

“Would you like a payment card or food parcel?” A randomised controlled trial of offering a choice of food parcels or supermarket payment cards in a North London food bank.

Study analysis plan

This document highlights the analysis plan for the abovementioned trial. Please see the detailed protocol for outcomes and procedures.

This study is one trial in the community food sector being conducted as part of the SALIENT consortium (<https://www.salientfoodtrials.uk/>).

Analysis plan

Descriptive statistics: Understanding who was in trial

First, we will examine if there are differences in who participated versus those who did not by making use of the Food Bank's routine data. We will use anonymised routine data from the Food Bank food bank's referral forms to test if there was a difference in characteristics recorded on the referral form between those who participated in the study and those who were eligible, but who did not participate. The following information from the referral form will be used to test for differences between participants and non-participants:

- Household composition
- Type of agency providing referral
- Age, ethnicity, religious affiliation, language spoken and gender of person referred
- Ability to collect food parcel from the Food Bank or whether requires delivery
- Whether or not person referred is living in temporary accommodation or currently homeless
- Whether the person referred has one or more disabilities.
- Whether the person referred has cooking facilities

Next, we will examine how the characteristics of study participants compare to usual patrons of the Food Bank in order to understand generalisability of our study participants to the wider group of people routinely served by the Food Bank. As the study is running for about 36 weeks, there may be differences in the characteristics between those reached and invited to participate during this time and the wider population served by the Food Bank. For example, there may be seasonal trends in referrals. Further, our eligibility criteria may limit the generalisability of our results. This analysis will be similar to the above, but it will compare the characteristics of those participating to the wider general population of people referred to the Food Bank in the past 12 months.

We will use data collected from the baseline questionnaire and complemented by the Food Bank's referral form data to understand if there were differences between control and treatment group in socio-demographic characteristics, asking, did randomisation achieve equal distribution of baseline characteristics? We will also examine this for our outcomes of interest.

Lastly, we will describe the number of food parcels or supermarket payment cards collected over the trial period for the treatment and control group.

Analytical strategy for quantitative outcomes

Outcomes will be compared between those who received standard food parcels (Group Red: control group) versus those given a choice to receive either standard food parcels or supermarket payment cards (Group Blue: treatment group), with the primary end point 6 weeks after the participant collects their first food parcel. A primary end point of 6 weeks has been chosen because in theory, participants can come weekly for a total of 6 times to collect either food parcels or payment cards over this period. Even if participants do not come every week to collect this entitlement, we are interested in the short-term outcomes in the period following referral, when a maximum “dose” of support is available to be accessed. However, qualitative interviews will take place in the 6-12 weeks following the end of the trial, enabling a qualitative exploration of outcomes beyond the 6-week endpoint and also exploring reasons why participants may not have received all 6 food parcels or supermarket payment cards during the trial.

To address research question 1, we will examine difference in proportions of participants are food insecure (moderate and severe) and severely food secure at the study end point (6 weeks from baseline) in the control group (Group Red) compared to the treatment group (Group Blue). Trends in the above outcomes will also be assessed at an interim timepoint of three weeks. We will conduct a difference-in-means test between control and treatment group for the difference in proportion experiencing moderate and severe food insecurity and severe food insecurity alone. The analysis will include all randomised participants in accordance within the ‘intention to treat’ principle, where we use outcomes for their last measured value (i.e. either baseline or at midpoint).

To address research question 2, we will measure the proportion of people choosing the payment card option over the food parcel option in the intervention group (Group Blue).

As secondary/exploratory analyses, we apply the same analytical framework to examine:

- Difference in self-rated health
- Difference in short WEMWBS score
- Difference in NutriScore of food items acquired from food parcels in control group vs. food items acquired from food parcels or from purchases made with payment card in treatment group
- Difference in reported weekly frequency of fruit and vegetable
- Difference in reported ability to meet food preferences
- Difference in frequency of self-reported engagement with the Food Bank’s services during the trial period
- Difference in number of food parcels/supermarket cards collected during trial period and beyond trial period, as well as number of subsequent referrals received beyond the trial period.

For all the difference-in means tests listed above, we will also explore a difference-in-difference estimator, i.e. a difference-in-means test for the change from baseline to endpoint in the outcome. If the randomisation is successful, then the simple cross-sectional difference-in-means tests should not be biased. However, if there is a lot of heterogeneity across individuals that is unrelated to the treatment, then it is possible that a difference-in-difference estimator is more efficient (i.e. has smaller standard errors). The difference-in-means result will be reported as the primary outcome, but the difference-in-difference will also be reported for completeness and to inform future trials in future settings.

Sensitivity analyses will be carried out excluding outcomes for people who drop out of the study and excluding people who changed their mind about their choice (supermarket card or food parcel) in the treatment group (Group Blue).