods is particularly important for dental health. Eating outside of the home can have an impact on nutritional intake as this food is higher in fat and thus more energy dense. Dietary studies on the IOI in both adults and children have found that many of these protective behaviours are not being practiced. For example, NCFSS shows that 18 per cent of children's energy and 15 per cent of teenagers' energy was from confectionery, snacks and biscuits, while 21 per cent of children's fat intake and 18 per cent of teenagers' fat intake was from confectionery, snacks and biscuits. The recent SLAÁN survey among adults showed consumption of almost four portions a day of foods that are classed as energy-dense, micro-nutrient poor.

Influences on nutrition-related behaviour on the island of Ireland

While the influences of food behaviour are multi-factorial and are derived from the wider environment, social situation and personal factors, much of the research conducted on the island relates only to knowledge, attitudes and perceptions of healthy eating and nutrition issues. In addition, the sampling frames, timing and methods also varied between studies, making direct comparisons between studies and jurisdictions difficult. While there is an attempt here to draw conclusions and make recommendations based on the available information, it must be borne in mind that caution should be applied to interpretations and that findings from one jurisdiction may not apply in another.

Consumers listed food factors such as freshness and taste, social factors such as family preferences, personal factors including a desire to eat healthily and habit, and economic factors such as price as key influencers of food choice. Wider environmental factors were rarely identified or investigated in the research that has been conducted to date.

Barriers to healthy eating on the island included a variety of personal, social and cultural factors; the belief among consumers that their diets are already healthy enough, health fatalism, optimistic bias, taste and a perception that healthy foods taste bad, and the widespread availability of 'treat' foods. Consumers were also challenged by a lack of time and by a feeling that they had low willpower. In

relation to obesity specifically, misperception of body weight among men particularly and among parents of overweight children may mean that current health promotion efforts to reduce obesity may not appear relevant to important target audiences. Equally, a large proportion of normal weight teenagers believe they need to lose weight. Therefore, addressing body weight misperceptions is an important step in promoting healthy body weights on the island.

Nutritional knowledge

Overall, there was a reasonable awareness of what healthy eating means among both adults and children. Large proportions of consumers were able to mention aspects such as 'reduce fat intake', 'eat more fruit and vegetables', 'eat a balanced and varied diet', 'more fibre' and 'less sugar'. However, many people remain unaware of key healthy eating guidelines. Men, or those from manual working groups, had poorer knowledge and may benefit more from intervention.

Attitudes to diet and nutrition

When prompted, key nutritional concerns included fat, saturated fat, salt content of food and body weight. However, nutritional concerns were not top of mind for many consumers and were spontaneously mentioned in surveys by only a small proportion of those interviewed. This may indicate that risks with long term consequences elicit a less acute response compared to those with immediate and perhaps more tangible consequences. This represents a key challenge for those working to change nutrition behaviour.

Current consumer concerns, attitudes, perceptions and barriers to nutrition on the island of Ireland: *safefood* research

To inform this review of consumer food behaviour, *safefood* commissioned research to identify key consumer concerns, attitudes, beliefs and behaviours relating to healthy eating on the IOI. This research aimed to provide additional up-to-date information on the factors that drive eating behaviour and the barriers to behaviour change. A mixed methodology (qualitative and quantitative research) was undertaken. While the data provides some insight into the factors that drive behaviours, the limitations of both qualitative and quantitative research must be borne in mind in extrapolating the findings to the entire population.

The quantitative research, which was carried out by Millward Brown Lansdowne in late 2009, formed part of *safefood's* bi-annual consumer tracking research entitled Safetrak. The questions used reflect previous questions included in *safefood's* Safetrak and aimed to address some of the influences identified in this report. Nationally representative samples of adults aged 15-74 years were interviewed face-to-face, at home in the ROI (n=504) and NI (n =300). The methodology used quota sampling as a basis to ensure the sample was representative of the population on the IOI in terms of age, gender, region, marital status and social grade.

The qualitative research involved a series of six focus groups in a variety of population groups and locations on the IOI. The research aimed to explore factors including knowledge, attitudes, prior experience, social norms, self-efficacy, habit, emotion and contextual factors in relation to healthy eating. It also explored knowledge, attitudes and perceptions around healthy eating, motivations for change and factors participants felt would help them change their current behaviours. The findings are summarised below:

Knowledge

- Consumer understanding of “healthy eating” included aspects such as having a balanced diet, eating more vegetables, fruit and less fatty food. Only three per cent of consumers spontaneously mentioned “not to overeat”.
- Most people (70 per cent) understand that healthy eating provides benefits in terms of staying healthy.
- Television was the leading source of information on healthy eating for consumers.

Perceived importance of healthy eating

- Sixty one per cent of respondents on the IOI (65 per cent in the ROI and 52 per cent in NI)

claimed to think about healthy eating when they choose food.

- Those with third level education were more likely to consider the healthiness of the food before purchasing (71 per cent), those aged 15-25 years were less likely to do so (44 per cent).
- Most consumers were concerned about healthy eating with 79 per cent of respondents in the ROI and 71 per cent in NI acknowledging that healthy eating was very important.
- While the *safetrak* data indicated that maintaining health was a key motivation for healthy eating, the focus group research showed that in reality most individuals attached less importance to long-term health outcomes, compared with short-term outcomes such as mood change or weight loss.

Relevance and meaning of food for consumers

- Food provided many functions that differed by gender; women emphasised meals in the context of feeling full, whereas men conceptualised food as fuel.
- Focus group participants viewed their bodies as vehicles to carry out their daily tasks; going to work, picking up kids, staying well. They did not require their bodies to function at their maximum potential nor did they feel this would be relevant.

Influences on food behaviour

- In addition to consumer knowledge, attitudes and perceptions of healthy eating, the focus group and Safetrak survey revealed several personal factors that influenced the diets of consumers including; life stage and lifestyle, weight control (for women), stage of change, emotional eating, self-regulation, optimistic bias and health fatalism.
- Social influences included familial influences such as shared meals, family preferences, family support and childhood conditioning.
- External environmental influences mentioned by participants included time of day, calendar effects, season and climate.

Perceived need to change and dietary change

- Most respondents perceived themselves to be very or quite healthy (87 per cent).
- Approximately one in four consumers surveyed felt that they needed to make changes

to their diet. Key dietary changes included eating more fruit and vegetables, less 'treat' foods and reducing fat and salt intakes.

- A large proportion of consumers (43 per cent) had never made any changes to their diet with a view to improving health.

Barriers to healthy eating

- Key barriers to healthy eating included time, food preferences, cost, lack of willpower, and the perceived difficulty of making changes.
- Focus group participants also mentioned cost, time and lifestyle and discussed the ready availability of fast foods and convenience foods and felt that the food market is weighted against healthy eating.

Potential promoters of dietary change

- Suggestions by consumers for promoting dietary change included changing the food marketplace to facilitate healthy food choices, involvement in sport and regular medical checks.

Conclusions

On the IOI over the past 150 years, the population's nutrition status has changed from being largely undernourished to a norm of overconsumption. The result is that major public health nutrition issues, particularly obesity and related non-communicable diseases such heart disease, diabetes and cancer are now widespread. Survey data also shows that the diets of both children and adults are often far from ideal with excessive intakes of fat and salt and inadequate intakes of fruit, vegetables and fibre.

While the public health nutrition issues are clear and concerning, from an attitudinal perspective, in general, consumers seem conflicted about healthy eating. Many understand what it means, know about the longer term benefits, find it important and are concerned about nutrition issues. Women, older individuals, those with higher education levels, and from higher socio-economic groups are generally more engaged with healthy eating. Yet, on a day-to-day basis, health is not really the main concern, they have busy lives and food is used sometimes to simply keep going, or for a myriad of other purposes including emotional and social reasons.

Consumers identified a wide variety of barriers to healthy eating included time, food preferences, cost, lack of willpower, and the perceived difficulty of making changes. Focus group participants discussed the ready availability of fast foods and convenience foods and felt that the food market is weighted against healthy eating. Added to this is a widespread perception among consumers that that their diets are already healthy enough and a belief that they can regulate their diet despite opposing influences.

The findings of this report provide new insights and some direction for all those working towards changing food behaviour on the IOI, however many gaps in the evidence base remain. Recommendations for future research and communications are found below.

Recommendations

Research recommendations for nutrition-related behaviour change on the IOI

Knowledge gap	Public health implication(s)	Recommendation/solution
A wide variety of nutrition surveillance surveys using differing methodologies make comparisons difficult.	Difficulty identifying trends in population nutritional health and monitoring change.	<ol style="list-style-type: none"> 1. Develop a co-ordinated, all-island approach to monitoring trends in nutrition related non-communicable diseases and in population dietary intakes. 2. Identify important target groups and develop key communication messages based on the findings of nutrition surveillance data.
No longitudinal studies of public knowledge, attitudes and perceptions relating to nutrition issues using consistent methodologies.	<ol style="list-style-type: none"> 1. Difficulty tracking change. 2. No clear understanding of consumer attitudes. 	<ol style="list-style-type: none"> 1. Co-ordinated approach by agencies to fund a long-term survey. 2. Supporting qualitative research would offer an additional method to gain in-depth insights into consumer behaviour.
Data on influences on food choice on the IOI are mainly limited to studies of knowledge, attitudes and perceptions of healthy eating and nutrition issues.	Lack of data on wide influences such as the economic environment, the media environment, food and built environment and food and health policies may result in over emphasis on promotion of change in individuals rather than the whole eating environment.	Consideration of broad set of influences in the design of research studies on food behaviour on IOI.
The evidence base for food-related behaviour in children and teenagers on the IOI is particularly low and must be	Better understanding and early intervention may results in effective behaviour change.	Studies to gain insight into food related behaviour in this important group with a view to development of

built in order to target these groups effectively.		effective interventions.
Little research on IOI on the development of psychological factors that could build capacity and help prevent obesity.	Factors such as low resilience, low self esteem, optimistic bias and health fatalism may affect an individual's ability to make healthy food choices.	Development of multidisciplinary studies to design interventions to tackle psychological factors, particularly in vulnerable groups such as low income women.
Growing evidence of widespread misperception of body weight but poor understanding of how to overcome this.	<ol style="list-style-type: none"> 1. Body weight misperception presents and important barrier to obesity-related behaviour change. 2. While realistic body weight perception may motivate girls to eat healthily, misperceptions of body weight among normal weight girls may result in unnecessary body weight concerns. 	<ol style="list-style-type: none"> 1. Studies to investigate effective methods to promote realistic perception of body weight. 2. Research is warranted as how best to communicate and motivate young women to eat healthily while maintaining positive body image.
Men have been identified as a vulnerable group but effective means to promote behaviour change within this group on the IOI deserves further study.	Better understanding of food-related behaviour in men may result in effective behaviour change.	<ol style="list-style-type: none"> 1. Effective methods to promote behaviour change in men should be explored including the use of sports or physical activity involvement as a vehicle, the role of the GP, incorporating elements of competition, the role of women as influencers and food providers and identification of key settings. 2. For boys, further understanding of the link between physical activity/sports participation and healthy eating is necessary.
The use of social media on the IOI has expanded enormously in recent years but its use in promotion of food-related behaviour change remains	Great potential to reach large audiences and inaccessible audiences, such as young men and women.	Development of evaluation studies for the use of social media in food-related health promotion.

untapped.		
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Recommendations for communication of nutrition-related behaviour change on the IOI

Priorities for communication/intervention	Public health implication(s)	Recommendation/solution
Highlight the importance of public health nutrition issues in preventative health.	Improve potential for the prevention of non-communicable disease.	<ol style="list-style-type: none"> 1. Communicate research results and evaluation of behaviour change programmes to policy makers, stakeholders and the public. 2. Develop media advocacy programmes.
Those from lower socioeconomic groups and with lower education status should be key targets for healthy eating initiatives.	Targeting of most vulnerable groups for health improvement/disease prevention.	<ol style="list-style-type: none"> 1. Develop a co-ordinated approach to tackling food poverty. 2. Development of appropriate initiatives that are designed to effectively target these groups.
The family should remain a key target group for nutrition messages due to the importance of familial influences and early conditioning.	Potential for long-term positive influence.	Further development of healthy eating initiatives and resources appropriate for families.
Continued emphasis should be put on improving nutrition knowledge among the public. Men and those from low-income groups should be targeted in particular.	While knowledge alone will not change behaviour, knowledge is an important antecedent of behaviour change.	Continued campaigns to raise awareness of healthy eating, particularly in key target groups.
The rarity of unprompted mention of nutrition-related concerns indicated that continued effort must be made to ensure the relationship between food and health becomes top of mind for consumers.	A more realistic understanding of the relationship between food and health may promote positive behaviour change.	Messages that focus on encouraging the public to examine their eating and reflect on possible changes.

Psychological factors such as health fatalism, optimistic bias, a perception of low willpower and emotional factors should be considered in the development of nutrition messaging, particularly in low income groups.	Overcoming barriers to healthy eating.	Development of interventions.
A lack of awareness of body weight status appears to be a major barrier to weight loss, particularly in children and in men, and deserves focus in obesity behaviour change programmes.	Overcoming barriers to behaviour change.	Development of public messages.
Behaviour change efforts that move people from pre-contemplation to contemplation, may be key.	Increase relevance of behaviour change.	1. Development of resources and tools for individuals. 2. Development of public message.
Relevance of long-term consequences of unhealthy eating is low.	Improve potential for behaviour change.	Promote understanding and relevance of long-term consequences of unhealthy eating.
Acknowledge key influences and barriers such as vulnerable times of day (evening eating), calendar effects (weekend and holiday), time, cost, lifestyle, availability of fast and convenient food, should be considered.	Overcoming barriers to behaviour change.	Consider important influences and barriers in the development of healthy eating programmes.
Promotion of healthy body weight should be communicated differently to each sex. Males in particular do not perceive being overweight as a problem. Parents widely misperceive	Targeting may improve effectiveness of behaviour change programmes.	Development of effective campaigns to overcome misperception of body weight in key target groups is essential in tackling obesity.

their children's body weight.		
The mass media remains an important channel for communicating nutrition messages.	Potential for awareness-raising among large population group.	Continued use of the mass media to promote behaviour change.
Key settings for the promotion of behaviour change include schools and workplaces	Target group through existing structures.	Targeted at specific groups.
Social media and mobile communications present potentially important new media for the promotion of behaviour change.	Improved reach for behaviour change message and consumer engagement.	Develop social media campaigns to promote behaviour change.