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Effect of physical activity calorie equivalent (PACE) labels on food purchased in worksite cafeterias

Submission date
22/03/2021

Recruitment status
No longer recruiting

Registration date
30/03/2021

Overall study status
Completed

Last Edited
10/04/2024

Condition category
Nutritional, Metabolic, Endocrine

[X] Prospectively registered

[X] Protocol

[_] Statistical analysis plan

[X] Results

[_] Individual participant data

Plain English summary of protocol

Background and study aims

The number of people who are overweight or obese has been increasing in the UK, which contributes to high rates of type 2 diabetes, heart disease and numerous cancers. As up to 20% of calories are purchased at work, this is a good venue to create a healthier food environment and help people improve their diets. One approach to reducing excess energy intake has been to add calorie labels on food and drinks to inform people about the amount of energy (referred to below as calories) in each product. An alternative to only providing calorie labels is to convert calorie information into the physical activity needed to expend the energy in that product. These labels, known as Physical Activity Calorie Equivalent (PACE) labels, typically include an image to highlight the type of physical activity – usually walking – together with information on how much of this activity is required. This study aims to test the impact of a PACE label intervention on the number of calories that are purchased in worksite cafeterias.

Who can participate?

Worksite cafeterias

What does the study involve?

The intervention involves displaying PACE labels on or near (i.e. along shelf edging, on tent cards placed next to products, or on menus) foods belonging to selected categories, including main meals, sides, sandwiches, desserts, bakery, savoury, confectionery, and cold drinks. The PACE label will depict an image of a figure walking, together with the number of minutes of walking required to expend the calories contained within the product. The calorie content of the product will also be displayed on the PACE label.

To test if the PACE label intervention is effective, 10 worksite cafeterias will receive the intervention after a baseline period in which the worksite cafeterias are operating as usual. After the intervention has been implemented, the researchers aim to detect whether it resulted in fewer calories being purchased across the 10 sites. These results will help us determine if PACE labels might help people reduce the number of calories that they consume in the workplace.

What are the possible benefits and risks of participating?
There are no foreseeable risks in taking part. Similarly, there are no specific benefits of taking part.

Where is the study run from?
University of Cambridge (UK)

When is the study starting and how long is it expected to run for?
April 2020 to June 2021

Who is funding the study?
Wellcome Trust (UK)

Who is the main contact?
Dr James Reynolds
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Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Study information

Scientific Title
Effect of physical activity calorie equivalent (PACE) labels on energy purchased in cafeterias: a stepped-wedge randomized controlled trial

Study objectives
PACE labels reduce energy purchased relative to no labels.

Ethics approval required
Old ethics approval format

Ethics approval(s)

Approved 08/12/2020, Cambridge Psychology Research Ethics Committee based at the University of Cambridge (School of the Biological Sciences, 17 Mill Lane, Cambridge, CB2 1RX, UK; +44 (0)1223 766876; Cheryl.Torbett@admin.cam.ac.uk), ref: PRE.2020.105

Primary study design
Interventional

Study design
Multicentre randomized stepped-wedge cluster design

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Excess energy intake in working-age adults

Interventions
A stepped-wedge design (Campbell & Walters, 2014) will be used, with each of the sites randomly allocated to the time at which they implement the PACE label intervention.

Weeks 1 to 4 will comprise the minimum baseline period during which time data will be recorded without any intervention. This will be followed by a period of 8 weeks during which the interventions will be introduced – in an order determined by randomisation - and maintained until the end of the trial period.

The PACE label intervention will be introduced in week 5 at the first two sites. After this, two sites per week will introduce the intervention. The interventions will be maintained until the end of week 12 when data collection ends across all sites. This means baseline and intervention periods last between 4 and 8 weeks.

PACE labels contain information on the energy content (kcal) of a product and information on the amount of physical activity required to expend this amount of energy. The physical activity equivalent in the current study will be expressed in terms of minutes of walking required to expend the energy (kcal) contained within the product by the average-sized adult. An image of a figure walking and the energy (kcal) content of the product will also be displayed with this information.

The labels will be displayed in up to four places:
1. Attached on the product itself where this is appropriate (e.g., a muffin made on-site wrapped in plastic). This will not be possible in certain cases where there is not a place to attach it or the product is branded (e.g., a hot meal, a can of coke, a packet of crisps).
2. Along shelf edging at the point of choice
3. On tent cards placed next to products
4. On menus (printed or electronic via email or screens)

Intervention categories are defined as the target food and drink categories and products within those that receive the labels. This will depend on discussions with cafeteria managers and catering companies but will likely include the following: main meals (the meat or vegetarian principal element of a meal), sides (carbohydrate-rich portions, e.g. chips), sandwiches (including sandwiches, paninis, wraps, bread rolls), desserts (hot desserts, e.g. crumbles; dessert pots, e.g. yoghurt, cheesecake, mousse, jelly, granola; and sliced cake), bakery (e.g. freshly made cakes,

muffins, cookies; pre-packed croissants and flapjacks), savoury snacks (e.g. crisps), confectionery (e.g. chocolate bars, sweets), and cold drinks (including soft drinks, e.g. can of coke, bottle of water). Items that are unlikely to receive the interventions are those which are not sold through the till system (such as products in vending machines) and those for which energy content is not available.

Intervention Type
Behavioural

Primary outcome(s)
Total energy (kcal) purchased from intervention categories per day after controlling for the total transactions. Total energy purchased is calculated from the total number of sales for all items within the intervention categories and the total number of calories for each of these items. Sales data are recorded using electronic tills every day of operation during the trial (i.e., until the end of week 12). Transactions are defined as the number of unique payments to purchase products in the cafeteria, whereas sales are defined as the total number of individual products that are sold in the cafeteria.

Key secondary outcome(s)
1. Total energy (kcal) purchased per day from i. non-intervention food and drink categories, and ii. all food and drink products. Total energy purchased is calculated from the total number of sales and the total number of calories for each of these items. These data will be collected using the electronic tills for every day of operation for all cafeterias during the length of the trial (i.e., until the end of week 12)
2. Total revenue from each cafeteria. This is calculated from the number of all items sold in the cafeterias and the price of each of these items. These data will be collected using the electronic tills for every day of operation for all cafeterias during the length of the trial (i.e., until the end of week 12)

Completion date
29/06/2021

Eligibility

Key inclusion criteria
The researchers are not using individual-level data but are using anonymous transaction-level data for each cafeteria. This means that data from any people using the worksite cafeterias will be included. Consent for participation is obtained at the site level. The inclusion criteria for the worksite cafeterias are:
1. The cafeteria must cater to a workforce greater than 500
2. Having electronic point of sale (EPOS) tills that record sales data
3. Being able to provide kcal information for all food and drink being sold
4. An absence of existing calorie labels (not including nutritional information on branded packaging)

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
All

Sex
All

Key exclusion criteria
Worksites not meeting the inclusion criteria

Date of first enrolment
04/04/2021

Date of final enrolment
05/04/2021

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Institute of Public Health
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Sponsor information

Organisation
University of Cambridge

ROR
https://ror.org/013meh722

Funder(s)

Funder type
Research organisation

Funder Name
Wellcome Trust

Alternative Name(s)
Wellcome, WT

Funding Body Type
Private sector organisation

Funding Body Subtype
Trusts, charities, foundations (both public and private)

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
The data will not be made freely available as this is proprietary data provided in confidence from a business. The data will be stored on secure servers by the research team.

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	Primary data	08/11/2022	09/11/2022	Yes	No
Protocol (other)			10/04/2024	No	No