Structural equation modelling proved a useful method for exploring and quantifying realist theory. The analysis was limited by available data; therefore future research would benefit from primary data collection.

Background
Mobile apps offer a potentially effective approach to support healthier food behaviours if adequately designed and informed by behaviour change theory. Individuals from a lower socioeconomic background often report unhealthier dietary patterns and consequently may benefit from a mobile app intervention supporting healthier food behaviours. However, there is limited evidence available on the use of mobile health apps in this group. Previous work suggests that a reasonable standard of health and nutrition literacy is required for effective use of existing healthy eating mobile apps but this knowledge is often low in those from a lower socioeconomic background. Consequently, it is unclear if existing mobile apps are appropriate for this population group. The aim of this study is to explore the experiences of women from a lower socioeconomic background when using healthy eating mobile apps and the individual-level and mobile-specific factors that influence their experiences.

Methods
A purposive sample of 15 women from a lower socioeconomic background and aged between 18–50 years were selected to participate. Participants completed a questionnaire assessing nutrition knowledge before using the assigned mobile apps. A total of three mobile apps were assessed in this study and were of varying quality in relation to nutrition content, behaviour change and user quality. Each participant was assigned to use two different mobile apps and used each for one week only. Assignment order was randomised. After the two-week period, semi-structured interviews were conducted with participants to discuss their experiences. Interviews were audio-recorded, transcribed verbatim, and analysed using a thematic analysis approach.

Results
Preliminary analysis suggests that overall mobile app quality is adequate but there is a need to improve the customisability of mobile apps to ensure they fit users’ needs. The food lives of participants vary and mobile apps need to be flexible to reflect this variety in integration of mobile apps into everyday life. The language used in a mobile app was a reason for discontinuing use as it was not clearly understood by users or was viewed as irrelevant.

Conclusion
Existing mobile apps may support healthier food behaviours in women from a lower socioeconomic background but changes in design may be required. A user-centred approach is recommended where users from a lower socioeconomic background are engaged at all stages of the design process. This may improve their relevance to this population group and increase their effectiveness in supporting healthier food behaviours.
explain differences in all ages and premature CVD mortality between LAs in England.

Methods All data were sourced for each LA in England. Outcome variables were age-standardised 2012 to 2014 CVD mortality for all ages and those under 75 (premature mortality). Prevalence of ethnic and socioeconomic groups from the UK 2011 census, Public Health England data on index of multiple deprivation (IMD) score, prevalence of smoking, physical activity and obesity/overweight and Ordnance Survey environmental data on percentage of food shops, eating out shops, green/blue space, sporting facilities and health facilities were sourced. We used the Akaike Information Criterion (AIC) to assess which types of variables provided the best statistical model to explain variation in CVD mortality between LAs then used multiple linear regression to assess which variables remained associated with the outcome.

Results Including health, demographic, environment and IMD variables provided the best fit for explaining variation in CVD mortality at all ages, with an adjusted R2 of 0.63. For premature CVD mortality, excluding environmental data improved the fit of the model and gave an adjusted R2 of 0.82.

The percentage of Indian and Pakistani ethnic groups in LAs remained associated with all ages CVD mortality, along with higher scores for the employment domain and living environment domain of the IMD. For premature mortality, the percentage of Pakistani and Bangladeshi ethnic groups, excess weight prevalence and higher income and crime IMD scores remained associated.

Conclusion Certain IMD domains and prevalence of some South Asian ethnic groups are important for explaining variation in age-standardised cardiovascular disease mortality at the LA level in England. These findings are valuable for understanding which factors to target to reduce inequalities in CVD mortality between LAs in England.