the city. The routine information on participation was used to compare the characteristics of participants for the five events. The qualitative findings were analysed thematically to identify similarities and differences between the different events which might explain significant differences in numbers and characteristics of participants across the five different events.

Results Index of multiple deprivation was the main predictor of attendance numbers, with weekly attendance varying from 584 (most affluent location) to 63 (most deprived location). Men outnumbered women (57% vs 43%) and ethnic diversity was low across all events. Significant differences in participant experience were observed between the larger and smaller events in terms of the competitive ethos, degree of anonymity, sense of community and social engagement. There appeared to be a trade-off with larger events offering anonymity and a spirt of competition, whilst smaller events seemed to encourage a more supportive and friendly social experience for participants.

Conclusion Patterns of participation suggest that mass weekly community events of this nature are, whilst likely to provide health benefits to the population as a whole, also likely to be responsible for significant intervention generated inequalities in uptake of opportunities for physically active recreation. Current efforts to increase access to opportunities for physical activity in deprived communities may need to consider carefully how to identify effective ways to attract more participants whilst preserving the perceived benefits of smaller events that promote community ownership and engagement.

| P3 | AREA DEPRIVATION MEASURES IN BRAZIL: A SCOPING REVIEW |

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Background Brazil is a country with high rates of inequality. Although overall poverty rates have declined and global measures of socioeconomic conditions have shown consistent improvements in recent decades, internal disparities remain substantial. Area-based deprivation indices are important for understanding social inequalities. The purpose of this review is to inform the development of a small area deprivation index for Brazil, describing and assessing currently used area based measures of socioeconomic inequalities in Brazil for health research.

Methods We searched five electronic databases and seven websites of Brazilian research institutions and governmental agencies. Inclusion criteria were multiple measures of deprivation, small areas (i.e. finer geography than country-level) in Brazil. Studies had to be published in English, Portuguese or Spanish. We extracted data on study characteristics, name of the deprivation measure, area level, geographical coverage, variables used to calculate the index and whether it was used to report a health outcome. Results were tabulated according to the area-level used and dimensions of deprivation or poverty included in the measures. We used a narrative synthesis approach to summarise the different deprivation measures

available, highlighting their strengths and weaknesses for application to public health research.

Results A total of 7199 records were retrieved, 126 full text articles were assessed using the inclusion criteria and a final list of 30 articles were selected. Most of the studies were excluded as they did not focus on area level measurements (n=69). We identified no small area deprivation measures that have been applied to the whole of Brazil. Three studies did cover the entire country of Brazil but the 'small areas' used were municipalities with an average population of 37 000. We found limited deprivation measures using the census tract area level and few measures using the most recent 2010 Census. Papers were grouped into six dimensions: income, education, sanitation, household conditions, ethnicity and others. These measures were mainly used to study infectious and parasitic diseases. Few studies used the measures to assess inequalities in mortality and no studies used the deprivation measure to evaluate the impact of social programs.

Conclusion Currently there is no up-to-date small area-based deprivation measure that covers the whole of Brazil. Area-based deprivation indicators have been in use in the UK and other countries for over 30 years. There is a need to develop a similar small-area deprivation index for Brazil that can be used to measure and monitor inequalities in health and mortality.

| P4 | COMMUNITY FOOD PRODUCTION IN SMALL ISLAND DEVELOPING STATES: A SYSTEMATIC SCOPING REVIEW OF HEALTH, SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS |

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Background Small island developing states (SIDS) have some of the highest rates globally of obesity, diabetes and related non-communicable diseases. A diet of energy dense and highly processed foods over fruit, vegetables and fibre is a major determinant of this burden. The majority of SIDS lack food sovereignty, are vulnerable to food insecurity and rely heavily on food imports. The need to increase local food production, particularly of non- or minimally processed foods, is seen as a pre-requisite to effective long term NCD prevention. This research aimed to explore what is known on community-based food production initiatives (CFPIs) in SIDS, including their number and distribution, characteristics, and their positive and negative impacts on health, social and economic wellbeing and the environment.

Methods A systematic scoping review was undertaken to identify literature from a range of disciplines. We searched 12 electronic databases for articles published in the last 20 years which concerned local food production initiatives in SIDS. In total, 8215 articles were screened and data abstracted for 153 eligible articles by two independent reviewers and verified by a third. Articles were included if they were set in one of 57 SIDS countries and reported health, social, economic or environmental impacts *of* or *on* CFPIs. Data abstraction and analysis focused on geographical location, type of CFPI,

methodology and study design, theoretical frameworks proposed and the impacts described in each report.

Results The majority of research was conducted in the Pacific or Caribbean region (49%, 44%) and primarily focused on fishing and crop farming (39%, 26%). The findings indicate that there is a predominance of research focusing on the environmental impact *of* marine and costal resources (mostly fishing), and very limited evidence regarding the impact of locally implemented food production programs on human health, particularly nutrition and diet-related outcomes. Furthermore, there was a general absence of explicit theoretical frameworks or logical models to explain how CFPIs may bring about health, social, economic or environmental change. The studies which reported the impacts *on* CFPIs tended to report the impact of management factors, social characteristics or higher level socio-political environment on CFPIs and subsequent food security.

Conclusion Evidence of the health and other impacts of CPFIs in SIDS is limited and the approaches taken inconsistent. This review demonstrates the need and provides a basis for developing a coherent body of methods to examine the impacts of CFPIs and provide evidence to guide policy.

have constructed by mapping the UK Biobank sample and linking it to publicly available data on a range of geodemographic and environmental characteristics of areas.

Results While the overall association between the PA environment and BMI is negative, models stratified by other neighbourhood characteristics showed some evidence of effect modification at this scale. The main association also varied geographically at various scales, even after comprehensive adjustment for sociodemographic and other characteristics of individuals. For example, we observed an association of above-average magnitude in Scotland, but below-average in Wales, and strong in Bristol and Glasgow, but null in parts of Yorkshire and the North East. Preliminary results suggest characteristics of the broader areas in which neighbourhoods are located may explain some of this observed variation.

Conclusion Associations between neighbourhood PA environments and BMI appear to vary across the UK, at multiple geographical scales. Understanding this heterogeneity may help identify where built environment interventions might be expected to succeed or fail, and what contextual factors might support such interventions.

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Background Studies of neighbourhood built environments and obesity-related outcomes have produced inconsistent findings in different settings. One explanation for this may be that built environment effects on health are context dependent, and therefore vary geographically. Understanding broader contextual factors that might modify or influence health effects of neighbourhood built environments could help identify conditions under which neighbourhood interventions are more likely to succeed. Using the large, geographically diverse UK Biobank sample and linking it to other area-level data, we examine whether various contextual factors at multiple scales modify our previously observed associations between the neighbourhood physical activity (PA) environment and adiposity, and/or predict geographical heterogeneity of those associations.

Methods The UK Biobank cohort comprises approximately 4 00 000 adults aged 40–69, recruited from across the UK between 2006 and 2010 using a clustered sampling design. Linked to each individual is detailed information about their neighbourhood environment, derived from national spatial databases. First, we examine whether cross-sectional associations between the number of formal PA facilities within 1 km of people's homes, and BMI, are modified by other neighbourhood characteristics (e.g. greenspace) operating at the same scale, by fitting interaction terms between the PA environment and potential modifiers and examining stratum-specific associations. Second, we describe how the main association varies geographically across UK nations, regions and local authorities, then explore how contextual factors at various scales might explain this variation. We apply single and multilevel regression modelling techniques to a dataset we

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Background This research focusses on geographical variation in population mental health over the period 2007–2011 (during the onset of the economic recession). We report preliminary results from a project recently funded under the ESRC SDAI programme, seeking to explore variability in mental illness in Scotland during this period. Our methods combine information on individual lifecourse changes, as well as change over time in areas where the individuals are living. This research contributes to a growing field concerned with the relationships between population health and changes in wider determinants of health, operating over time for both individual *people* and *places* where they live.

Methods We are making innovative use of a variety of data sources including individual data from the Scottish Longitudinal Study (SLS), a large (5%) sample from the Scottish population; drawn from the population census made available under secure conditions at the Longitudinal Studies Centre Scotland, with help and supervision of SLS staff. (SLS is supported by the ESRC/JISC, the Scottish Funding Council, the Scientists Office and the Scottish Government.) We report on work which has linked these data to information on prescriptions likely to be used to treat mental illness (provided by the Electronic Data Research & Innovation Service (eDRIS) and information on area socio-economic conditions publicly available via Scottish National Government and NOMIS (Durham University) a service provided by the Office for National Statistics, ONS.

Results We report preliminary results from a dataset for more than 1 20 000 people. Most of those reporting mental illness were taking antidepressants. There is a significant statistical