testing. Among the QIs determined appropriate for use we generated a further shortlist by excluding those that were specific to certain patient sub-groups and/or care settings. The shortlist was further reduced by identifying similar/related QIs and retaining the indicator with the highest rating.

Results Our search yielded 7,231 references. Following screening, 35 references met our eligibility criteria and were included in the review. We identified 288 QIs for patients with advanced cancer and/or at the end-of-life. Most evaluated physical aspects of care (n=103, 35.8%) or structure and processes of care (n=109, 37.8%). There was a limited number of QIs relevant to psychosocial (n=18) or spiritual/cultural (n=3) care domains. 27.8% (n=80) of QIs were assessed as appropriate for use; 40.3% (n=116) inappropriate for use, and 31.9% (n=92) had limited testing. Acceptability and validity were the measurement properties with the fewest positive assessments (13.2% and 21.9% respectively). Only 16 QIs (5.6%) reported any benchmarking data. Our shortlist comprised 36 QIs after those specific to patient sub-groups or care settings were excluded. This was further reduced to 15 once duplicate and/or related QIs were removed.

Conclusion Only a small proportion of QIs developed for patients with advanced cancer and/or at the end-of-life have received adequate testing and/or are appropriate for use. Further testing is recommended, particularly with regards to acceptability and validity, as well as research to establish benchmarking data and to expand QIs relevant to psychosocial, cultural and spiritual care domains. To support cancer services in conducting comprehensive and meaningful assessments of quality, we propose 15 QIs, identified from our review as being scientifically sound, applicable across care settings and which collectively evaluate quality across multiple domains of care.

Nutrition/Obesity

OP36 TRANS FATTY ACID BIOMARKERS AND INCIDENT TYPE 2 DIABETES: POOLED ANALYSIS OF 10 PROSPECTIVE COHORT STUDIES IN THE FATTY ACIDS AND OUTCOMES RESEARCH CONSORTIUM (FORCE)

[1]HTM Lai*, [2]F Imamura, [3]AV Ardisson Korat, [4]R Murphy, [5]NL Tintle, [6]J Bassett, [7]J Chen, [8]J Kroeger, [2]NG Forouhi, [8]MB Schulze, [9]WS Harris, [10]RS Vasan, [3]FB Hu, [13]RN Lemaitre, [6]GG Giles, [7]L Djousse, [11]I Brouwer, [12]JHY Wu, [12]M Marklund, [1]R Micha, [13]RN Lemaitre. *[1]Friedman School of Nutrition Science and Policy, Tufts University, Boston, USA; [2]MRC Epidemiology Unit, University of Cambridge, Cambridge, UK; [3]Department of Nutrition, Harvard School of Public Health, Harvard University, Boston, USA; [4]Centre of Excellence in Cancer Prevention, School of Population and Public Health, The University of British Columbia, Vancouver, Canada; [5]Department of Mathematics and Statistics, Dordt College, Sioux Center, USA; [6]Cancer Epidemiology and Intelligence Division, Cancer Council Victoria, Melbourne, Australia; [7]Division of Aging, Brigham and Women's Hospital, Boston, USA; [8]Department of Molecular Epidemiology, German Institute of Human Nutrition, Nuthetal, Germany; [9]Department of Internal Medicine, Sanford School of Medicine, University of South Dakota, Sioux Falls, USA; [10]Boston University School of Medicine, Boston University, Boston, USA; [11]Department of Health Sciences, Faculty of Science, and Amsterdam Public Health Research, Institute, Vrije Universiteit Amsterdam, Amsterdam Netherlands; [12]The George Institute for Global Health, Faculty of Medicine, University of New South Wales, Sydney, Australia; [13]Department of Medicine, Cardiovascular Health Research Unit, University of Washington, Seattle, USA*

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Background Type 2 diabetes (T2D) is a major risk factor associated with cardiometabolic diseases, and a major contributor towards mortality and morbidity, given its rapidly rising prevalence worldwide. In experimental studies, *trans*-fatty acids (TFAs) exert harmful biologic effects that may affect T2D risk, but findings from observational studies remain inconclusive, especially for biomarkers which provide an objective advantage with less recall bias and estimation errors. By pooling multiple studies, we may also increase generalizability, statistical power, and address potential interactions by subgroups. Therefore, we assessed prospective associations between circulating biomarkers of individual TFAs and incident T2D in a large, diverse sample.

Methods We pooled ten prospective cohort or nested-case-control studies from Australia, Germany, Iceland, UK, and the USA to perform an analysis using harmonized individual level data for TFA biomarkers and incident T2D. Fatty acids (FAs) were measured in plasma phospholipid, red blood cell membrane phospholipid, or total plasma collected between 1990–2008 from 22,711 participants aged ≥18 years without prevalent diabetes. Evaluated TFAs included *trans*-16:1n-9, sum of *trans*-18:1 isomers (*trans*-18:1n6 to *trans*-18:1n12), sum of *trans*-18:2 isomers (*cis*/*trans*-18:2, *trans*/*cis*-18:2, *trans*/*trans*-18:2), and individual *trans*-18:2 isomers. The multivariable-adjusted relative risk or odds ratio was estimated for each cohort by lipid compartments using a pre-specified protocol for definitions of exposures, covariates, and outcomes for statistical analysis. Association estimates were pooled using fixed-effects inverse-variance weighted meta-analysis.

Results During an average maximum of 14 years of follow-up, 2,244 cases of incident T2D were identified. Median levels of TFAs across cohorts were 0.05–0.18% total FAs for *trans*-16:1n-9, 0.09–2.05% for total *trans*-18:1, 0.10–0.73% for total *trans*-18:2, and 0.01–0.36% for individual *trans*-18:2 isomers. In overall pooled analysis, TFAs evaluated per interquintile range were not significantly associated with risk of T2D. Relative risks for individual TFAs were 1.02 (0.78–1.32) for *trans*-16:1n-9, 0.92 (0.79–1.08) for total *trans*-18:1, 1.16 (0.98–1.37) for *trans*/*trans*-18:2, 0.98 (0.79–1.21) for *cis*/*trans*-18:2, 0.93 (0.76–1.14) for *trans*/*cis*-18:2, and 0.90 (0.78–1.04) for total *trans*-18:2. Findings were consistent when TFAs were assessed categorically by study-specific quintiles, and when associations were pooled within lipid compartment (phospholipids or total plasma).

Conclusion We found that biomarker levels of TFAs were not significantly associated with risk of incident T2D in this international pooling project. Findings may reflect no effect of circulating TFA on T2D or be influenced by mixed TFA sources (industrial or ruminant), or to a general decline in TFA exposure during this period. Associations with T2D for higher levels of TFA biomarkers should be investigated.

OP37 HEREDITARY HAEMOCHROMATOSIS: ASSOCIATIONS WITH MORBIDITY AND IRON SUPPLEMENT USE IN 451,243 UK BIOBANK PARTICIPANTS

JL Atkins*, LC Pilling, D Melzer. *Epidemiology and Public Health Research Group, College of Medicine and Health, University of Exeter, Exeter, UK*

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Background Hereditary haemochromatosis (HH) is the most common and probably the most treatable genetic disorder in Europe, but many patients are misdiagnosed or diagnosed too late. HH causes iron overload and is predominantly due to the *HFE* p.C282Y genetic variant. HH is easily prevented and