

EPIC–Oxford Newsletter 2018

Happy New Year to all EPIC-Oxford Participants and Collaborators



It is now 25 years since the EPIC-Oxford study was launched in January 1993. Thanks to the support of all the participants and the main funding agencies, the study is continuing to produce important new insights into the roles of diet and related factors in determining long term health. The study is currently being supported financially by the Medical Research Council for research on the long-term health of vegetarians, by the Wellcome Trust for research on the roles of meat and dairy products in relation to health, and by Cancer Research UK for work on dietary and other factors in relation to cancer risk.



The Wellcome Trust support started in 2017 and is part of a £5 million award to a team of researchers at the University of Oxford called “Livestock, Environment and People - understanding the health and environmental consequences of eating more meat and dairy”, or LEAP for short. This project addresses the consequences of the global increase in the consumption of meat, dairy and other animal-sourced foods and how it affects the environment and human health. It focuses on how to achieve changes towards more sustainable and healthy diets. Further details can be found at <http://www.futureoffood.ox.ac.uk/project/LEAP>

During 2018 we will continue to analyse data from EPIC-Oxford, including data from the NHS on cancer diagnoses, other diagnoses in hospital, and causes of death. Analyses are underway on a range of topics including the relationships of vegetarian diets with cardiovascular disease, including both ischaemic heart disease and stroke, and we hope that these results will be published this year.

In the last two years, EPIC-Oxford data have been included in more than 50 scientific publications. The findings from a few examples are summarized below:



United Kingdom-based vegetarians and comparable non-vegetarians have similar all-cause mortality.

Vegetarians and others who do not eat meat have previously been observed to have lower incidence rates than meat eaters of some chronic diseases, but it is unclear whether this translates into lower mortality. In a pooled analysis of data from

EPIC-Oxford and the older Oxford Vegetarian Study, together including over twenty thousand vegetarians and forty thousand non-vegetarians, there was no significant difference in overall (all-cause) mortality between the diet groups, but there were some differences for specific causes of death, for example mortality rates for cancer of the pancreas and cancers of the blood were lower in vegetarians than in regular meat-eaters.

Appleby et al, Am J Clin Nutr 2016;103:218-30.

<https://www.ncbi.nlm.nih.gov/pubmed/26657045>



High compliance with dietary recommendations in a cohort of meat eaters, fish eaters, vegetarians, and vegans

The aim of this analysis was to assess dietary adequacy and compliance with population dietary goals in people with different dietary patterns in EPIC-Oxford. Meat eaters had the highest intake of saturated fatty acids, protein, vitamin B2, vitamin B12, vitamin D, zinc and iodine, fish eaters had the highest intakes of selenium, and vegans had the highest intakes of polyunsaturated fatty acids, dietary fibre, vitamins C and E, folate, magnesium, iron, and copper. With the exception of sodium intake, compliance with population dietary goals was high across diet groups. The diet groups under study showed striking differences in nutrient intakes, with possible implications for cardiometabolic disease risk.

Sobiecki et al, Nutr Res 2016;36:464-77.

<https://www.ncbi.nlm.nih.gov/pubmed/27101764>



Relationship of diet and obesity with risk for gallstones

We examined the incidence of symptomatic gallstone disease in EPIC-Oxford. Risk of gallstones did not differ between vegetarians and non-vegetarians. However, there was a large significant association between increasing body mass index and risk of developing symptomatic gallstone disease, and after allowance for the relatively low body mass index of vegetarians they had a small increase in risk compared with non-vegetarians. These findings confirmed the large effect of obesity on risk for gallstones, and suggest that vegetarian diets do not protect against this disease.

McConnell et al, Eur J Clin Nutr 2017;71:731-735.

<https://www.ncbi.nlm.nih.gov/pubmed/28272400>

EPIC in Oxford is supported by the Medical Research Council, the Wellcome Trust, Cancer Research UK and the World Health Organization





Cancer screening and use of hormone replacement therapy and medications in meat eaters and vegetarians

We examined differences in health-related behaviours such as screening or testing for cancer, use of hormone replacement therapy (HRT) and use of other medications in different diet groups in EPIC-Oxford. Compared with meat eaters, vegetarian and vegan women reported lower participation in breast screening, and vegetarian men were less likely to report testing for prostate cancer, whereas no differences were observed among women for cervical screening. In women, all non-meat-eating groups reported lower use of HRT compared with meat eaters. *Tong et al, BMJ Open. 2017;7:e018245.*

<https://www.ncbi.nlm.nih.gov/pubmed/29284719>



Night shift work does not affect breast cancer risk

It has been suggested that working at night may affect the risk of breast cancer, but with substantial additional evidence from EPIC-Oxford and other UK studies we found no change in risk, once other factors (such as obesity) have been taken into account.

Travis et al, J Natl Cancer Inst. 2016;108.pii: djw169
<https://www.ncbi.nlm.nih.gov/pubmed/27758828>



Prostate cancer risk is positively associated with blood levels of a growth factor

To investigate the association between circulating concentrations of insulin-like growth factors (IGFs) and prostate cancer risk, we pooled individual participant data from 17 prospective studies, including EPIC-Oxford. Men with the highest levels of IGF-I had a 30% higher risk of prostate cancer compared to men with the lowest levels of IGF-I, and these associations did not differ significantly by time to diagnosis or tumour stage or grade. These results provide strong evidence that IGF-I is involved in prostate cancer development.

Travis et al, Cancer Res 2016; 76;2288-300.

<https://www.ncbi.nlm.nih.gov/pubmed/26921328>



Fruit and vegetables and prostate cancer risk

We examined in EPIC the prospective association of total and subtypes of fruit and vegetable intake with the incidence of prostate cancer overall, by grade and stage of disease, and prostate cancer death. After an average follow-up time of 14 years, 7,000 prostate cancer cases were identified. A higher fruit intake was associated with a small reduction in prostate cancer risk, but whether this weak association is causal is uncertain. Vegetable consumption was not related with the risk for developing prostate cancer.

Perez-Cornago et al, Int J Cancer 2017;141:287-297.

<https://www.ncbi.nlm.nih.gov/pubmed/28419475>



Potential blood markers of prostate cancer

Little is known about how pre-diagnostic metabolites in blood relate to risk of prostate cancer. We investigated the associations between plasma metabolite concentrations and risk of prostate cancer in EPIC. Seven metabolite concentrations were weakly associated with prostate cancer risk; citrulline may be a marker of subclinical prostate cancer, whereas other metabolites might be related to aetiology. More prospective data are needed to confirm these associations.

Schmidt et al, BMC Med 2017;15:122

<https://www.ncbi.nlm.nih.gov/pubmed/28676103>

We would like to thank all of the EPIC-Oxford participants for your continued support. If you wish to contact us our details can be found below. Our website is regularly updated with news and new publications, and we value the support of our participants to be able to continue this important research.

Our Team:

Principal Investigator: Professor Tim Key
Co-Investigator: Associate Professor Ruth Travis
Nutritional Epidemiologist: Dr Aurora Perez-Cornago
Statistical Epidemiologist: Julie Schmidt
Nutritional Epidemiologist: Tammy Tong
Senior Statistician: Paul Appleby
Statistician: Georgina Fensom
Research Co-ordinator: Krys Baker
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If you have any comments or suggestions, please contact us at queries@epic-oxford.org

We are looking for volunteers to join our patient participant panel at the University of Oxford. The panel consists of study participants within the Nuffield Department of Population Health. Members of the panel are consulted regularly regarding long term cohort studies within the department such as EPIC – Oxford and some clinical trials.

If you wish to become a member please visit <https://www.ctsu.ox.ac.uk/research/participant-panel/> for further information.

EPIC in Oxford is supported by the Medical Research Council, the Wellcome Trust, Cancer Research UK and the World Health Organization

