the last six months, presence of decayed teeth, filled teeth, and missing teeth. Binary and multinomial logistic regression analyses were conducted weighted for complex sample design.

Results No association between colour/race and time since last dental visit on the fully fitted model was observed. For the comparison between visits due to preventive/check-up and pain or extraction, the association remained significant only for Pardos compared to Whites after the adjustments (RRR 1.63; 95% CI 1.11–2.38). In contrast, there was no association between colour/race and visiting the dentist due to treatment. Results from the adjusted model showed statistical differences only for Blacks, and this group was 1.48 times (95% CI 1.10–1.97) more likely to visit the public dental service compared to Whites.

Conclusion Racial inequalities in dental service utilisation were evident for middle-aged adults in Brazil. For some outcomes, the study showed that colour/race inequalities were not fully explained by the covariates investigated. Further multilevel analysis will be conducted to better understand these inequalities.

P30 DOES THE QUALITY OF SOCIAL RELATIONSHIPS BUFFER THE ASSOCIATION OF SOCIAL DISADVANTAGE WITH ALLOSTATIC LOAD? AN ANALYSIS OF ADULTS FROM THE UK HOUSEHOLD LONGITUDINAL STUDY

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Background Positive support from social relationships is associated with better health, although it remains debatable whether positive social support buffers against the negative effects of social disadvantage on health. Moreover, few studies have considered both positive and negative relationship features from different networks (partner, relatives, and friends) and their association with allostatic load, a multisystem physiological dysregulation index, and none have examined whether the association of social disadvantage with higher levels of allostatic load reduces among those with more positive social support (the stress buffering role of positive social support).

Methods This study examined data from 7928 adults from the UK Household Longitudinal Study (wave 2–2010/11). Positive and negative social relationships were assessed within networks (partner, relatives, friends). Allostatic load (range 0–10) was measured by summing eleven risk scores across neuroendocrine, immune, metabolic, cardiovascular and anthropometric systems. We used negative binomial regression models to examine the association of positive social support and negative social interactions with allostatic load, controlling for socioeconomic/demographic, health, behavioural and personality factors.

Results Positive support from all networks was associated with lower allostatic load. Similarly, negative interactions from all networks were associated with higher allostatic load. However, after adjusting for all covariates, only positive support from partners and relatives, and negative interactions with friends were associated with allostatic load. Men with degree qualifications and supportive partners had lower allostatic load (2.3; 95% CI: 2.2–2.5) than highly educated men with low partner support (2.7; 95% CI: 2.4–3.0); positive support did not buffer the association of low education with allostatic load.

Unemployed adults with supportive partners had lower allostatic load (2.4; 95% CI: 1.9–2.8) compared to unemployed adults with low partner support (3.2; 95% CI: 2.4–4.0).

Conclusion Positive social support from partners appears to buffer the effect of unemployment on allostatic load. However, contrary to the stress buffering hypothesis, highly educated men appear to benefit more from supportive partners than men and women with no qualifications.

P31 ACCESS TO PRIMARY CARE FOR SOCIO-ECONOMICALLY DISADVANTAGED OLDER PEOPLE IN RURAL AREAS

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Background Our previous realist review and qualitative research found that socio-economically disadvantaged older people in rural areas face personal, community and health care barriers to obtaining an appointment in primary care. We described these barriers with context-mechanism-outcome (CMO) configurations. Example contexts were lifelong poverty, education, previous healthcare experience, transport, mechanisms were health literacy, assertiveness and convenience, and the outcome was obtaining an appointment. We aimed to explore these CMO configurations using Structural Equation Modelling (SEM) in a national linked dataset.

Methods Individual patient data from Wave 6 of the English Longitudinal Study of Ageing (ELSA) was linked with practice data from the GP Patient Survey (GPPS). Participants in the lowest socio-economic group and living in a rural area were included. Variables from ELSA and GPPS were available for nine complete CMOs. Confirmatory factor analysis was used to generate seven latent variables for unobserved concepts such as lifelong poverty and previous healthcare experience. CMOs were analysed in one overall SEM with multiple mediation paths; contexts were treated as the exposure, mechanisms as the mediator, and the common outcome was ability to obtain an appointment. Stata and MPlus was used to estimate standardised coefficients and 95% confidence intervals using robust maximum likelihood.

Results 276 patients from 178 different GP surgeries were included. We found statistically significant direct or indirect effects for two of the nine CMOs. The ease of getting through to the surgery was statistically significantly associated with being able to get an appointment (β 0.52, 0.42 to 0.61) with an indirect, statistically significantly, mediated effect through convenience (β 0.14, 0.07 to 0.21). Health care experience was not directly associated with getting an appointment (β -0.04, -0.19 to 0.12), but a statistically significant indirect effect through convenience existed (β 0.10, 0.04 to 0.16). Model fit showed mixed results (RMSEA 0.05, CFI 0.923, TLI 0.901) Analysis was limited because there were not data for all theoretical concepts. Furthermore, continuous variables were only included to obtain adequate model fit.

Conclusion We found that obtaining an appointment was both directly associated with the ease of the booking system, and mediated through the mechanism of perceived convenience. We also found a mediated effect from previous health care experience to obtaining an appointment through perceived convenience.

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.

P32 EXPERIENCES OF WOMEN FROM A LOWER SOCIOECONOMIC BACKGROUND WHEN USING HEALTHY EATING MOBILE APPS: A QUALITATIVE INTERVIEW STUDY

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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 for 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.

P33 WORKING UPSTREAM: EXAMINING A CENTRAL IDEA IN ADDRESSING HEALTH INEQUALITIES

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Background Health inequalities are variations or differences in health that are systematic, socially produced and unfair. Despite an improved understanding of the causes of health inequalities, there is an overreliance on individual level interventions, often in the form of behaviour change or lifestyle interventions. It is increasingly recognised that in order to reduce health inequalities, there is a need to engage in more 'upstream' action. However, as action to reduce health inequalities becomes progressively more interdisciplinary, it is unclear the extent to which there is consensus as to what constitutes 'upstream' working to reduce health inequalities.

Methods The aim of this study is to examine interdisciplinary conceptualisations of upstream action to reduce health inequalities. Conceptualisations of upstream action have been identified through (i) a review of the literature and (ii) semi-structured interviews with researchers, practitioners and members of the public actively involved in research and practice to reduce health inequalities in the North West of England. This study is being undertaken as part of an MPhil/PhD study. Interviews and data analysis are ongoing.

Results There exist multiple different, but related, conceptualisations of upstream action. Examples include upstream action as any intervention focusing on prevention; 'low agency' or 'population' interventions; action on the social determinants of health; and grass roots or bottom up action that involves shifting the balance of power from individuals making decisions to individuals who are affected by decisions. There is a distinction that can be made between 'upstream determinants' of health and health inequalities, and 'upstream action', whereby people or interventions located 'downstream' can act to influence more upstream determinants of health inequalities.

Conclusion There is a need to further unpack, and clarify, what we understand by 'upstream action', and the ways in which such actions produce their effects, to assist researchers and practitioners to operationalise and embed these seminal ideas into their day to day practice.

P34 EXPLAINING DIFFERENCES IN CARDIOVASCULAR DISEASE MORTALITY BETWEEN LOCAL AUTHORITIES IN ENGLAND

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Background Substantial inequalities in age-standardised cardiovascular disease (CVD) mortality rates exist at the local authority (LA) level within England, with particular areas having consistently higher rates. Higher deprivation is associated with higher CVD mortality, but we know little about how the demographics and environments of LAs contribute to variations in mortality rates. Our aim was to explore the extent to which demographic, behavioural and environmental factors