

and expanding urbanisation has had deleterious effects on the diet and health of city dwellers; yet urban planning offers a potential mechanism for public health strategies. To inform such policy efforts in the Caribbean, we conducted a cross-disciplinary study to understand historical and epidemiological transformations in Kingston, Jamaica. With this case study, we aimed to develop methods and conceptual tools for investigating the historical social, political and economic contexts that have shaped contemporary foodscapes and can inform future nutrition strategies.

Methods Caribbean historians analysed principally online Jamaican newspaper archives to examine changes in food availability, affordability and consumption, and public discourses around eating, particularly fast food and other types of unhealthy food, from 1945 to present. Public health researchers undertook a scoping review to map available regional health survey databases for local nutrition and related health data, to examine major epidemiological trends in nutrition for the same time frame and assess its impact on non-communicable diseases. Geographical information scientists mapped the health and historical data to produce an interactive map of the evolution of Kingston's foodscape.

Results

Preliminary historical findings include the increasing popularisation of commercial, more quickly prepared meals between the 1950s and 1970s; a national campaign to promote locally produced food crops in the diet to address food scarcity in the late 1970s; and the proliferation of United States fast food chains in Kingston in the 1980s. The health data review found thirteen relevant health or nutrition surveys on malnutrition including childhood stunting rates, nutrient deficiency and obesity rates. Few predate the 1980s and many only offer national (versus city level) data. Annual health and demographic reports pre- and post-independence in 1962 might be able to fill data gaps. For the geographical information systems map, we had to identify relevant historical address points, as well as identify and digitalise historical maps from 1945 onwards onto which data can be layered.

Conclusion Structural approaches to public health require us to expand the scope of transdisciplinary research and build the methodological capacity to make 'non-traditional' connections. In this case study of the health history of a major Caribbean urban space, while not claiming causal relationships between historic and health trends, we suggest the important role that natural events, international and local policies, and advertising driven economies play in the production of 'unhealthy' foodscapes over time.

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P17 DIETARY INFLAMMATORY POTENTIAL AND RISK OF BREAST CANCER: RESULTS FROM A CASE-CONTROL STUDY IN FRANCE

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Background Diet is known as one of the major modifiable risk factors for the regulation of chronic inflammation.

Epidemiologic studies that have examined the association between dietary inflammatory potential and breast cancer risk have been inconsistent. The aim of this study was to assess the association between the Adapted Dietary Inflammatory Index (ADII) and breast cancer risk.

Methods The study was conducted using data from the CECILE study, a population-based case-control study in 2 French departments (Ille-et-Vilaine and Côte d'Or). The group of cases included women aged 25–75 years with a cancer of the breast diagnosed between 2005 and 2007. Controls were selected at random from the telephone directories and were frequency-matched to the cases by age and department.

Information on socio-demographic characteristics, lifestyle-related factors, hormonal and reproductive history, previous medical conditions, and family history of breast cancer were obtained from a structured questionnaire during in-person interviews. Information on dietary habits the year prior to inclusion was self-reported by the study subjects using a 150-items food frequency questionnaire.

The ADII for each subject was calculated as the sum of the standardized energy-adjusted intake of each dietary component weighted by its dietary inflammatory score, as described by (van-Woudenberg et al, *Am J Clin Nutr*, 2013).

Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated from multivariable logistic regression after controlling for potential confounders selected among breast cancer risk factors.

Results The analysis was based on 840 cases and 908 controls who completed the food frequency questionnaire. The OR for breast cancer in women in the highest quartile of ADII as compared to women in the lowest quartile, was 1.43 (95% CI: 1.07–1.90) and there was a significant trend of increasing risk with increasing ADII. The corresponding OR in menopausal women was 1.58, 95% CI: 1.08–2.31, while no statistically significant association was observed in premenopausal women

Conclusion Our results suggest that a pro-inflammatory diet increases the risk of developing breast cancer among postmenopausal women.

P18 MULTILEVEL LATENT CLASS MODELLING OF SIMULATED HEALTHCARE PROVIDER-LEVEL CAUSAL EFFECTS IN OBSERVATIONAL DATA

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Background Healthcare provider performance is commonly assessed using patient outcomes, e.g. survival rates. Patient characteristics that may affect outcomes in the absence of genuine provider-level differences must therefore be balanced across providers to ensure a fair comparison. There are many methods that can accommodate this patient 'casemix' but none that also allow the assessment of provider-level covariate effects, i.e. the potential causes of performance differences. We aim to demonstrate the utility of multilevel latent class (MLC) modelling to identify causal provider-level covariate effects after accommodating patient differences.

Methods We simulated data for patients and providers, based on a previously utilised real-world dataset of patients diagnosed with colorectal cancer. Age at diagnosis, sex and