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Comparing the effectiveness of simplified food labelling schemes

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Declaration of interests

'The Centre will not accept funding from manufacturers or retailers of: a) food and drink…'

http://www.ndph.ox.ac.uk/bhfcpnp/about/what-we-do/funding-policy-updated-aug-2015.pdf
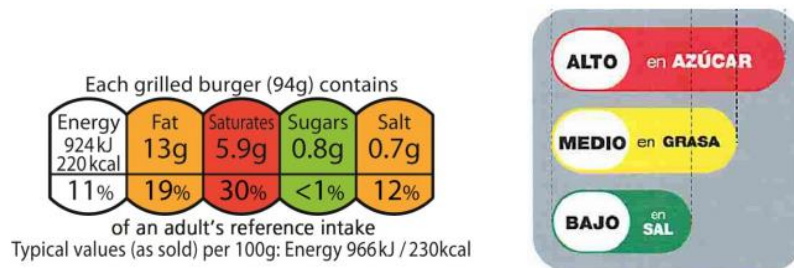
Outline

- What do we mean by simplified food labelling schemes?

- What can we say about impact?

- Front of Pack food Labelling: impact on Consumer Choice (FLICC) study

  – Background, Methods, Results, Discussion

- Summary: impact on purchasing behaviour is not the same as impact on health

Supplementary (interpretative) nutrition labelling

	Underlying nutrient profile models
Nutrient specific systems	• <u>Nutrients kept separate</u> • Thresholds set for each nutrient
Summary indicator systems	• <u>Nutrient levels combined to give overall rating</u> • Thresholds for combined score for half star, one star etc.; for green, for yellow etc.

Health/nutrition claims and warnings

Health/nutrition claims	Underlying nutrient profile models
Nutrient specific systems	• Nutrients kept separate • Thresholds set for each nutrient
Summary indicator systems	• Nutrient levels combined to give overall indication of healthiness • Thresholds for one or more nutrients combined by AND/OR etc.
Health/nutrition warnings	
Nutrient specific systems	• Nutrients kept separate • Thresholds set for each nutrient
Summary indicators systems	• Nutrient levels combined to give overall indication of unhealthiness • Thresholds for one or more nutrients combined by AND/OR etc.

# Two aspects to simplified food labelling schemes

- The design/format
- The underlying nutritional criteria/ the nutrient profile model

What do we know about effectiveness of simplified food labelling schemes?

Richard H

- What do we mean by an effective scheme?
  - More informative?
  - More persuasive?
- Impact upon whom?
  - Consumers
  - Food producers
- Impact upon what?
  - Knowledge attitudes (cognition), behaviour, health
  - Reformulation, introduction/withdrawal of products

A logic model
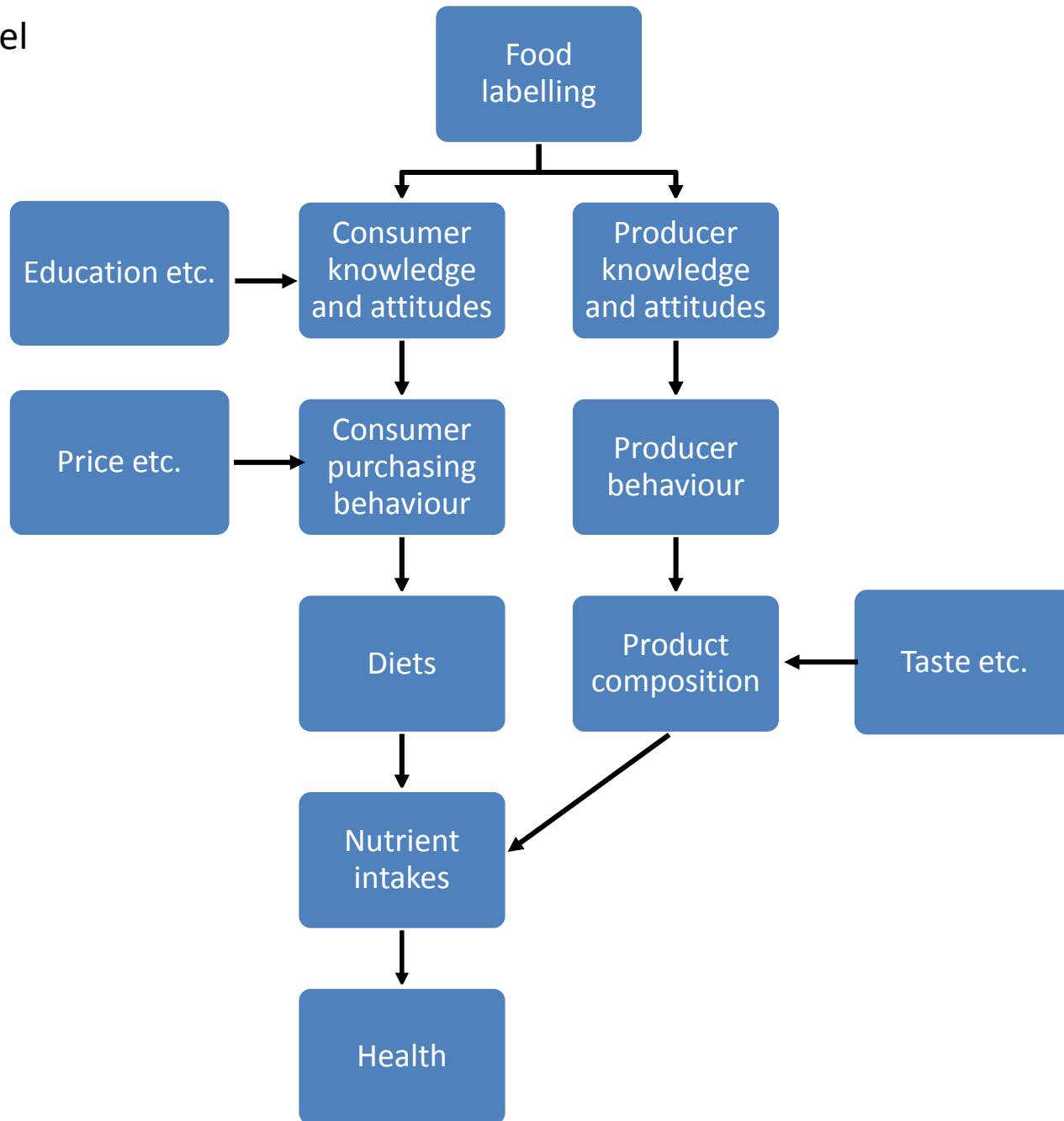
Problems with studies of impact

- Self-reported behaviour (etc) v actual behaviour
- Observational studies v experiments
- Experiments in laboratories v experiments in real-life

What do we know about impact?
Some important questions.

On consumers
- What is the impact of the six types of simplified food labelling on consumer knowledge, attitudes (cognition); purchasing, consumption (behaviour); and health?
- How is this impact affected by personal characteristics (socio-economic status, etc.) and other determinants of food choice (price etc.)?

On producers
- What is the impact of the six types of simplified food labelling on producer behaviour (reformulation) and how is this impact affected by other determinants of producer behaviour?

Author	Review type	No. studies	Publication dates of included papers	What types of food labelling are included?
Baltas, 2001	Narrative review	Refers to 55	Not stated	BoP NI, Summary nutrition/health logos, Nutrition and health claims
Cowburn & Stockley, 2005	Systematic review	103	Until June 2002	BoP NI, Summary nutrition/health logos,
Drichoutis et al, 2006	Narrative review	Refers to 100	Not stated	BoP NI
Grunert & Wills, 2007	Systematic review	58	2003-2006	BoP NI, FoP NI, Summary nutrition/health logos, Health and nutrition claims
NiMhurchu & Gorton, 2007	Systematic review	16	Until mid-2005	BoP NI, Summary nutrition/health logos, nutrition claims
Campos, et al, 2011	Systematic review	120	Until 2010	BoP NI, FoP NI, Summary nutrition/health logos, nutrition claims
Hieke & Taylor, 2012	Systematic review	47	Until 2011	BoP NI, FoP NI, Summary nutrition /health logos, Health and nutrition claims
Hawley et al, 2012	Systematic review	28	2004-Feb 2011	FoP NI, Summary nutrition/health logos
Vyth et al, 2012	Structured (not systematic) review	31	1990-Feb 2011	FoP NI, Summary nutrition/health logos
Graham, et al,	Narrative review	9	Until 2011	FoP NI
Crockett et al, 2011	Cochrane systematic review	28	Until July 2017	BoP NI, FoP NI, Summary nutrition/health logos, Health and nutrition claims

Source: Cowburn G, PhD thesis, 2017 (partially updated)
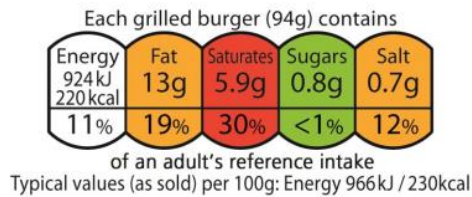
Front-of-Pack food Labelling: impact on Consumer Choice (FLICC) study

Background

- Traffic-light labelling first recommended by the UK Government in 2006

- Now found on a estimated 60% of packaged foods

- Very few (methodologically weak) studies of its impact on consumers

- A study to address

Problems with studies of impact

- Self-reported behaviour (etc) v actual behaviour
- Observational studies v experiments
- Experiments in laboratories v experiments in real-life

Collquborators

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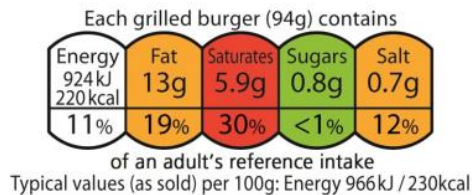
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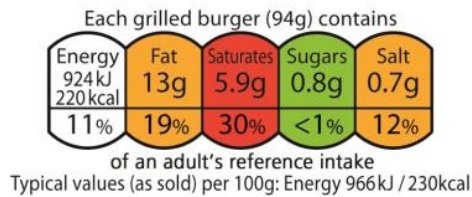
Methods

- Two-arm randomised controlled trial

- Web-based intervention to increase consumer use of traffic light labelling incorporating a number of behavioural techniques

- Supermarket loyalty card data to:
  - recruit participants (n=496),
  - provide tailored feedback as part of intervention
  - measure outcomes

- Primary outcome measure: the healthiness of ready meals and pizzas purchased during (T1) and immediately after (T2) the intervention

A Healthy Diet Labels Ready Meals / Pizzas Your Shopping Your task Review Account

Your Shopping - History

FEEDBACK 2

Here is a breakdown of the ready meals and pizzas that you have bought over the past six months.

| Product	Traffic Lights*	Number of times bought
Thin & Crispy Pepperoni Pizza	Fat High / Sat High / Sugar Med / Salt High	2
Thin Pepperoni Pizza	Fat Med / Sat High / Sugar Low / Salt High	1
Thin Ham & Pineapple Pizza	Fat Med / Sat Med / Sugar Low / Salt High	5
Thin & Crispy Ham & Pineapple Pizza	Fat Med / Sat Med / Sugar Low / Salt Med	2

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*Please note, the traffic light label information may have changed since this table was compiled.

What do the icons mean?

Key	Value
	Ready Meal
	Pizza
*	Frozen

Next - What we want you to do
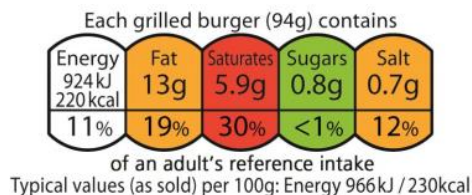
Results

n = 496	Average healthiness of ready meals and pizzas		
	T-1 Mean (SE)	T1 Mean (SE)	T2 Mean (SE)
		Intervention period	Follow up period
Control	0.561 (0.008)	0.561 (0.009)	0.557 (0.010)
Intervention	0.582 (0.008)	0.581 (0.010)	0.555 (0.009)
p*	0.116	0.315	0.594
Missing data due to zero purchases of ready meals and pizzas**	111	258	196
Missing data due to withdrawal**	0	3	3

Primary outcome measure results – healthiness of ready meals and pizzas purchased by intervention and control arms in three study phases NB: Healthiness score range between 0 and 1, with higher score indicating healthier food purchases
* Results of ANCOVA comparing intervention and control adjusted for sex and dependent children at T-1, and sex, dependent children and healthiness of ready meals and pizzas purchased at T-1 at other time points.
** Multiple imputation using stochastic regression with sex and dependent children as predictors was used to replace missing data in analyses.
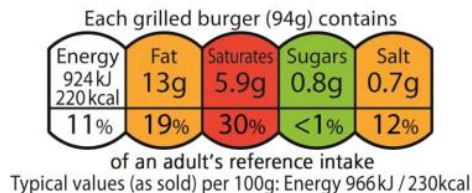
Results without imputation

n = 496	Average healthiness of ready meals and pizzas		
	T-1 Mean (SE)	T1 Mean (SE)	T2 Mean (SE)
		Intervention period	Follow up period
Control	0.559 (0.009)	0.551 (0.014)	0.557 (0.010)
Intervention	0.585 (0.009)	0.590 (0.015)	0.555 (0.009)
p*	0.0512	0.0302	0.9087
Missing data due to zero purchases of ready meals and pizzas**	111	258	196
Missing data due to withdrawal**	0	3	3

* Results of ANCOVA comparing intervention and control adjusted for sex and dependent children at T-1, and sex, dependent children and healthiness of ready meals and pizzas purchased at T-1 at other time points <u>on a complete case basis.</u>
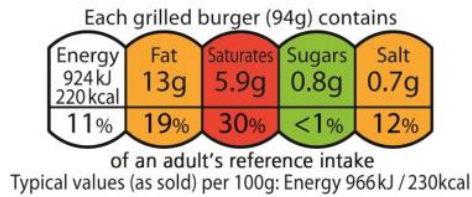
Discussion

- The intervention was not effective

- Supermarket loyalty card data can be used for recruitment, interventions and outcome measurement in RCTs

- It might be possible to use supermarket loyalty card data for the delivery of low cost interventions to change food purchases

Different types of simplified food labelling compared

			Impact on Consumer purchasing behaviour	Impact on health
FOP nutrition labelling	Nutrient Specific		+	+
	Summary Indicator		++	++
Health and nutrition claims	Nutrient Specific		++	-
	Summary Indicator		++	±
Health and nutrition warnings	Nutrient Specific		+++	+
	Summary Indicator		+++	±