OP59 PREVALENCE AND PATTERNING OF HEALTHY, LOW-CARBON LIFESTYLES IN THE UK: A CROSS-SECTIONAL ANALYSIS OF UK BIOBANK BASED ON COMBINATIONS OF TRAVEL AND DIETARY BEHAVIOUR

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Background There is considerable policy interest in promoting behaviours with health and environmental co-benefits, but current research has typically focused on single behaviours in isolation rather than on understanding healthy, sustainable lifestyles more broadly. The aim of this study was to describe the prevalence and socio-demographic patterning of healthy, low-carbon (HLC) lifestyles in the UK population by identifying clusters of travel and dietary behaviours that have implications for both human health and carbon emissions.

Methods We analysed self-reported data from participants in UK Biobank (aged 39–72) who completed a 24 hour dietary recall questionnaire (n=211,049). Measures of travel behaviour included transport mode(s) for both commuting and non-work journeys (car, public transport, walking, cycling) as well as average daily driving time. Measures of dietary behaviour included consumption of red and processed meat (RPM), fruit and vegetables, and vegetarian status. We used latent class analysis (LCA) to identify unique clusters of travel and dietary behaviour and characterised each group as 'higher-carbon' or 'lower-carbon' based on its indicators. Best-fitting LCA models were selected using information criteria and interpretability. Multinomial logistic regression was used to examine socio-demographic differences between each cluster, compared to the highest-carbon class. All analyses were stratified by sex due to gender differences in diet and active travel behaviour.

Results The best-fitting models identified 10 different classes among females and 9 among males. The largest classes were characterised by higher car use (2–4 hours/day) and higher RPM consumption (>1 serving/day) representing 72% of males, and 65% of females. The proportion leading entirely HLC lifestyles (composed of female cyclists, urban vegetarians) was very small (3%). Several groups comprised a much larger segment whose lifestyles were partially or predominantly HLC (20% of males, 27% of females). In fully adjusted multinomial models, the most consistent predictors of HLC lifestyles (across all classes) were having higher qualifications, residing in an urban postcode, and living in and around London.

Discussion This is the first study to measure HLC lifestyles in the UK based on combinations of travel and dietary behaviour. We found that wholly HLC lifestyles are very rare and particularly scarce outside of the most highly urbanised areas, however a sizable minority of the population engages in behaviours that are partially or predominantly HLC. The existence of clustering between travel and dietary behaviours suggests that there is a policy role for establishing stronger links between these areas and for promoting HLC lifestyles more holistically.

OP60 AGE-FRIENDLY ENVIRONMENTS AND PHYSICAL ACTIVITY: A CROSS-SECTIONAL, OBSERVATIONAL STUDY OF THE OVER 55S IN IRELAND

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Background The benefits of physical activity extend beyond improving or maintaining physical health. Regular activity reduces the risk of dependency in old age, enables social participation, promotes mental health and well-being, and in combination with other lifestyle factors, may reduce the chances of developing dementia. Despite the benefits of regular physical activity, one-in-three older adults in Ireland have low activity levels. Therefore, the objective of this study is to examine the effect of health, social connectedness, and perceived accessibility and safety of the local environment on physical activity in the over 55 s in Ireland.

Methods Data was from the Age-Friendly City and Counties Survey (2016), a population-representative cross-sectional survey of community-dwelling adults aged 55+administered in 21 Local Authority areas in Ireland (n=10,540). Data was collected face-to-face using Computer Assistant Personal Interviews. Mixed-effects negative binomial regressions were used to estimate the effect of 1) health status and behaviours, 2) social connectedness, 3) availability and accessibility of recreational green areas, and 4) perceptions of safety in the local area, on physical activity. Moderate and vigorous activity was measured using a brief version of the International Physical Activity Questionnaire and reported as minutes-per-week. Models were adjusted for socio-demographic characteristics. Results are reported as Beta (β) Coefficients, with Standard Errors (S.E).

Results In the fully adjusted model, area-level differences explained 8% of the observed variance in physical activity. Poor health (β −0.74, S.E. 0.22, $p<0.001$), loneliness (β −0.11, S.E. 0.02, $p<0.001$), community participation (β 0.34, S.E. 0.5, $p<0.001$), and difficulty accessing green spaces (β −0.19, S.E. 0.09, $p<0.05$) partially explained physical activity differences. Several socio-demographic characteristic were also associated with physical activity. Women (β −0.03, S.E. 0.09, $p<0.001$) older adults (aged 75+) (β −0.02, S.E. 0.07, $p<0.001$), and those looking after a family or home (β −0.02, S.E. 0.08, $p<0.01$), were less physically active than their peers. These findings are limited to self-reported perceptions of the local environments whereas geographical data could add further relevant information about area-level social deprivation and distance to services and green spaces.

Conclusion In Ireland, like many other cities and countries that have subscribed to the World Health Organisation's Age-friendly Cities and Counties Programme, locally-directed social and health strategies are increasingly being developed. These results shows that, combined with individual-level behaviour change interventions, improvements to the local environment and promoting social connectedness may be useful in promoting physical activity among the over 55 s.

Mental health and wellbeing

OP61 UNDERSTANDING SOCIAL INEQUALITIES IN CHILD MENTAL HEALTH: FINDINGS FROM THE UK MILLENNIUM COHORT STUDY

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Background Child mental health is poor in the UK, with the most disadvantaged children experiencing worse outcomes and consequences over the course of their lives. Using a contemporary U.K. birth cohort, we therefore explored the social gradient in poor child mental health and the extent to which it is explained by other known risk factors for adverse child mental health outcomes.

Methods Analysis of the U.K. Millennium Cohort Study (MCS), based on 9818 children who participated in five survey sweeps (9 months, 5, 7 and 11 years old). The main outcome was child socio-emotional behavioural problems using the Total Difficulties Score of the Strengths and Difficulties Questionnaire (SDQ), at age 11. Relative Risk (RRs) and 95% confidence intervals (CI) for socioemotional behavioural problems were estimated using Poisson regression, according to maternal education, which was used as a measure of socioeconomic circumstances at birth. Sequential models adjusted for risk factors for child mental health problems included demographic factors (sex, ethnicity and maternal age), family poverty, maternal mental health, and being bullied. Analyses were conducted using Stata/SE with *svy* commands to account for the sampling design and attrition.

Results By age 11, 10.4% (95%CI 9.6%–11.2%) of children had socioemotional behavioural problems. Children of mothers with no qualifications were more than five times as likely to have mental health problems compared to degree level (RR 5.4 [95%CI 4.0–7.4]). Male sex, younger maternal age, poor maternal mental health, family poverty and being bullied, were all independently associated with an increased risk of child mental health problems. Adjusting for maternal mental health, family poverty and being bullied attenuated the RR for mental health problems in the lowest maternal education group compared to the highest (4.2 [95%CI 3.0–5.9]); 4.0 (95%CI 2.8–5.7); and 4.9 (95%CI 3.5–6.8) respectively. Adjusting for all risk factors attenuated the RR to 3.4 (95%CI 2.3–5.0).

Conclusion In a representative U.K. child cohort, we found one in ten children faced socioemotional behavioural problems at age 11. The risk was much greater in disadvantaged children. This was partially explained by the social patterning of maternal mental health, family poverty, and being bullied. The self-reported outcome is a limitation of this study. Future research should investigate critical/sensitive periods for these exposures over the life-course. Efforts to reduce inequalities in child mental health problems should focus on reducing socioeconomic inequalities and action on risk factors such as maternal mental health, child poverty, and bullying.

OP62 WHAT ARE THE PHYSICAL AND PSYCHOLOGICAL HEALTH EFFECTS OF SUICIDE BEREAVEMENT ON FAMILY MEMBERS?: A QUALITATIVE STUDY

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Background Research indicates that experiencing the suicide of a relative can have a significant impact on family members' psychological health. However, research incorporating the impact of suicide bereavement on family members' physical health is sparse. Therefore, the aim of this study was to examine how family members have been physically and psychologically affected by a relative's suicide.

Methods This exploratory qualitative study is a follow-up to a larger case-control study, which examined the psychological, psychiatric and work-related factors associated with suicide in Ireland (SSIS-ACE, 2014–2017). Participants for the SSIS-ACE study were next-of-kin of persons who died by suicide or probable suicide, who were identified via coroner's records. All participants who completed the SSIS-ACE interview and who consented to further follow-up were invited by letter to take part in the current study. Semi-structured interviews, with the use of a topic guide were conducted with 18 relatives experiencing suicide bereavement. Eleven participants were female and seven were male; participant's ages ranged from 25–73 years. Duration of bereavement ranged from 15 to 37 months. Thematic analysis was used to analyse the data which was facilitated by the use of NVIVO 11 to organise the data.

Results Preliminary findings indicate the emergence of five themes in two main domains, psychological and physical outcomes.

Psychological outcomes For most participants, the suicide was viewed as a predominantly negative turning point in their lives, where the death forced them to confront a new reality without their loved one. Secondly, immediate emotional reactions, including shock, disbelief, guilt, anger and surprise were reported. Suffering from persistent mental health difficulties was a recurrent theme among bereaved relatives: difficulties included depression, anxiety, stress, posttraumatic stress disorder, suicidal thoughts and suicide attempts. Coping mechanisms, both positive and negative, utilised by suicide survivors emerged as the fourth theme.

Physical outcomes Immediate physical reactions, including nausea, breathlessness, palpitations, chest pains and losing consciousness were physical reactions reported. Some of these physical conditions did not improve in the months after the death but rather persisted and sometimes worsened over time.

Conclusion Family members bereaved by suicide are at risk of mental and physical health sequelae, while also being vulnerable to suicidal thoughts and suicide attempts. Participants were drawn from a small geographic area and the findings of this study may not be generalisable to other settings. From a policy perspective, this study highlights the importance of providing support services for this group following suicide bereavement.