

recommendations (versus 22% in most deprived). Preliminary model validation appears to suggest estimates are suitable for use.

**Conclusion** Our study presents a novel framework for estimating fruit and vegetable consumption for small areas and within cities. We find low levels of fruit and vegetable consumption in Liverpool, with wide geographical inequalities in consumption by level of deprivation. These results were largely supported by internal/external validation. Producing small area statistics can support better nuanced decision-making including geographical targeting of interventions, especially for local authorities, as well as provide robust inputs for other modelling methods (e.g. agent-based modelling).

OP40

#### 'THERE IS NO SILVER BULLET' HOW PARLIAMENTARY DEBATE ON THE UK SOFT DRINKS INDUSTRY LEVY CHANGED OVER TIME (2014–2020): AN APPLIED THEMATIC ANALYSIS

<sup>1</sup>Catrin Penn-Jones\*, <sup>1</sup>Emma Lawlor, <sup>1</sup>Hannah Forde, <sup>2</sup>Tarra Penney, <sup>3</sup>Steven Cummins, <sup>1</sup>Martin White. <sup>1</sup>Centre for Diet and Activity Research, MRC Epidemiology Unit, University of Cambridge, Cambridge, UK; <sup>2</sup>School of Global Health, York University, Toronto, Canada; <sup>3</sup>Department of Public Health, Environments and Society, London School of Hygiene and Tropical Medicine, London, UK

10.1136/jech-2021-SSMabstracts.40

**Background** Announced in March 2016 and implemented in April 2018, the UK Soft Drinks Industry Levy (SDIL) aims to incentivise the reformulation of soft drinks. The SDIL has successfully decreased the amount of sugar in UK soft drinks, and purchased in soft drinks. Consequently, the SDIL has been widely applauded as a policy success. SSB taxation in other countries, however, has not been as successful and in some cases the policy was retracted. We aimed to develop an understanding of why the SDIL was deemed successful by analysing parliamentary debate two years before its announcement until two years post-implementation (2014–2020).

**Methods** Searches of Hansard were conducted for parliamentary debate transcripts discussing the SDIL across three key time periods: Pre-Announcement (01/01/14–15/03/16), Announcement – Implementation (16/03/16–5/04/18), and Post-Implementation (6/04/18–16/03/20). 218 transcripts containing eligible search terms were identified, and 179 included in the analysis after screening for relevance. Applied thematic analysis was conducted in 5 stages: familiarisation and creation of initial codebooks, independent second coding, codebook finalisation through team consensus, final coding of the dataset to the complete codebook and theme finalisation through team consensus.

**Results** Common issues raised in discussions across the timeline were: the ring-fencing of SDIL funds for pro-social causes, the scale of the health problems associated with excess sugar consumption, and the role of celebrities in making the SDIL a high profile issue. MPs acknowledged that the SDIL is not a 'silver bullet' for obesity prevention: it was positioned as either a 'good start' with other interventions required or that other interventions were needed instead. Distinct themes were that, due to early reformulation, the SDIL was discussed as 'having worked' one year prior to implementation. This notion persisted until the end of the timeline. These themes will be further refined to identify temporal patterns and trends. Additional results will be submitted before the June 28th deadline.

**Population Health Relevance** The SDIL is unique: it is a flagship policy for the UK Childhood Obesity Strategy and has cross-party support. Understanding why and how the SDIL made it onto the statutes, and why it was politically successful is vital for using policy instruments to improve population health in future. This work will aid understanding of the parliamentary process surrounding the SDIL, and could provide insight for those wishing to extend the SDIL to other products or implement SSB taxes elsewhere.

OP41

#### EVALUATION OF A NATURAL EXPERIMENT TO INCREASE AVAILABILITY OF HEALTHIER SNACK FOODS IN VENDING MACHINES USING INTERRUPTED TIME SERIES ANALYSIS

Charlotte Evans\*. Food Science and Nutrition, University of Leeds, Leeds, UK

10.1136/jech-2021-SSMabstracts.41

**Background** The food environment plays a key role in access and availability of healthier food and drink choices. Community based vending machines are one source of energy dense snack foods high in saturated fats, sugars and salts, particularly for young people. The aim of this research was to evaluate the increased availability of healthier options of different types of snack products sold in vending machines situated in English leisure centres. The natural experiment was managed by Leeds city council with vending provision by Wilkes vending company and support from Public Health England (PHE).

**Methods** The intervention sought to increase the availability of healthier food items within 18 vending machines in Leeds leisure centres over three iterative phases during 39 weeks between September 2018 and May 2019. Products were altered to meet agreed nutrition criteria at each phase based on the Government Buying Standards for Food and Catering Services (GBSF) and taking into consideration calorie guidelines within PHE's sugar reduction programme, and product availability. A quasi experimental trial design was used with interrupted time series analysis and segmented regression techniques adjusting for underlying trends, correlation between data points and holiday weeks when footfall is generally lower. The primary outcomes were the changes in level and trend of weekly purchased energy in phase 1 and phase 2. Secondary outcomes included phase changes in levels and trends for saturated fats, sugars, salt and purchased units.

**Results** Total energy, saturated fats, sugars and salt from products purchased all significantly reduced in phase 1 compared with baseline and although did not reduce further at phase 2 when more stringent standards were implemented, nutrients purchased continued to be lower compared with baseline. Trend changes during phase 1 were non-significant for all nutrients; however, during phase 2 there were upward trends for energy, saturated fats and salt. The total weekly amount of energy purchased by all machines reduced by 244,256kcal (95% CI -399,456 to -89,057 kcal), between baseline and phase 1. The reductions for saturated fats, sugars and salt were 4,917g (95%CI -8884 to -950g), 23,868g (95%CI -38,369 to -9,366g) and 425g (95%CI -644 to -207g) respectively. Weekly sales varied over time and were lower in phase 1 but recovered in phase 2.