

retrospective collection of complete baseline and follow up using routine data for a long-term intervention, and large scale regional adjustment.

## Environment 1

### OP57 SOCIOECONOMIC PATTERNING OF FOOD AND DRINK ADVERTISING AT PUBLIC TRANSPORT STOPS IN THE CITY OF EDINBURGH, UK

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**Background** Outdoor advertising has been shown to disproportionately promote unhealthy foods, with links to food preferences, purchasing and consumption habits. Given the socioeconomic inequalities in food quality, consumption and obesity, it is also possible that advertisers are disproportionately advertising unhealthy food products in lower socioeconomic areas. The aim of this study was to explore the socioeconomic patterning of food advertising at bus stops in Edinburgh, UK. Our hypothesis was that there would be a higher prevalence of unhealthy (fast food, soft drinks, confectionary etc.) versus healthy (water, low sugar beverages etc.) food advertisements situated in more deprived areas within the city.

**Methods** This study took place in Edinburgh, Scotland in 2015. In the city, there were 2227 bus stops, 447 of which had advertising shelters (20%). 'ODK collect', an open-source application, was used to record data at each bus stop including GPS coordinates, type of area (residential, industrial etc.), details about the food or drink product being advertised and whether a price or special offer was featured. GPS coordinates were converted to postcodes and then the area level measure of socioeconomic deprivation (Scottish Index of Multiple Deprivation; SIMD). SIMD scores were further converted into quintiles for analysis. Generalised Linear Models were used to compare the patterning of food adverts by area-level deprivation, with and without adjustment for ward size, population and area type. All analyses were conducted using SPSS version 21.

**Results** In total, 562 food advertisements were recorded across 298 bus stops, with a mean of 1.89 food advertisements per shelter. Over 85% of all advertisements were for food products. Nine categories of food and related advertisements were identified including alcohol, confectionary, coffee, fast food outlets, food stores, fruit juices, frozen desserts, iced coffee and soft drinks. No adverts for fresh fruit or vegetables (besides juices), water or low sugar beverages were recorded. Across all nine food categories there were no associations between increased prevalence of these adverts and deprivation level. For example, fast food outlet advertisements (which made up 39% of all food adverts) were no more likely to be present in lower versus higher socioeconomic areas ( $B=0.248$ , 95% CI:  $-0.082$ ,  $0.578$ ,  $p=0.140$ ).

**Discussion** While food advertisements were abundant across the city, there were no patterns related to the socioeconomic status of the areas where these were located. However, all could be classed as advertising unhealthy food and drink

products. This study was limited by not considering other forms of outdoor advertising.

### OP58 EXAMINING ASSOCIATIONS BETWEEN NEIGHBOURHOOD BUILT ENVIRONMENTS AND ADIPOSITY IN THE UK BIOBANK COHORT

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**Background** Persistent inequalities in obesity-related health outcomes may be partly due to unequal distribution of resources in local built environments. For example, differential neighbourhood access to physical activity (PA) facilities or exposure to unhealthy food environments may influence health behaviours and ultimately be reflected in uneven population distributions of overweight and obesity. Despite much research, evidence on health effects of neighbourhood environments remains inconclusive, making it difficult to generalise to suitable interventions, if indeed intervention is warranted.

**Methods** Using cross-sectional data from ~2 70 000 adults aged 40–70 from the UK Biobank cohort residing across England and Wales, including linked person-centred environmental data, we examined whether features of the fast food and PA environments near an individual's place of residence were independently associated with measures of adiposity. We also constructed a composite exposure measure to examine the PA and fast food environments operating together, classifying people's neighbourhoods on a scale of obesogenicity, from high (limited PA facilities and close to a fast food outlet) to low (many PA facilities and far from a fast food outlet). Multilevel models were used to account for clustering due to an area-based sampling design and were adjusted for potential confounding effects of individual and area-level variables, including each exposure on the other.

**Results** Considered separately we found that greater density of PA facilities and greater distance to the nearest fast food outlet were independently associated with smaller waist circumference (WC) e.g. having  $\geq 6$  formal PA facilities within a 1 km street network distance of home was associated with 0.91 cm lower WC (95% CI: 0.32–1.49) than having no nearby PA facilities, and living  $>2$  km from the nearest fast food outlet was associated with 0.42 cm lower WC than living within 500 m (95% CI: 0.11–0.72). Similar patterns were observed for other adiposity outcome measures. Preliminary results from ongoing analyses using the composite exposure measure indicate a possible dose response of WC to increasing combined neighbourhood obesogenicity. A series of sensitivity and other additional analyses currently underway, including the use of propensity scores, will also be presented to explore the possibility that residual confounding may explain the findings.

**Conclusion** Combining a very large sample with wide geographical coverage and robust statistical methods we sought improved clarity on the potential health impact of two built environment exposures, and present evidence suggesting that improving neighbourhood access to PA facilities and minimising proximity to fast food outlets may help reduce adiposity in the UK mid-aged adult population.