Methods The NETS is a commercial dataset providing retail business information in the United States. NYC data were acquired for the period 1990–2010. Businesses were grouped into researcher-defined categories based on Standard Industrial Classification codes and other fields such as business name. All businesses were re-geocoded to ensure accurate localisation. We defined access to BMI-unhealthy businesses (characterised as selling calorie-dense foods such as pizza and pastries) as the total number of BMI-unhealthy businesses present in each NYC census tract (n=2,167) in January of each year. We conducted LCGA in Mplus to identify census tracts with similar trajectories of BMI-unhealthy businesses. We used model fit statistics and interpretability to determine the number of classes. Using the final models, we assigned census tracts to latent classes. We predicted class membership with socio-demographic variables from the Census (population size, income, and ethnic composition) using multinomial logistic regressions and reported predicted probabilities with 95% CI. Sensitivity analyses were undertaken.
Results The final models include 5 and 10 latent classes, respectively. The 5-class solution indicates an overall increase in the number of BMI-unhealthy businesses over time and shows a pattern of fanning out: the higher the value in 1990, the greater the increase over time. Classes are associated with 1990 population size, income, proportion of Black residents (all $p<0.001$), proportion of Hispanic residents ($p=0.033$), and 1990–2010 change in population size and income ($p<0.001$). The 10-class solution identifies two pairs of classes with similar 1990 values, but different trajectories. Differences in those trajectories are associated with population size and ethnic composition ($p<0.001$).
Conclusion This study illustrates how LCGA contributes to the understanding of long-term exposure to the obesogenic environment. The technique can easily be applied to other aspects of the neighbourhood and to other geographies. When linked with health data, identified latent classes can be used to assess how longitudinal exposure to changing neighbourhoods affects health.

P28 ASSOCIATION BETWEEN INDOOR TEMPERATURE AND GENERAL HEALTH IN ENGLISH ADULTS: A CROSS-SECTIONAL STUDY

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Background While the association between indoor temperature and health has been indirectly investigated using variables including self-reported cold homes and the presence of insulation as proxies for temperature, research using indoor temperature directly has been lacking. We hypothesised that lower indoor temperatures would be associated with increased odds of poor general health, which would be partially explained by socioeconomic and housing variables.
Methods We used data from the Health Survey for England collected between 2003 and 2014. The analytical sample consisted of 74 735 participants aged over 16. Indoor temperature was approximated using a one-off reading of indoor air temperature in participants' homes. Self-reported general health was used for the main outcome, dichotomised into very good/good/fair vs. bad/very bad.

Using Stata, logistic regression models were built for the data, using maximum likelihood estimation. The complex survey design and weights were taken into account in the analysis. The influence of socioeconomic and housing factors was assessed by adjusting for these variables in the models.
Results The mean indoor temperature was 20.6°C (SE 0.09), which varied seasonally and regionally. Warmer indoor temperatures were associated with greater odds of poor general health. The age and sex-adjusted odds ratio (OR) of poor health for each degree increase in indoor temperature was 1.01 (95% CI 1.01–1.02 $P<0.01$). Lower social class and lower education level were associated with warmer temperatures and poorer health. The OR decreased after adjusting for these confounding variables. Higher income was associated with warmer temperatures and fairer health. After adjusting for both the suppressor and confounding variables, the OR for poor health for each degree increase in temperature has a statistically significant increase by 19% to 1.02 (95% CI 1.01–1.03 $P<0.01$).
Conclusion Our analysis unexpectedly showed an association between high indoor temperature and poor health. The relationship between socioeconomic factors and indoor temperature was complicated, with different socioeconomic variables having different directions of association with indoor temperature. Further research is needed to understand the temporality and direction of the association. The research is timely given the potential for data from increasingly prevalent smart thermostats.

P29 RACIAL INEQUALITIES IN DENTAL SERVICE UTILISATION AMONGST MIDDLE-AGED BRAZILIAN ADULTS

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Background Dental service utilisation is important as it helps to alleviate pain and suffering, and access to dental treatment. International evidence has shown that racial/ethnic minority groups are less likely to use dental services compared to the White majority population. In Brazil, where the concept of colour/race is used to classify the population, recent research has assessed colour/race inequalities in dental service use amongst the elderly population, but evidence is scarce for other age groups. Therefore, the overall aim of this research is to investigate the differences between colour/race groups (White versus Pardo and Black) in the use of dental service in a national sample of 35 to 44 year-old adults in Brazil taking into consideration the role of individual-level characteristics.
Methods Data from 7902 adults aged 35 to 44 years from the Brazilian National Oral Health Survey (SB Brazil 2010) was used in this study. The survey collected data using an interviewer-administrated questionnaire and clinical examinations. Dependent variables were the time since last dental visit (less than a year, or a year or more), reason for the last dental visit (prevention/check-up, pain or extraction, or treatment), and type of service used (public, or private). The main exploratory variable was self-reported colour/race (White, Pardo, or Black) measured according to the Brazilian Institute of Geography and Statistics (IBGE). Covariates were sex, level of education, family income, satisfaction with teeth/mouth, self-reported need for treatment, self-reported dental pain in