Methods Multi-methods comprising two stages: 1) group and individual interviews with S.Asians aged 50–74 years purposefully sampled from faith-based venues in Oxfordshire (Mosques, Hindu temples and Sikh Gurdwaras), religious festivals and local community groups for maximum variation. Semi-structured interviews based on the Theoretical Domains Framework (TDF) investigated determinants of bowel screening completion. Interviews were recorded, transcribed, and analysed using framework analysis and findings mapped onto the COM-B Behaviour Change Wheel; 2) Co-production of intervention during two workshops with key stakeholders and target population. Findings from stage one were presented, feedback sought and amendments to the intervention prototype were made.

Results To-date 25 adults recruited of Indian, Pakistani and Bangladeshi ethnicity with variation in age, gender, first language, faith, compliance with bowel screening. Key barriers and TDF domains that they mapped to were: - lack of knowledge about bowel cancer and screening; - lack of language, literacy and physical ability (skills) to carry out the home test; - confidence to carry it out correctly (belief about capabilities); - appropriate space and time to carry out the test (environmental context and resources); - putting off undertaking the test (memory attention and decision processes); - risk perception of harms and fear of cancer (emotions). Enablers were: social influences (memory attention and decision processes); risk perception and fear of cancer (emotions). Enablers were: social influences (memory attention and decision processes); risk perception and fear of cancer (emotions). - higher risks of cancer at the established sites (breast, colorectal and prostate cancer) and malignant melanoma, thyroid cancer and multiple myeloma. Higher IGF-I concentrations were associated with lower risks of oral, liver, endometrial and ovarian cancer; longer follow-up is needed to investigate the possible role of reverse causality.

Conclusion Higher IGF-I concentrations were associated with higher risks of cancer at the established sites (breast, colorectal and prostate cancer) and malignant melanoma, thyroid cancer and multiple myeloma. Higher IGF-I concentrations were associated with lower risks of oral, liver, endometrial and ovarian cancer; longer follow-up is needed to investigate the possible role of reverse causality.

Background Insulin-like growth factor-I (IGF-I) is suggested to support cancer cell growth and proliferation. Pre-diagnostic circulating IGF-I concentrations have shown to be positively associated with breast cancer, prostate cancer and colorectal cancer but evidence for less common cancer sites is limited. The aim of this study was to investigate the associations between serum IGF-I concentrations and the incidence of rarer cancers using an outcome-wide approach to study cancers at 26 sites in UK Biobank, in which serum concentrations of IGF-I were measured for ~467,000 participants (93%).

Methods We analysed data from 394,406 cancer-free participants (52% women). IGF-I was measured in serum collected at baseline and in a subsample of 14,149 participants again in repeat samples collected during follow-up. Cancer diagnosis and death due to cancer during follow-up were determined using data-linkage with cancer and death registries. Multivariable-adjusted Cox proportional hazards models were used to determine associations between baseline serum IGF-I concentrations and cancer incidence, using the repeated measurements to correct estimates for regression dilution.

Results After a mean follow-up of 6.9 years, 23,496 participants were diagnosed with a malignant cancer. Higher IGF-I concentration was associated with an increased risk of colorectal cancer (hazard ratio per 5 mmol/l 1.10, 95%-CI 1.05–1.15), colon cancer (1.11, 1.05–1.17), malignant melanoma (1.08, 1.01–1.15), breast cancer in women (1.11, 1.07–1.15), prostate cancer (1.08, 1.04–1.11), thyroid cancer (1.23, 1.05–1.43) and multiple myeloma (1.13, 1.01–1.27), and a reduced risk of oral (0.86, 0.77–0.97), liver (0.37, 0.30–0.45), endometrial (0.90, 0.82–1.00) and ovarian cancer (0.88, 0.78–0.99).

Conclusion Higher IGF-I concentrations were associated with higher risks of cancer at the established sites (breast, colorectal and prostate cancer) and malignant melanoma, thyroid cancer and multiple myeloma. Higher IGF-I concentrations were associated with lower risks of oral, liver, endometrial and ovarian cancer; longer follow-up is needed to investigate the possible role of reverse causality.
negative (stimulates, 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


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**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 decrease with age and at menopause however women with higher 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 menarche, 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

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**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, and 4 were included, regression 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 on average 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

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**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.