negative (stigma, work load, negative impact on reputation) and the positive impact (detailed review of procedures, implementation of targeted approaches) of the outlier process. Participants felt that sharing experiences of outlying hospitals helps others to improve. They also suggested a 'buddy system' between better and worse performing hospitals. Many highlighted the importance of 'networks' to share experiences, either good or bad, as a vehicle for improving practice.

Discussion The outlier process was generally accepted as a possible mechanism to improve practice. However, participants indicated that effective dissemination is key to ensuring that identifying poor outcomes in some hospitals (e.g. high-risk approach) can stimulate country-wide quality improvement (population approach).

P12 ALCOHOL CONSUMPTION DURING MID-LIFE AND POSTMENOPAUSAL BREAST DENSITY

V Hailey*, A Britton, S Pinto Pereira. *Department of Epidemiology and Public Health, University College London, London, UK*

10.1136/jech-2020-SSMabstracts.108

Background Alcohol consumption and breast density are both established risk factors for breast cancer. Although it has been suggested that the effect of alcohol on breast cancer is via altered breast density, few studies examine whether alcohol consumption at particular life-stages is associated with subsequent mammographic breast density. Average breast density decreases with age and at menopause however women with high alcohol consumption have been shown to have higher breast density. The aim of the study was to examine the association between alcoholic consumption during mid-life and breast density in a population based sample of postmenopausal women.

Methods Data on alcohol consumption and breast density were examined among 833 postmenopausal women from the National Survey of Health and Development, a cohort followed up since their birth in 1946. Mammograms were obtained from routine screening programmes (at approximately age 50 years), from which breast density was calculated. Alcohol intake was self -reporting during mid-life (36, 43 & 53 years). Linear regression was used to evaluate the association between weekly grams of alcohol intake at each age and breast density. Regression was used to evaluate the association between alcohol consumption and breast density. This was then adjusted for body mass index (BMI), a known confounder. Then adjusted for BMI and additional confounders; parity, age at first child, age at menstruation, smoking status, physical activity, social status. Age at mammogram and menopause status were constant for all women, therefore no adjustment necessary.

Results In unadjusted analysis a unit increase in weekly alcohol consumption at age 36, 43 and 53 was associated with 4.1% & 3.4% increase and 0.3% decrease in breast density respectively. After adjustment for BMI, association remained age 36 with a 2.7% increase, and lost age 43 & 53. All association was lost when adjusted for potential confounders.

Conclusion A 2017 systematic review by Zimbicki and colleagues found a positive association between high alcohol intake and breast density, with a stronger effect seen in premenopausal women. This study suggests that there is no association between alcohol consumption in mid-life and postmenopausal breast density.

P13 ASSOCIATIONS BETWEEN THE LIFE TRANSITIONS OF EARLY ADULTHOOD AND CHANGES IN FAST FOOD INTAKE

[1]EM Winpenny*, [2]M Winkler, [3,4]J Stochl, [1]EMF van Sluijs, [2]D Neumark-Sztainer. *[1]MRC Epidemiology Unit, University of Cambridge, Cambridge, UK; [2]School of Public Health, University of Minnesota, Minneapolis, USA; [3]Department of Psychiatry, University of Cambridge, Cambridge, UK; [4]Department of Kinanthropology, Charles University in Prague, Prague, Czech Republic*

10.1136/jech-2020-SSMabstracts.109

Background Early adulthood is typically a period of poor diet and rapid weight gain. It is also an age of transition, including changes in social and physical environments which may be associated with changes in health-related behaviours. We examine the association of five life transitions (leaving the family home, leaving full-time education, beginning full-time employment, beginning cohabitation, and becoming a parent) with change in fast food intake.

Methods We used four waves of data from adolescence (mean age 15) through early adulthood (to mean age 31) from the longitudinal, population-based Project EAT study (Minnesota, US). The underlying trajectory of fast food intake was modelled as a latent growth curve. Additional latent intercepts at waves 2, 3 and 4 were included, regressed on the 5 life transitions, to allow for additional effects of experiencing life transitions between waves. All life transitions were included in a single model allowing adjustment for other transitions and the underlying growth curve.

Results Fast food was consumed 1.69 times/week (SE 0.03) at age 15, and followed a negative quadratic trajectory through early adulthood. Beginning full-time employment and becoming a parent were associated with increases in fast food intake of 0.16 times/week (SE 0.007) and 0.16 times/week (SE 0.004) respectively. Leaving the family home and beginning cohabitation were associated with decreases in fast food intake of -0.18 times/week (SE 0.003) and -0.16 times/week (SE 0.008) respectively. Leaving full-time education was not associated with any change in fast food intake (-0.01 times/week (SE 0.89)).

Conclusion Social transitions in early adulthood contribute to changes in fast food consumption, which may affect dietary intake and long-term health. These findings suggest a further focus on the life transitions of beginning employment and becoming a parent for public health policies and intervention.

P14 POOR ORAL HEALTH AND THE ASSOCIATION WITH DIETARY QUALITY AND INTAKE IN OLDER PEOPLE IN TWO STUDIES IN THE UK AND USA

[1]E Kotronia*, [2]SG Wannamethee, [1]H Brown, [2]AO Papacosta, [3]PH Whincup, [2]LT Lennon, [4]M Visser, [5]YL Kapila, [6]RJ Weyant, [1]SE Ramsay. *[1]Population Health Sciences Institute, Newcastle University, Newcastle Upon Tyne, UK; [2]Department of Primary Care and Population Health, University College London, London, UK; [3]Population Health Research Institute, St George's University of London, London, UK; [4]Department of Health Sciences, Vrije Universiteit, Amsterdam, The Netherlands; [5]Department of Orofacial Sciences, University of California, San Francisco, USA; [6]Department of Dental Public Health, University of Pittsburgh, Pittsburgh, USA*

10.1136/jech-2020-SSMabstracts.110

Background We investigated the associations of poor oral health with dietary quality and intake in older people. We also examined whether changes in dietary quality can influence the risk of oral health problems.

Methods Data come from the British Regional Heart Study (BRHS) and the Health, Aging and Body Composition (HABC) Study. The BRHS included older men from 24 British towns aged 71–92 years in 2010–12 (n=2,147). The HABC Study, included 3,075 American men and women aged 71–80. In both studies, measures of oral health included tooth loss, periodontal disease, dry mouth, and self-rated oral health. Dietary data included dietary quality (Elderly Dietary Index in the BRHS, and Healthy Eating Score in the HABC Study) and intake (processed meat, calories from fat, protein and fruits and vegetables). Additionally in the BRHS, change in dietary quality was assessed over 10 years from 1998–2000 (age 60–79 years) to 2010–2012 (71–92 years).

Results In the BRHS, tooth loss, fair/poor self-rated oral health and accumulation of oral health problems were associated with poor dietary quality, after adjustment for age, social class, smoking, alcohol, history of cardiovascular disease (CVD) and diabetes, body mass index (BMI) and energy intake. Similar associations were observed for high intake of processed meat. Accumulation of oral health problems and self-rated oral health were associated with being in the top quartile of percentage of calories from saturated fat (fair/poor self-rated oral health, odds ratio (OR)=1.34, 95% CI 1.02–1.77) after adjustment for confounders. In the HABC study, no significant associations were observed between poor oral health and dietary quality after full adjustment. In the fully-adjusted model (age, gender, race, education, smoking, alcohol, history of CVD and diabetes, BMI and energy intake), periodontal disease was associated with the top quartile of percentage of calories from saturated fat (OR=1.48, 95%CI 1.09–2.01). In the BRHS, persistent low dietary quality over 10 years (from age 60–79 to 71–92 years), was associated with higher risk of tooth loss and accumulation of oral health problems at 71–92 years.

Conclusion Older individuals with oral health problems had poorer diets and consumed fewer nutrient-rich foods. Moreover, persistent poor dietary quality in older ages was associated with oral health problems later in life, suggesting bi-directional associations between oral health and dietary intake in older age. Improved management of nutrition and oral health are both important aspects of the health of older populations.

P15 CHILDRENS' FOOD AND BEVERAGE PORTION SIZES ON THE ISLAND OF IRELAND: A QUALITATIVE STUDY OF PARENTS' VIEWS AND PRACTICES

[1]JM Harrington*, [2]CI McGowan, [2]M O'Reilly, [3]S Moore, [3]JV Woodside. *[1]School of Public Health, University College Cork, Cork, Ireland; [2]Human Health and Nutrition Direcotrate, Safefood, Cork, Ireland; [3]Northern Ireland Centre of Excellence for Public Health, Queens University, Belfast, UK*

10.1136/jech-2020-SSMabstracts.111

Background Portion sizes of commercially available foods and beverages have increased since the 1980s, as have portion sizes consumed by children. Children's consumption of larger portion sizes is associated with higher energy intakes and weight status. Parents and guardians act as critical role models for children in the development of eating habits and often decide the amounts (portion sizes) their children are served. How parents portion foods and beverages, and how they decide the amounts to serve is an understudied domain. Children's portion sizes, thus presents a clear, modifiable determinant of excess energy consumption in children and risk of weight gain.

Methods The primary aim of this qualitative study, was to understand parents' practices in portioning food and beverages for their children; their mechanisms for judging appropriate portion sizes and the factors influencing these judgements. A sample of 144 parents with at least one child aged 2–12 years who did not require a diet on medical grounds participated. Parents were recruited via purposive sampling of preschools and primary schools geographically located in either urban or rural areas of Northern Ireland and the Republic of Ireland, and classified as either higher or lower levels of disadvantage.

Results Parents reported that they do not consciously think about the portion size (quantity) that they give to their children but place greater focus on the types of food served. Generally, parents feel that the portion sizes that they give to their children are appropriate. This was reflected in the three main themes comprising of multiple sub-themes that were identified from the analysis: 1) Parental portioning practices - parent serves and permitting child to self-serve; 2) Factors influencing parental portioning including parent motivations, knowledge, child-related factors, family influences, school influences, food retail and other settings, socio-cultural influences and portioning resources used; 3) Parental views on portion size guidance including receptivity to portion size guidance and usefulness of guidance.

Conclusion Understanding how parents portion food for their children, the drivers of these practices and the type of information parents are receptive to will help inform future interventions and information campaigns to help parents understand child portion sizes. From this research it is evident that parents main concern regarding the amount that they feed their children is that their child eats enough to be fed. This amount is something that parents learn through experience of feeding their children and is highly specific to the appetite of each individual child.

P16 VEGETARIAN DIETS AND RISKS OF TOTAL AND SITE-SPECIFIC FRACTURES: RESULTS FROM THE PROSPECTIVE EPIC-OXFORD STUDY

[1]TYN Tong*, [1]PN Appleby, [2]MEG Armstrong, [1]GK Fensom, [1]A Knuppel, [1]K Papier, [1]A Perez-Cornago, [1]RC Travis, [1]TJ Key. *[1]Cancer Epidemiology Unit, Nuffield Department of Population Health, University of Oxford, Oxford, UK; [2]Centre for Exercise, Nutrition and Health Sciences, School for Policy Studies, University of Bristol, Bristol, UK*

10.1136/jech-2020-SSMabstracts.112

Background There is limited prospective evidence on possible differences in fracture risks between meat-eaters and vegetarians. We aimed to study this in a prospective cohort with a large proportion of non-meat eaters.

Methods In EPIC-Oxford, dietary information was collected at baseline (1993–2001) and subsequently around 2010. Participants were categorised into five diet groups at both time points (with 20,106 regular meat-eaters: ≥50 g of meat per day, 9,274 low meat-eaters: <50 g of meat per day, 8,037 fish-eaters, 15,499 vegetarians and 1,982 vegans at baseline for analyses of total fractures). Outcomes were identified through record linkage until mid-2016. Using multivariable Cox regression adjusted for socio-demographic, lifestyle confounders and body mass index (BMI), we estimated the risks