

A study testing local fresh food initiatives within social housing communities

Submission date 28/08/2026	Recruitment status Not yet recruiting	☒ Prospectively registered ☒ Protocol
Registration date 04/09/2026	Overall study status Ongoing	☐ Statistical analysis plan ☐ Results
Last Edited 03/09/2026	Condition category Other	☐ Individual participant data ☒ Record updated in last year

Plain English summary of protocol

Background and study aims

Eating a healthy diet can be difficult. Most people in the UK struggle to eat the five recommended portions of fruit and vegetables per day. Not eating enough fruit and vegetables can increase the risk of health problems related to a low-quality diet. Because of this, it is important to understand the barriers people face to eating enough fruit and vegetables.

In many communities, it is hard to get to shops and food outlets that sell fruit and vegetables at an affordable price. These issues of access and affordability can create significant barriers to eating a diet that promotes good health. In the UK, people living in social housing are particularly vulnerable to these barriers and the health risks that can result from them. This may be because of the food environment of the community they live in or additional challenges or disadvantages they already face. At present, there is little evidence on what can be done to improve access to and affordability of fruit and vegetables to support people to improve their diet when they live in social housing.

Our clustered randomised control trial addresses this gap in evidence, by investigating what happens to people's diet and wellbeing when you introduce a new mobile greengrocer service to their area and what further impact providing vouchers to spend at the mobile greengrocer might have.

Who can participate?

Adults living in one of our 12 study areas in Liverpool and living in social housing provided by Onward, Riverside, or Torus. They must be 18 years or older, the person responsible for getting food for their household, and not currently in receipt of Rose vouchers from the Alexandra Rose Charity.

What does the study involve?

We will randomly allocate our 12 study areas to one of three groups. Participants in an area will receive new initiatives based on which group their area was allocated to for the duration of the 6-month trial.

Participants from areas in Group 1 will receive monthly, digital bulletins from their housing provider, outlining local opportunities for support, upcoming events, and community-based food initiatives.

Participants from areas in Group 2 will receive monthly bulletins, like participants in Group 1, but they will also receive the opportunity to shop at a new mobile greengrocer service within 1km of where they live. The mobile greengrocer will visit their area at the same time every week for 6-months and will sell fresh fruit and vegetables to anyone in the community who would like to shop there.

Participants from areas in Group 3 will receive monthly bulletins and the opportunity to shop at a new mobile greengrocer service within 1km of where they live, like participants in Group 2. In addition to this, they will also receive vouchers to spend on fruit and vegetables at the mobile greengrocer each week. The participants will receive these vouchers for 6-months.

Participants in all areas will complete a questionnaire and three online 24-hour food diaries at the beginning, middle, and end of the trial. Our main outcome of interest is fruit and vegetable intake. We want to see if (i) introducing a weekly mobile greengrocer stop to a local area supports people to increase their fruit and vegetable intake, and (ii) pairing this introduction with provision of vouchers to spend at the new service supports people to increase their fruit and vegetable intake even more than introducing the new service alone. We will also explore other outcomes that might help to understand how introducing this new service and voucher provision may work, for example, mental health and wellbeing, sense of community and social support, and barriers to doing food shopping and accessing fresh fruit and vegetables.

What are the possible benefits and risks of participating?

People who take part will help support the trial's aim to develop an understanding of how community-based approaches to improve the access and affordability of fresh food can impact people living in social housing. By actively engaging in the new offers delivered in the trial, participants will likely improve the chances that their areas continue to be supported by these offers in the longer term. Participants who complete the trial questionnaires and food diaries across the course of trial will receive retail vouchers as compensation for their time. While there are very few risks in taking part, some participants may find it uncomfortable to answer questions about their experiences and challenges around getting food, finances, health, and wellbeing.

Where is the study run from?

The trial is mainly being delivered by researchers at the University of Liverpool, UK, with support from researchers at the University of Cambridge, UK. We are also collaborating with three housing associations (Onward Homes, Riverside, and Torus) who together manage the majority of social housing properties in Liverpool.

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

The trial is starting on Monday 7th September 2026 and is expected to be complete by the end of August 2027.

Who is funding the study?

The trial is supported by the UK Research and Innovation (UKRI) Strategic Theme on Creating Opportunities, Improving Outcomes, in partnership with UKRI's Global Food Security programme (UKRI GFS), BBSRC, AHRC, ESRC, MRC, NERC and Innovate UK.

Who is the main contact?

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Study information

Scientific Title

A three-arm clustered randomised-controlled superiority trial to compare the effect of a weekly community mobile greengrocer stop (with and without provision of monetary vouchers) versus comparator on fruit and vegetable intake in social housing communities in Liverpool, UK

Acronym

SCHOUSE

Study objectives

To compare differences in fruit and vegetable intake after 26 weeks between:

A. A comparison group who receive signposting to support and community food initiatives (Comparator), and a group who additionally receive a new weekly mobile greengrocer stop in their neighbourhood (Intervention 1) for 26 weeks, and

B. Intervention 1 and a group who receive provision of weekly vouchers for use at the greengrocer in addition to a new weekly mobile greengrocer stop in their neighbourhood (Intervention 2) for 26 weeks

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 25/08/2026, University of Liverpool Central University Research Ethics Committee C (Foundation Building University of Liverpool, Liverpool, L69 7ZX, United Kingdom; +44 151 794 2000; research.ethics@liverpool.ac.uk), ref: 18413

Primary study design

Interventional

Allocation

Randomized controlled trial

Masking

Open (masking not used)

Control

Active

Assignment

Cluster

Purpose

Treatment

Study type(s)

Health condition(s) or problem(s) studied

Fruit and vegetable intake of people living in social housing

Interventions

As we are conducting a clustered randomised controlled trial, we will randomise at the cluster level. In the present trial, each of our 12 trial sites is a cluster. Thus, participants will be allocated to groups depending on the trial site that they live in.

We will randomise the 12 sites to the three intervention arms in blocks of four using the randomizr package in RStudio. Each of the four blocks will correspond to the four waves of trial rollout. The sites in the first block (as determined by the order of the randomisation list) will become the sites in the first wave, and so forth for the following blocks and waves.

Comparator (Signposting)

The comparator condition for the trial is similar to “usual care”. It is typical for housing associations, through direct communication with dedicated housing officers or health and wellbeing staff, to provide signposting to their tenants about community food initiatives they can access. If required, they may provide referrals for specific projects (i.e., food bank referrals). They also provide signposting to welfare and benefits advice, debt support and other forms of financial support via newsletters and social media. During the trial, partner housing associations will proactively provide this information to all participants (who are also their customers) every four weeks in the form of bulletins via email or WhatsApp. When participants sign up for the trial, they will consent to receive this information.

The bulletins will be provided to all participants in the study for 26 weeks. However, participants in the Comparator arm will not receive any other interventions beyond the bulletins. The research team will contact participants in this arm on the Monday before the trial begins to inform them which arm their site is in and what to expect.

Intervention 1 (Signposting + Mobile greengrocer)

The Queen of Greens is a mobile greengrocer service running a timetable of weekly stops across Liverpool and Knowsley in the North West of England. It sells fresh fruit and vegetables, purchased fresh from the wholesaler, from converted buses/vans which double up as a mobile shops that customers can get on board to do their shopping. Anyone can shop at the Queen of Greens and they accept Healthy Start vouchers and Alexandra Rose vouchers at all of their stops.

In addition to receiving the bulletins outlined above, the Queen of Greens bus will begin making weekly stops in sites randomised to Intervention 1. The new stop will be within 1 km of participants' homes. In the first week of the trial, participants will be encouraged to visit the Queen of Greens bus to receive a free tote bag. Participants who are unable to collect the tote bag from the bus in this first week will have the tote bag delivered to their home address. To encourage repeat shopping on the bus, each tote bag will contain a stamp card. Each time a participant shops on the bus in the following weeks and brings their tote bag to put carry their shopping in, they will receive a stamp on their stamp card from the bus' driver after they have made their purchase. They will be able to collect a maximum of one stamp per week, up to a maximum of four stamps. Once they have filled their stamp card, they will receive a monetary voucher to spend on the bus the following week (with an approximate value of up to £5). Vouchers must be spent before Week 8 of the trial, to minimise the impact that the spending of the voucher has on midpoint dietary measures.

The bus will be at each stop for 45 min to 1 h per week in each site. With the exception of a two week break over the Christmas and New Year period when the wholesaler closes, the Queens of Greens bus will stop at the same time every week for 26 weeks as part of the trial. It will be at the Queen of Greens' discretion as to whether they continue these stops after the trial concludes.

On the Monday before the trial wave begins, the research team will contact participants to tell them about the new Queen of Green stop and provide information about the Queen of Greens and the tote bag/stamp card incentive. Participants will also be invited to follow the Queen of Greens on social media to receive updates on any changes to timetables or schedules. In the bulletin from their housing association, participants will receive a reminder of the date and time the Queen of Greens will be stopping.

In summary, the Queen of Greens mobile greengrocer will:

- Stop at a regular time and place for 45-60 min each week in intervention site locations,

- Enable customers to buy fruit and vegetables on the bus priced in 50p increments,
- Not require membership or regular use,
- Make pricing clear per each type of item,
- Keep customers up to date via their social media on timetable changes,
- Take customer preferences and requests into account,
- Manage the queue so that the bus is not too crowded with customers (i.e., only 3 people on the bus at a time),
- Occasionally provide bundles of free, fresh herbs for customers, and
- Occasionally provide free recipe cards for customers.

Intervention 2 (Signposting + Mobile greengrocer + Fruit and vegetable vouchers)

Alexandra Rose Charity is a charity which provides vouchers (Rose vouchers) to purchase fresh fruit and vegetables from market traders. In addition to receiving everything in Intervention 1 (bulletins and new weekly Queen of Greens stop in their area), participants in sites randomised to Intervention 2 will receive Rose vouchers to purchase fresh fruit and vegetables at the Queen of Greens.

Participants will receive one batch of four bundles of vouchers by postal delivery every four weeks (one bundle per week) for the duration of the trial. Over the 26 week trial, participants will receive a total of 7 batches – 6 deliveries with 4 bundles (24 weeks of vouchers) and 1 delivery with 2 bundles (2 weeks of vouchers). Each bundle will include a flyer/note indicating when the participant can expect their next bundle of vouchers. Whether Rose vouchers are hand-delivered to a participant's address or sent via the postal system depends on the approach their housing association chooses.

We will encourage weekly use, but participants will have at least four weeks to use the vouchers they receive in a delivery. Each participant will receive £6 of Rose vouchers per week, plus an additional £2 for each additional member of their household; thus, the weekly value of vouchers each participant receives will vary by their household size. We will assess household size using the number of children and adults participants report being "usually" part of their household in the baseline questionnaire ("usually" is defined as staying with them for 2 or more nights per week). We will not verify household size and composition with the housing associations, as we expect participants to respond honestly to these questions, given their knowledge of the housing associations' involvement in the trial. Researchers will be responsible for registering participants on Alexandra Rose Charity's system, but housing association staff will be responsible for distributing Rose vouchers to participants who due to receive Intervention 2 and who are also their customers.

On the Monday before the trial wave begins, the research team will contact participants to inform them that they will receive vouchers to spend at Queen of Greens for the duration of the trial and explain how the distribution and redemption of the vouchers will work.

If participants indicate that they no longer want to participate in the trial, they will no longer receive vouchers. Otherwise, vouchers will continue to be sent to participants, even if (i) there is evidence that participants are not using them and/or (ii) participants do not complete a study midpoint or endpoint questionnaire or dietary recall.

In summary, Rose vouchers:

- Can only be redeemed on the Queen of Greens mobile greengrocer in Liverpool and the surrounding areas (they are not accepted elsewhere),
- Should only be spent by the household to which they are issued,
- Are paper vouchers that are tracked; if lost and not spent, can be voided, and new vouchers can

be issued,

- Are only available in £1 denominations and the whole £1 must be redeemed at once (at the Queen of Greens, products are priced in multiples of 50p, so a participant can spend the full value of each voucher),
- Have a 'use by' date, which is roughly one month after the voucher is issued (while this is not strictly enforced, it is in place to encourage regular spending),
- Are scanned 'out' by the issuing authority (e.g., housing associations) and scanned 'in' by the retailer on use (e.g., Queen of Greens), enabling voucher use to be tracked and retailers to claim payment for the vouchers received from Alexandra Rose.

----- A note on timings

The Queen of Greens are unable to operate over the Christmas and New Year period (approximately Monday 21st December 2026 - Monday 4th January 2027) as their wholesale supplier closes for this duration. Further, there is likely to be a significant reduction in staffing capacity from the housing associations during this period which will significantly hinder trial delivery. For any sites in trial waves which include this period, we will treat this two-week period as a pause in the trial in all sites, regardless of allocation. Thus, we will not distribute bulletins in this period, nor will the Queen of Greens visit sites allocated to Intervention 1 or 2. In sites which are affected by this pause, we will extend the trial by two weeks and treat the pause in intervention delivery as a pause in the trial timeline (i.e., midpoint and endpoint data collection will also be pushed back by two weeks). However, to minimise harm that may result from an abrupt stop to Rose vouchers provision, we will provide any participants receiving Rose vouchers with two weeks' worth of vouchers to spend the week before the break in Queen of Greens' provision along with clear guidance on when they can be spent before and after the break.

Intervention Type

Behavioural

Primary outcome(s)

1. Average daily fruit and vegetable intake (g) at endpoint measured using 3 x 24h dietary recalls via Intake24 at baseline and week 22

Key secondary outcome(s)

1. Average daily fruit and vegetable intake (g) at midpoint measured using 3 x 24h dietary recalls via Intake24 at baseline and week 11

2. Average daily portions of fruit and vegetables consumed measured using 3 x 24h dietary recalls via Intake24 at baseline, week 11, and week 22

3. Average daily intake of energy (kcal) measured using 3 x 24h dietary recalls via Intake24 at baseline, week 11, and week 22

4. Average daily intake of carbohydrates (g) measured using 3 x 24h dietary recalls via Intake24 at baseline, week 11, and week 22

5. Average daily intake of protein (g) measured using 3 x 24h dietary recalls via Intake24 at baseline, week 11, and week 22

6. Average daily intake of fat (g) measured using 3 x 24h dietary recalls via Intake24 at baseline, week 11, and week 22

7. Average daily intake of AOAC fibre (g) measured using 3 x 24h dietary recalls via Intake24 at baseline, week 11, and week 22
8. Daily portions of fruit and vegetables consumed by eldest child in household measured using a parent-reported food frequency question in questionnaire at baseline, week 11, and week 22
9. Food insecurity status measured using U.S. Adult Food Security Module (10-items) with a 30-day reference period at baseline, week 11, and week 22
10. Use of emergency food support measured using a self-reported frequency question in questionnaire at baseline, week 11, and week 22
11. Use of community food projects measured using a self-reported frequency question in questionnaire at baseline, week 11, and week 22
12. Barriers to buying, cooking and eating fresh fruit and vegetables measured using a self-reported question in the questionnaire at baseline, week 11, and week 22
13. Household weekly spend on fresh fruit and vegetables measured using a self-reported question in the questionnaire at baseline, week 11, and week 22
14. Frequency of Queen of Greens use at a stop <1km from home address in last three months measured using a self-reported question in the questionnaire at baseline, week 11, and week 22
15. Frequency of Queen of Greens use at a stop >1km from home address in last three months measured using a self-reported question in the questionnaire at baseline, week 11, and week 22
16. Self-efficacy in affording the fruit and vegetables needed for their household to eat a healthy diet measured using a self-reported question in the questionnaire at baseline, week 11, and week 22
17. Liking of eating fresh fruit measured using a self-reported, VAS question in the questionnaire at baseline, week 11, and week 22
18. Liking of eating fresh vegetables measured using a self-reported, VAS question in the questionnaire at baseline, week 11, and week 22
19. Negative emotional state measured using Depression, Anxiety and Stress Scale - 21 items (DASS-21) in the questionnaire at baseline, week 11, and week 22
20. Severity of depression symptoms measured using the depression sub-scale of DASS-21 in the questionnaire at baseline, week 11, and week 22
21. Severity of anxiety symptoms measured using the anxiety sub-scale of DASS-21 in the questionnaire at baseline, week 11, and week 22
22. Severity of stress symptoms measured using the stress sub-scale of DASS-21 in the questionnaire at baseline, week 11, and week 22
23. Feelings of loneliness measured using the three-item UCLA loneliness scale and a direct measure of loneliness (recommended by the Office for National Statistics) in the questionnaire at baseline, week 11, and week 22

24. Level of social support measured using the Oslo Social Support Scale (OSSS) in the questionnaire at baseline, week 11, and week 22

25. Sense of community measured using the Brief Sense of Community Scale (BSCS) in the questionnaire at baseline, week 11, and week 22

26. Satisfaction with housing provider measured using three items from the Tenant Satisfaction Measures (TSM; overall satisfaction, feeling the housing provider listens to them and acts on their needs, and being satisfied that housing provider positively contributes to their neighbourhood) at baseline, week 11, and week 22

27. Support service use measured using a self-reported question in the questionnaire at baseline and week 22

28. Daily portions of fruit and vegetables measured using a self-reported food frequency question in the questionnaire at baseline, week 11, and week 22

Completion date

31/08/2027

Eligibility

Key inclusion criteria

1. Aged 18 years old or over
2. Living in one of the 12 clusters
3. Live in a property managed by Onward Homes, Riverside or Torus
4. Be the primary food procurer for their household

Healthy volunteers allowed

Yes

Age group

Mixed

Lower age limit

18 Years

Upper age limit

125 Years

Sex

All

Total final enrolment

0

Key exclusion criteria

1. Currently in receipt of Rose vouchers provided by the Alexandra Rose Charity

Date of first enrolment

07/09/2026

Date of final enrolment

30/03/2027

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

University of Liverpool

Department of Public Health, Policy and Systems

Institute of Population Health

University of Liverpool

Brownlow Hill

Liverpool

England

L69 3GB

Sponsor information

Organisation

University of Liverpool

ROR

<https://ror.org/04xs57h96>

Funder(s)

Funder type

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

The anonymised datasets generated during and/or analysed during the current study will be stored indefinitely in a publicly available repository, the University of Liverpool's Data Catalogue (<https://datacat.liverpool.ac.uk/>), after an embargo period from the date of data collection to allow for the publication of research findings. Access to the data will be able to be requested from the study Principal Investigator. Anonymised data from questionnaires and 24 h dietary recalls will be available following an embargo period to allow for publication of the research findings. We expect this will be approximately 1 year following the completion of data collection. Explicit consent will be obtained from participants to enable to the public sharing of their anonymised data.

IPD sharing plan summary

Stored in publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Other files	Consent form version 5	04/08/2026	01/09/2026	No	No
Participant information sheet	version 7	04/08/2026	01/09/2026	No	Yes
Protocol file	version 2	28/08/2026	01/09/2026	No	No