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Can recipe-boxes help families eat healthier? A pilot trial in households with children in Birmingham

Submission date
23/06/2025

Recruitment status
No longer recruiting

Registration date
24/06/2025

Overall study status
Completed

Last Edited
07/10/2025

Condition category
Other

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
A higher proportion of energy intake from home-prepared food and a greater frequency of home-prepared meals are associated with higher dietary quality. Recipe boxes are one intervention that may enable households to prepare and eat healthy meals at home. Qualitative research points to a range of promising benefits, including improved confidence in cooking, greater perceived meal healthiness, and reduced take-out. However, it remains unclear whether recipe-box interventions can improve dietary quality, are feasible and acceptable across the population, and can improve users' capabilities to prepare food that they value. This study will help to address these questions by conducting a randomised pilot and feasibility study (PFS), partnering with a commercial recipe-box company.

Who can participate?
Households with children of primary and secondary school age in the city of Birmingham and the surrounding area.

What does the study involve?
Households will be invited to take part in this study via five recruitment channels: social media, referrals from friends and customers of the recipe-box company, employers, schools, and community organisations. The study aims to randomly allocate approximately 150 consented households. Interested participants will complete an eligibility screening form online and will then be sent the Participant Information Sheet and Consent Form. Once consented, participants will be asked to complete two dietary recalls using the Intake 24 platform and online questionnaires. Participants will then be allocated to either the intervention group or the control group. The intervention group will be offered a 6-week recipe-box subscription discounted by 60% in week 1 and 50% in weeks 2 to 6, and the choice to continue for a further 4 weeks at a discount of 20%. The waitlist control group will receive an offer for the same discounted subscriptions 10 weeks after randomisation. Participants will be asked to complete the same online questionnaires and dietary recalls at 6 weeks and 10 weeks after baseline. A sample of participants from both the intervention and control groups will be invited to complete qualitative interviews at baseline and 6 weeks.

What are the possible benefits and risks of participating?
Participants in the intervention group will receive discounts for the recipe-box subscription for 10 weeks, and the control group participants will receive the same discount after the 10-week study period. Participants will also receive up to £75 for completing surveys at baseline, week 6, and week 10, and (if invited) an additional £25 for an interview. Participants in the intervention group will need to pay for part of the cost of the recipe boxes and invest time in completing surveys and interviews.

Where is the study run from?
University of Cambridge, School of Clinical Medicine, UK

When is the study starting and how long is it expected to run for?
October 2024 to October 2025

Who is funding the study?
Economic and Social Research Council (ESRC), UK
UK Research and Innovation (UKRI), UK

Who is the main contact?
Mr Noah Cooke, ncac3@cam.ac.uk

Contact information

Type(s)
Principal investigator

Contact name
Prof Martin White

ORCID ID
https://orcid.org/0000-0002-1861-6757

Contact details
MRC Epidemiology Unit, Level 3 Institute of Metabolic Science, University of Cambridge, School of Clinical Medicine
Cambridge
United Kingdom
CB2 0SL
+44 (0)1223769159
martin.white@mrc-epid.cam.ac.uk

Type(s)
Public, Scientific

Contact name
Mr Noah Cooke

ORCID ID
https://orcid.org/0000-0002-7448-9297

Contact details
MRC Epidemiology Unit, Level 3 Institute of Metabolic Science, University of Cambridge, School of Clinical Medicine
Cambridge
United Kingdom
CB2 0SL
+44 (0)1223 769200
noah.cooke@mrc-epid.cam.ac.uk

Additional identifiers

Protocol serial number
G122382

Study information

Scientific Title
Exploring the impact of recipe-boxes on dietary quality and food agency: a pilot RCT in households with school-aged children

Acronym
TRILOGY

Study objectives
1. The recruitment strategies and enrolment procedures will be acceptable and feasible to participants, as assessed from sample size attained, recruitment rate, and semi-structured interviews.
2. The discounted recipe-box subscription will be acceptable and feasible to participants, from the retention rate, recipe box ordering rate, and semi-structured interviews.
3. Allocation to the waitlist control group will be acceptable and feasible, from the retention rate and from semi-structured interviews.
4. The level of adherence to allocation in the waitlist control group will be high (>90%) from questionnaires and semi-structured interviews.
5. The implementation of trial procedures will be of high fidelity
6. The regular use of recipe boxes in the intervention group will improve participants' food agency, from semi-structured interviews
7. The regular use of recipe boxes in the intervention group will lead to intermediaries in our Theory of Change
8. The regular use of recipe boxes in the intervention group will lead to benefits in our Theory of Change, but also encounter barriers in our Theory of Change.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 24/03/2025, University of Cambridge, School of Humanities and Social Sciences Research Ethics Committee (17 Mill Lane, Cambridge, CB2 1RX, United Kingdom; +44 (0)1223 766238; hssrec@admin.cam.ac.uk), ref: 25.397

Primary study design

Interventional

Study design
Parallel unblinded randomized pilot and feasibility trial

Study type(s)
Prevention, Quality of life

Health condition(s) or problem(s) studied
Promotion of improved dietary quality, food and cooking skills, food agency, and capability wellbeing. Prevention of diet-related diseases (in general).

Interventions
This study is a parallel, unblinded, randomised pilot and feasibility trial, with 1:1 allocation between an intervention group receiving discounted recipe box subscriptions and a waitlist control group receiving the recipe-box subscriptions after the trial ends. The study will use stratified randomisation using one stratum defined by the ethnicity of the primary food provider. Ethnicity was chosen because it has the potential to be an effect modifier based on the literature for similar dietary public health interventions. With one stratification variable, there will be 2 strata; a separate randomisation list will be generated for each stratum with a block size of 4, using Stata statistical software, and incorporated into the study database prior to the start of the study.

The intervention group will receive a discount for a recipe-box subscription from a commercial recipe-box company: 60% off the first week (first recipe box) and 50% off for 5 subsequent weeks (five recipe boxes), not including the delivery fee, with the option to continue at 20% off for another 4 weeks. The discounts will apply to up to 5 recipes per household per week, with a maximum of 5 portions per box and 20 portions total per week, for 10 weeks, with the freedom to choose any meals available on the company website. However, participants ordering 5 portions per recipe will only be able to order a maximum of 3 recipes, due to the size of the recipe box. Note that the structure of the company's pricing means that the cost per portion (with or without the discount) decreases if more recipes and portions are ordered.

From data shared by the recipe- box company on average prices, the average cost over the first 6 weeks is expected to be as follows: for 4 meals for a family of 4 will cost around £28.70 per week (£1.79 per portion); for 4 meals for a family of 3 will cost around £27.49 per week (£2.29 per portion); for 4 meals for a family of 2 will cost around £20.72 per week (£2.59 per portion); for larger families, 3 meals for 5 people will cost around £30.75 per week (£2.05 per portion). Participants will register as customers on the company's website and input their trial code to receive their discount. Participants will be able to select any meals on the menu for that week, including “upgrades” and “sides” (which will not be discounted) and can choose between one and five portions per meal. After the first box, delivery will cost £3.99 per recipe box at purchase (not discounted). Households can order two or more recipes per week. The intervention “dose” in this free-living sample cannot easily be standardised. Similarly, participants cannot be prevented from ordering additional recipe boxes without a discount, although this is considered to be unlikely given the intensity of the subscription. Participants will be charged weekly and can elect to skip weeks, pause or cancel at any time.
Participants will be asked to order on the company's website. Participants’ “ordering deadline” will be participant-specific: the day of the week and time they placed their first recipe-box order, 3 days before delivery. Note that participants will be able to change their delivery day before their ordering deadline. Participants will receive the same weekly reminders to order that

regular customers receive. Participants can see menus and order up to three weeks in advance and edit orders up to three days before the scheduled delivery day. As per the company's standard procedures, if participants miss their ordering deadline, and do not cancel their subscriptions or elect to skip the next week, recipes will automatically be selected (based on what the recipe-box company predicts they would enjoy) and delivered at the discounted price (and the participant will be charged). However, at the end of the 6-week discount, the subscription will not automatically continue. To continue ordering at a 20% discount for another 4 weeks, participants will either need to 1) opt in to an invitation sent 3 weeks into the trial, or 2) continue ordering after their subscription is forcefully paused after 6 weeks. The recipe-box company will share data on orders from the account associated with the discount code if the participant consents for the company to do so.

Intervention Type
Other

Primary outcome(s)
1. Acceptability of the recruitment strategies and enrolment procedures measured from the sample size attained at enrolment
2. Acceptability of the recipe-box subscription at the discounted rate measured from the retention rate at week 6
3. Acceptability of allocation to the waitlist control measured from the retention rate at week 6
4. Sample size needed for the main trial to detect an average treatment effect in the primary outcome in the main trial (dietary quality) at week 6 with α of 0.05 and power of 0.90

Key secondary outcome(s)
Qualitative
1. Perceived benefits of the recipe-box subscription and barriers to participation in the intervention group measured from semi-structured interviews at week 6.
2. Presence of hypothesised mediators in the Theory of Change measured from semi-structured interviews in the intervention group at week 6
3. Changes in participants' food agency, from questionnaires, as well as semi-structured interviews, at week 6

Acceptability
4. Acceptability of the recruitment strategies and enrolment procedures measured from the recruitment rate at enrolment and semi-structured interviews at baseline
6. Acceptability of the recipe-box subscription at the discounted rate measured from the retention rate at week 6, recipe-box ordering rate from weeks 1 to 6, and from semi-structured interviews at week 6
7. Acceptability of allocation to the waitlist control group measured from retention rate and semi-structured interviews, at week 6

Feasibility
8. Feasibility of the recruitment strategies and enrolment procedures measured from recruitment rate (pre-enrolment), sample size attained at enrolment, and semi-structured interviews at baseline
9. Level of adherence to allocation in the intervention group: ordering 2 to 5 recipes weekly from weeks 1 to 6
10. Level of adherence to allocation in the waitlist control group, not obtaining recipe boxes from any sources from baseline to week 10
11. Fidelity of implementation of trial procedures (e.g. execution of the social media campaigns;

digital and in-person recruitment procedures; recruitment through the company's existing customers; notifications and follow-up by study team)

Completion date
26/10/2025

Eligibility

Key inclusion criteria
1. Having at least one child attending primary or secondary school in the household.
2. Having access to cooking rings, an oven, and a fridge at home (without which these participants could not prepare Gousto’s recipes).

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
130 Years

Sex
All

Total final enrolment
165

Key exclusion criteria
1. Have used recipe boxes in the previous 3 months.
2. The main food provider (who will complete the questionnaires) cannot read, write, or speak English.
3. Not having access to the internet and a digital device (smartphone, tablet, or laptop).
4. Any member of the household having recently participated (past 3 months), currently participating, or scheduled to participate, in another diet-related trial, cohort, or clinical study.

Date of first enrolment
27/04/2025

Date of final enrolment
21/07/2025

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Cambridge Epidemiology & Trials Unit
MRC Epidemiology Unit
University of Cambridge School of Clinical Medicine
Box 285 Institute of Metabolic Science
Cambridge Biomedical Campus
Cambridge
United Kingdom
CB2 0QQ

Sponsor information

Organisation
University of Cambridge

ROR
https://ror.org/03n0ht308

Funder(s)

Funder type
Government

Funder Name
Economic and Social Research Council

Alternative Name(s)
Social Science Research Council, ESRC, SSRC, UKRI ESRC

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Funder Name
UK Research and Innovation

Alternative Name(s)
UKRI

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
Data generated and/or analysed directly by the research team (e.g. data from dietary recalls and other surveys) during the current study will be available upon request from Professor Martin White, University of Cambridge (martin.white@mrc-epid.cam.ac.uk). These requests will be reviewed by the Principal Investigators for scientific merit and integrity before release, in line with the MRC Epidemiology Unit's Data Sharing Policy. Shared datasets will be anonymised. Participants will have consented for anonymised data to be shared.
The datasets generated by the recipe box company (e.g. on what recipes participants ordered) during and/or analysed during the current study will not be available due to commercial sensitivity.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Study website	Study website	11/11/2025	11/11/2025	No	Yes