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Lessons learnt from a feasibility study on price incentivised healthy eating promotions in workplace catering establishments

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Author contribution – DM, ASA and JM designed the feasibility study. DM, JM and ASA conducted formative work. DM designed study tools and implemented intervention. DM and MM collected and analysed data. ASA, DM, MM interpreted results and planned the manuscript. DM drafted the manuscript. All authors discussed the results and implications and commented on the manuscript at all stages.

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Abstract

Background It is recognised that the worksite catering sector is likely to play a pivotal role in influencing dietary intake in adults of working age. This study aimed to assess the feasibility of engaging worksites in a healthy eating intervention, implementing a price incentivised main meal intervention and measuring indicative intervention responses in order to inform the design of a future trial.

Methods Workplaces registered with the Scottish Healthy Living Award were invited to participate. The EatSMART intervention (a reduced price, healthy meal combination plus promotions) was implemented for 10 weeks in two worksites. Implementation was assessed by observation and sales data. Indicative effects on food habits were measured using online pre- and post-intervention questionnaires. Focus group discussions and interviews were used to ascertain catering staff and consumer acceptability.

Results Thirty-seven worksites were invited to participate and four worksites responded positively. Two sites (with 1600 and 500 employees respectively) participated. Both required significant implementation support. Estimated sales data indicated that uptake of promoted items varied by week (range 60 to 187 items) and by site. A poor response rate for questionnaires limited the evaluation of intervention impact. Consumers reported improved value for money and quality. Both sites reported an intention to continue the intervention delivery.

Conclusion Significant efforts are required to engage worksite catering teams and implement healthy eating interventions. Evaluation methods require further development in order to improve data collection. Responses from consumers and catering staff suggest further work in this area would be welcomed.
Introduction

Rapidly rising levels of overweight and obesity in recent decades have been especially evident in Scotland with an adult prevalence rate for obesity of 27.1%, globally third only to Mexico (30.0%) and the United States (34.5%) (OECD, 2010). Obesity is now well established as a contributory factor to many conditions including diabetes, cardiovascular disease, certain cancers and arthritis. The overall costs of obesity in Scotland are estimated to be more than £342 million per year (Scottish Government, 2010). In a rapid review of potential policy options for obesity prevention and control in Scotland, one of the most promising settings identified for effective interventions in adults was the workplace environment (Mooney et al, 2011).

The role of workplace canteens has been recognised in numerous countries in the provision of employee’s daily meals, and thus the catering sector has the potential to play a pivotal role in the energy and nutrient intake in adults of working age (Roos et al, 2004; Wanjek, 2005; WHO, 2008; Bandoni et al, 2011). A systematic review of workplace interventions in Europe reported limited to moderate evidence for positive effects of nutrition interventions implemented at worksites, with 18 to 30 studies showing positive effects on dietary behaviour (Maes et al, 2012). Similar conclusions were reported recently by Schroer et al (2014). It is notable however, that many programmes have focussed more on employee education than a combination of education and changes to worksite environments (e.g. increased provision of healthy options). Ni Mhurchu et al, 2010 suggest that intervention is needed at multiple levels within the worksite environment and Mooney and colleagues (2013) comment that interventions have stopped short of any meaningful incentives other than the prospect of “future health”.

French (2003) highlighted the influence of local pricing incentives in workplace canteens and vending machines as a means of increasing uptake of healthier food options. In addition, worksite schemes offering free fruit can result in increased consumption of fruit and decreased consumption of added sugar (Alinia et al, 2011) and this approach has also been demonstrated to result in positive dietary change for “blue collar” workplaces (Larsen et al, 2011).

A review by Hawkes (2009) on financial incentives and disincentives to promote healthier eating has highlighted that financial incentive schemes are “most effective when implemented as part of an integrated package of mutually re-enforcing strategies, such as education/marketing”. Thus it would be appropriate to view financial incentives such as price promotions as a tool to help stimulate healthy eating as part of a broader package of activities.

Ni Murchi et al (2010) suggest that “workplace canteens which frequently include a degree of food subsidisation provide an ideal environment in which to test the potential of economic incentives to change food purchasing behaviour” but to date there has been a dearth of work in this arena within the...
UK. In Scotland there is a unique opportunity to test the effect of promoting healthier eating in the workplace given that the Healthy Living Award (HLA) scheme (2014) and the Healthy Working Life (HWL) Programme (2014) lay the foundation for increasing access and provide a platform to add financial incentives and marketing approaches. Against this backdrop, the current study aimed to assess the feasibility of engaging worksites in a healthy eating intervention, implementing a price incentivised main meal intervention and measuring indicative intervention responses (including catering consumer acceptance) in order to inform the design of a future randomised control trial.

Methods

Worksite engagement
Recruitment was undertaken in conjunction with the HLA and HWL teams. Workplace canteens and contract caterers with workplace restaurants throughout Scotland were invited to participate in the short term (10 to 12 weeks) intervention study which included an incentive of £1000 per site to cover personnel time, training and related costs.

Intervention development and implementation
The format of the final intervention delivery was informed by semi-structured interviews and informal discussions with catering staff at participating sites. The intervention aimed to combine price incentives, healthy choices and a marketing strategy using the following key principles:

- price incentives should be focused on consumer and caterers suggestions, experiences and preferences for “healthy meal deals”
- a 10-20% cost reduction should be achieved
- meal deals should have a nutrient composition consistent with the FSA traffic light (TL) grading low (or maximum of one medium) for fat, saturated fat, sugar and salt (Food Standards Agency, 2007).

Due to recent EU Regulation, individual items could not be labelled as “healthy” but were labelled with value for money symbols (Department of Health, 2011). Marketing focused on a value strategy by promoting reduced prices, products and key placing of targeted items within the canteen setting.

Workplaces were provided with substantial support for implementation during the intervention period including:

- Promotional materials including stickers, posters, weekly and daily point of sale menus, content for electronic bulletins etc.
• Practical catering resources including nutrient analysed recipes, shopping lists and daily/weekly
  menu rotations.

• On-call researcher support (mobile telephone and email details provided to ensure constant
  support and quick clarification of queries).

Observational measures were taken at two site visits during the implementation period to check fidelity
of intervention implementation and promotions.

Measuring indicative effects

At site level, sales data on uptake of the intervention were provided by worksites. At Site A the till was
programmed to record intervention meal deals however it was not possible to keep records of the uptake
of individual intervention component sales other than the soup (which was intervention specific) which
could be estimated using preparation and wastage (left over portions). At Site B, catering staff manually
recorded and reported individual component item sales.

At individual level, a pre- and post-intervention questionnaire was delivered online to all employees at
both sites via the intranet and by adopting a word of mouth strategy (i.e. passing information about the
questionnaire survey from person to person by oral communications). A prize draw was offered as an
incentive for participation at Site A (not permitted at Site B). The questionnaire collected data on socio-
demographic details, self-reported height and weight, food habits, key dietary intake indicators,
knowledge of five a day messages, canteen perspectives and purchasing behaviour at the canteen.

Post-intervention qualitative work (focus group discussions and individual interviews) explored
perceptions, acceptability, marketing and perceived benefits of the intervention with catering staff and
employees at each site.

Ethical approval was obtained from the University of Dundee Research Ethics Committee.

Results

Worksite engagement

From the initial contact by the HLA team (37 worksite canteens and 18 contract caterers) four worksites
responded positively but then declined to participate (Figure 1). Further recruitment, involving personal
contact and follow-up telephone calls by the HLA team, also failed to identify interested sites. Further
work by the HWL team identified 4 worksites, two of whom completed the study (Site A and Site B).
Site A was a private call centre employing approximately 1600 employees and Site B was a government
call centre with approximately 550 employees.

Intervention development and implementation
The format of the final intervention delivery was informed by 3 semi-structured interviews with catering staff and informal discussions with other catering personnel at each site. Key issues arising were:

- Convenience for consumers (e.g. “grab n go” preferred)
- Preparation time (for caterers) and eating time (consumers)
- Pricing of produce in line with other items on sale and consideration of sales margins
- Need to continue to offer “less healthy” items to maintain sales

At both sites, consumer focus groups comprised 8 consumers (6 men and 2 women at Site A and 1 man and 7 women in Site B). Key issues arising were:

- Price reductions were considered an incentive to all consumers
- General negative perception of existing menu choice, quality, price and portion size
- Concern that price reductions may equate to reduced food quality or smaller portion sizes
- Concern over food consumption time (break times short) so targeted items should be readily accessible and consumable quickly
- Need for foods to be portable

Of possible options considered (loyalty schemes, free fruit, free vegetables/salad, daily specials) the favoured response emerged as a meal deal comprising either a soup and a sandwich or soup, salad and brown roll at Site A and soup and sandwich or soup, sandwich and fruit at Site B with meal combinations offering a 10 to 20% price reduction.

The final format of a meal deal was tailored to the preference of each site which was incentivised by price reduction and promotional material (marketed as EatSMART) (See Figure 2).

Site observations reported that the intervention meal combination deal was available at the agreed price and marketing approaches were in position (although the availability of the meal deal appeared limited).

Substantial support from the research team was required to initiate and develop these programmes and overcome caterer’s barriers. The time required by the research team to provide support was notable (Table 1).

**Indicative effects**

Till data (Table 2) indicated that the uptake of promoted items varied by week (range 60 to 187 items) and by site, but during all weeks there was greater uptake of intervention soup (range 44 to 138)
compared to the price incentivised intervention meal deal (range 4 to 31) suggesting that consumers were more influenced by the availability of individual new options rather than the price incentive meal deal option. More detailed records were kept in Site B and illustrated that the intervention soups provided significant proportion of all soups (37% - 82%). Total snack sales during the intervention period remained buoyant. Analysis of till receipt data was particularly time-consuming and did not enable the identification of individual level consumption data.

Data on individual level variables was obtained from pre- and post-intervention questionnaires. At Site A, 46 questionnaires were returned pre-intervention (2.9% of workforce) and 28 post-intervention (1.6% of workforce). At Site B 84 questionnaires were returned pre-intervention (15% of workforce) and 53 post-intervention (9.6% of workforce). Twenty two respondents completed the questionnaires at both time points but again this number was too low to make reliable comparisons. Baseline data for demographic and estimates of Body Mass Index (based on self-reported heights and weight) show that respondents were largely from areas of higher deprivation, educated to high school level with high (> 50%) levels of obesity (BMI >30 kg/m²) at each site (Table 3). Reported food intake in the last 24 hour period at pre- and post-intervention, for both sites, are presented in Table 4. The results suggest participants consume a high intake of fruit and vegetables at both time points (around 5 a day) have daily consumption snack foods (crisps, chocolate) and daily sugary drinks but sub optimal frequency of breakfast cereals. Results on knowledge for fruit and vegetables show that at both sites and both time points, over 85% of respondents knew the recommendation for fruits and vegetable intake.

**Catering staff perceptions**

Post-intervention interviews with catering staff were carried out at each site. Staff reported additional, initial workload to familiarise themselves with the new recipes and modify the menu to reduce waste. There were also difficulties in sourcing some ingredients (e.g. low salt stock cubes), due to limitations in existing purchasing contracts. These difficulties were resolved by cash purchasing but this would be unsustainable in the longer term. In addition, caterers reported that tracking of sales was challenging.

With respect to the support provided by the research team both sites spontaneously requested supplies of promotional materials (mostly stickers) for continued work. Although sites also commented that posters are not considered a good way to engage customers and that the intranet was likely to reach more people. One catering staff member noted that EATSMART promotions compete with other campaigns (issued by the caterer).

“We’ve got specific promotions that we run, which sometimes works against the healthy option, because some of it was like, chocolate bars, in line with the Olympics….Regarding the company promotions, we run five or six promotions every month anyway”.

7
The continuation of the intervention was perceived as feasible at Site A without research team support but potentially challenging from a financial perspective. At Site B the caterer could not be seen to offer a price incentive at only one of their sites but aspects of it could be continued (possibly on one day a week). Caterers also reported that recipes may need to be modified to suit customer tastes (e.g. soup consistency) although this may have an impact on the nutrient profile. Caterers also reported the importance of meeting customer preference through maintaining current selections (e.g. pies, confectionery and crisps) and maintaining current sales figures.

Consumer perceptions
The post intervention focus groups consisted of 4 participants at Site A and 6 participants at Site B. In the focus group discussions the target foods were considered to be “tastier” and “healthier” “and it was reported that there was more salad on the sandwiches and an improvement in overall quality. However, respondents didn’t always perceive the intervention items to be healthy.

Discussion
It is recognised that the catering sector has significant potential to influence dietary intake, with the potential to impact on obesity prevention. In Scotland, the Healthy Living Award (HLA) is designed to encourage caterers to increase the availability of healthier options but often these are offered alongside a range of high fat, sugar and salt options. Increasing opportunities and incentives for nutrient dense food choices provide a unique opportunity for impacting on public health. Previous work on price reduction in worksite settings has largely been undertaken in college or hospital settings where health promotion programmes may be more evident (Epstein et al, 2012). The demographic characteristics and weight category of respondents in the current work lend support to the potential of worksites to reach nutritionally vulnerable populations.

The extent to which culturally popular food selections (pies, fries, crisps and confectionary), catering promotions (e.g. chocolate promotions) and general concerns about the impact of “healthy eating” options on sale margins may have contributed to the poor response from caterers to participate in the study warrants further exploration. It is unclear why financial imbursement (£1000 token of appreciation for participating) helped to initiate discussions with some caterers but was insufficient to persuade dialogue with others.

Intervention components were tailored to consumer preferences and catering practicalities and although largely operationalized as planned, consumer feedback suggested some limited availability, possibly reflecting caution in preparation exerted by caterers anticipating waste. The catering staff involved in the study invested substantial time and energy contacting suppliers, organising and preparing new
menus, accessing ingredients and testing new recipes, highlighting the commitment needed for such interventions which involved freshly prepared foods in contrast to fast, ultra processed items. Researchers designing studies in this area should not underestimate the amount of time, resource and support that is required to enable caterers to engage in research studies. Nurturing, supporting and understanding perceived and actual challenges faced by enthusiastic individuals in the catering industry who want to engage with “healthy eating” options is essential if intervention implementation is to be achieved.

The uptake of price incentivised “meal deals” was modest and the uptake of healthier component parts without the price reduction was encouraging, indicating consumer acceptance of items with modified nutrient composition (notably salt). The intervention period was short (ten weeks) with considerable variation in uptake indicating that a longer period is needed to establish sustainability and to build on this single intervention. Whilst the research team were disappointed not to be able to provide promotions based on health, work by Horgen and Brownell (2002) suggest that health messages may compromise effects of pricing and the current focus on value highlighting the financial (value) gain may have been more appropriate. Response from caterers suggests that poster marketing is unlikely to be effective and intranet/electronic communications and point of purchase marketing (as undertaken for chocolate promotions) may be more engaging.

The impact of price reductions on a range of single items which meet desirable nutrient composition was not undertaken within the current study because of consumer preference for the meal deal approach but deserves further exploration given previous success in the vending setting (French et al, 2010). In addition, the potential for meal deals which may increase usual meal spend may be impractical and unfeasible for many low income workers.

A recent review by An (2013) on 20 field experiments of subsidies in food purchasing report that all but one study showed that subsidies on healthier food resulted in increased purchase and consumption of promoted products. However a review on the experimental research on the relationship between food pricing changes and purchasing reported that whilst price changes modify purchases of targeted foods, the impact on the overall quality of purchases is mixed because of substitution effect (Epstein et al, 2012). These findings raise the issue of how we address the challenge of the abundance of energy dense foods sold in catering establishments and how we shift the overall balance towards purchase of greater quantities of healthier items with a positive effect on overall dietary quality.

The current study has highlighted numerous challenges in data collection methodology at catering and individual level. Future studies should explore utilising technological advances in the catering arena to reduce the data collection burden experienced. For example, using cashless systems to collate sales
information and link purchases to individual level data or study surveys warrant further exploration. Smartphone technology (such as apps, multi-media/text messages or instant messaging) to record purchasing behaviour or communicate with consumers may also improve study methodologies. However, it is important not to avoid investigations in smaller and less affluent establishments where these technologies may not be available.

Response rates could be improved with incentives for data return (e.g. entry to prize draw) but the current study has shown this approach is not acceptable in all workplaces and further consideration should be given to innovative routes to improve response.

**Conclusion** Whilst the worksite environment has significant potential to improve health and well-being significant efforts are required to engage worksite catering teams and implement healthy eating interventions. Evaluation methods require further development in order to improve data collection. Responses from consumers and catering staff suggest that further work in this area would be welcomed.

**Acknowledgements**
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http://multimedia.food.gov.uk/multimedia/pdfs/frontofpackguidance2.pdf

http://www.food.gov.uk/scotland/scotnut/signposting/#.U34JW01OW2w


Healthy Living Award http://www.healthylivingaward.co.uk/
Healthy Working Lives http://www.healthyworkinglives.com/


Table 1 Site details including recruitment response

<table>
<thead>
<tr>
<th>Site Description</th>
<th>Recruitment Strategy</th>
<th>No of contact (approx)</th>
<th>Person Visits</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Email/Mail Phone Calls</td>
<td>Person Visits</td>
<td></td>
</tr>
<tr>
<td>Financial Services</td>
<td>Primary *</td>
<td>8 4</td>
<td>1(x1 personnel) 1(x2 personnel)</td>
<td>Unsuitable: Site anticipated 12% increase in sales &amp; limited capacity with staff involved in London Olympics</td>
</tr>
<tr>
<td>Oil Refinery</td>
<td>Primary</td>
<td>6 8</td>
<td>1(x2 personnel)</td>
<td>Un-responsive: Site stopped returning calls</td>
</tr>
<tr>
<td>Insurance Company</td>
<td>Primary</td>
<td>4 1</td>
<td>0</td>
<td>Un-responsive</td>
</tr>
<tr>
<td>Local authority</td>
<td>Primary</td>
<td>13 12</td>
<td>1(x1 personnel) 2(x2 personnel)</td>
<td>Withdraw: Due to uncertain future</td>
</tr>
<tr>
<td>Energy company</td>
<td>Secondary**</td>
<td>2 2</td>
<td>0</td>
<td>Withdraw: Caterer unwilling to participate</td>
</tr>
<tr>
<td>Call centre (Brewers)</td>
<td>Secondary</td>
<td>2 2</td>
<td>0</td>
<td>Un-responsive</td>
</tr>
<tr>
<td>Local authority</td>
<td>Secondary</td>
<td>2 3</td>
<td>0</td>
<td>Un-responsive</td>
</tr>
<tr>
<td>Contract caterers</td>
<td>Secondary</td>
<td>5 4</td>
<td>1(x1 personnel)</td>
<td>Un-responsive</td>
</tr>
<tr>
<td>Energy Company customer service centre</td>
<td>Secondary</td>
<td>3 2</td>
<td>0</td>
<td>Interested initially but then no further contact</td>
</tr>
<tr>
<td>Call Centre</td>
<td>Secondary</td>
<td>1 0</td>
<td>1</td>
<td>Not interested</td>
</tr>
<tr>
<td>Call centre</td>
<td>Secondary</td>
<td>49 9</td>
<td>7(x1 personnel) 6(x2 personnel) 1(x3 personnel)</td>
<td>Intervention completed</td>
</tr>
<tr>
<td>Call centre</td>
<td>Secondary***</td>
<td>9 2</td>
<td>1(x1 personnel)</td>
<td>Un-responsive</td>
</tr>
<tr>
<td>Government call centre</td>
<td>Secondary</td>
<td>47 9</td>
<td>3(x1 personnel) 6(x2 personnel) 1(x3 personnel)</td>
<td>Intervention completed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>151 58 53 person visits</td>
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### Table 2 Intervention Uptake

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<tr>
<th>Site A</th>
<th>Site B</th>
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<tr>
<td>n=1600#</td>
<td>n=550</td>
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<table>
<thead>
<tr>
<th>Combo</th>
<th>Estimated Intervention Soup¹</th>
<th>Salads</th>
<th>Sandwiches*</th>
<th>Snacks (crisps, chocolate sweets)</th>
<th>Combo</th>
<th>Soup</th>
<th>Sandwiches</th>
<th>Snacks (crisps, chocolate, sweets)</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>17</td>
<td>62</td>
<td>16</td>
<td>70</td>
<td>206</td>
<td>27</td>
<td>44 43</td>
<td>8 34 454</td>
</tr>
<tr>
<td>Week 2</td>
<td>7</td>
<td>85</td>
<td>20</td>
<td>55</td>
<td>193</td>
<td>23</td>
<td>55 45</td>
<td>1 28 517</td>
</tr>
<tr>
<td>Week 3</td>
<td>4</td>
<td>45</td>
<td>29</td>
<td>72</td>
<td>169</td>
<td>31</td>
<td>49 54</td>
<td>0 31 566</td>
</tr>
<tr>
<td>Week 4</td>
<td>10</td>
<td>59</td>
<td>13</td>
<td>70</td>
<td>129</td>
<td>27</td>
<td>52 63</td>
<td>0 33 531</td>
</tr>
<tr>
<td>Week 5</td>
<td>29</td>
<td>138</td>
<td>20</td>
<td>130</td>
<td>159</td>
<td>21</td>
<td>94 82</td>
<td>0 38 430</td>
</tr>
<tr>
<td>Week 6</td>
<td>8</td>
<td>68</td>
<td>2</td>
<td>76</td>
<td>161</td>
<td>8</td>
<td>52 37</td>
<td>0 13 540</td>
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<td>Week 7</td>
<td>17</td>
<td>57</td>
<td>13</td>
<td>52</td>
<td>114</td>
<td>7</td>
<td>55 37</td>
<td>0 9 560</td>
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<tr>
<td>Week 8</td>
<td>24</td>
<td>118</td>
<td>17</td>
<td>81</td>
<td>236</td>
<td>22</td>
<td>58 50</td>
<td>0 41 612</td>
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<tr>
<td>Week 9</td>
<td>9</td>
<td>92</td>
<td>18</td>
<td>95</td>
<td>293</td>
<td>9</td>
<td>71 57</td>
<td>1 27 553</td>
</tr>
<tr>
<td>Week 10</td>
<td>17</td>
<td>95</td>
<td>18</td>
<td>74</td>
<td>242</td>
<td>12</td>
<td>72 45</td>
<td>1 27 493</td>
</tr>
</tbody>
</table>

# Only ~800 employees on the premises at any one time

¹ estimated from production and waste

*Included non-intervention items
### Table 3 Online questionnaire survey respondent demographics

<table>
<thead>
<tr>
<th></th>
<th>Site A</th>
<th>Site B</th>
<th>Site A</th>
<th>Site B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
</tr>
<tr>
<td></td>
<td>n=46</td>
<td>n=28</td>
<td>n=84</td>
<td>n=53</td>
</tr>
<tr>
<td>Male (%)</td>
<td>24(52)</td>
<td>19(68)</td>
<td>24(29)</td>
<td>14(27)</td>
</tr>
<tr>
<td>Age (years) Mean (range)</td>
<td>36(20 – 64)</td>
<td>31(21 – 41)</td>
<td>43(23 – 72)</td>
<td>42(23 – 65)</td>
</tr>
<tr>
<td>SIMD 1-5* (%)</td>
<td>29(74)</td>
<td>15(75)</td>
<td>39(65)</td>
<td>25(63)</td>
</tr>
<tr>
<td>Highest educational achievement – school level qualification (%)</td>
<td>14(30)</td>
<td>5(18)</td>
<td>37(46)</td>
<td>24(45)</td>
</tr>
<tr>
<td>Highest educational achievement – post school certificates (%)</td>
<td>14(30)</td>
<td>16(57)</td>
<td>28(35)</td>
<td>18(34)</td>
</tr>
<tr>
<td>Highest educational achievement – degree (%)</td>
<td>15(33)</td>
<td>6(21)</td>
<td>14(18)</td>
<td>9(17)</td>
</tr>
<tr>
<td>Gross annual household income &lt; 15000 (%)</td>
<td>9(27)</td>
<td>7(30)</td>
<td>12(20)</td>
<td>7(20)</td>
</tr>
<tr>
<td>Gross annual household income 15000 - 40000 (%)</td>
<td>19(58)</td>
<td>11(49)</td>
<td>30(50)</td>
<td>17(49)</td>
</tr>
<tr>
<td>Gross annual household income &gt;40000 (%)</td>
<td>5(15)</td>
<td>5(22)</td>
<td>18(30)</td>
<td>11(31)</td>
</tr>
<tr>
<td>Ethnicity – white (%)</td>
<td>43(94)</td>
<td>27(96)</td>
<td>76(95)</td>
<td>51(96)</td>
</tr>
<tr>
<td>Smoker (%)</td>
<td>13(30)</td>
<td>7(26)</td>
<td>8(10)</td>
<td>11(21)</td>
</tr>
<tr>
<td>Live with other adults (%)</td>
<td>36(86)</td>
<td>15(56)</td>
<td>72(88)</td>
<td>44(86)</td>
</tr>
<tr>
<td>Children in household (%)</td>
<td>18(39)</td>
<td>12(44)</td>
<td>34(42)</td>
<td>19(37)</td>
</tr>
<tr>
<td>Part-time working (%)</td>
<td>8(17)</td>
<td>5(17)</td>
<td>16(19)</td>
<td>10(20)</td>
</tr>
<tr>
<td>Full-time working (%)</td>
<td>38(83)</td>
<td>23(83)</td>
<td>64(81)</td>
<td>40(80)</td>
</tr>
<tr>
<td>BMI &gt;30kg/m2</td>
<td>27(61)</td>
<td>11(41)</td>
<td>40(54)</td>
<td>12(27)</td>
</tr>
</tbody>
</table>

All percentages reported are valid percentages *Scottish Index of Multiple Deprivation deciles 1-5 = most deprived areas
Figure 1 Summary of recruitment process

Independent workplace sites contacted directly by study team
n=37

Workplace sites invited to take part via Healthy Living Award Team
email invitation (Summer 2011)

Interested
n=2

No response
n=2

Sites contacted directly by the Health living Award Team (April/May 2012)
n=4

Interested
n=2

No response
n=2

Responded but not interested
n=2

Sites contacted directly by the Healthy Working Lives Programme (Jan – May 2012)
n=4

Interested
n=2

No senior approval to participate
n=1

Positive meeting but no further participation
n=1

Interested sister site n=1

Non-responsive
n=2

Unsuitable
n=1

Withdrawn
n=1

Sites participated in the study
n=0

Non-responsive
n=2

Unsuitable
n=1

Withdrawn
n=1

Sites participated in the study
n=2
### Figure 2 Summary of EatSMART tailored intervention and marketing package

<table>
<thead>
<tr>
<th></th>
<th>Site A</th>
<th>Site B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention</strong></td>
<td>Combination deal</td>
<td>Combination deal</td>
</tr>
<tr>
<td><strong>Specifics</strong></td>
<td>Alternate weeks Soup &amp; Sandwich, Soup, Salad &amp; Brown roll</td>
<td>Two options: Soup &amp; Sandwich, Soup, Sandwich &amp; Fruit</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>£1.80</td>
<td>£2.50 or £3.00</td>
</tr>
<tr>
<td><strong>Marketing Strategy</strong></td>
<td><strong>Product</strong>&lt;br&gt;- New reduced price combination deal&lt;br&gt;- Combination is healthy and complies with TL nutrient profiling system</td>
<td><strong>Product</strong>&lt;br&gt;- New reduced price combination deal&lt;br&gt;- Combination is healthy and complies with TL nutrient profiling system</td>
</tr>
<tr>
<td></td>
<td><strong>Price</strong>&lt;br&gt;- Reduced price for the 10 week intervention period&lt;br&gt;- 10-20% reduction price&lt;br&gt;- Following qualitative research price to be below £2 mark (actual £1.80)</td>
<td><strong>Price</strong>&lt;br&gt;- Reduced price for the 10 week intervention period&lt;br&gt;- 10-20% reduction price (actually may be more given current price range of sandwiches)&lt;br&gt;- Following qualitative research price to be (actual £2.50 for soup and sandwich and £3 for soup, sandwich &amp; fruit)</td>
</tr>
<tr>
<td></td>
<td><strong>Place</strong>&lt;br&gt;- Site A Canteen</td>
<td><strong>Place</strong>&lt;br&gt;- Site B Canteen</td>
</tr>
<tr>
<td><strong>Promotion</strong></td>
<td><strong>Desk awareness strategy (3B’s)</strong>&lt;br&gt;- Visualisation Strategy&lt;br&gt;- Catering staff communication strategy</td>
<td><strong>Promotion</strong>&lt;br&gt;- Site B company intranet (new)&lt;br&gt;- Visualisation Strategy in canteen only (paperless site)&lt;br&gt;- Catering staff communication strategy (small team all on board and aware of intervention – all active players)</td>
</tr>
<tr>
<td><strong>Nutrient criteria</strong></td>
<td>Comply with green TL* nutrient criteria for 3 out of 4 nutrients below:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Fat&lt;br&gt;- Saturated Fat&lt;br&gt;- Salt&lt;br&gt;- Sugar</td>
<td></td>
</tr>
<tr>
<td><strong>Visualisation Strategy</strong></td>
<td>Aimed to promote the EatSMART brand at various locations (e.g. canteen, staffroom, call centre floor, toilets etc) using multiple mediums (e.g. posters, leaflets, electronic communications etc) across each site</td>
<td></td>
</tr>
</tbody>
</table>

*TL Traffic Light Labelling