

Healthier living through food composition and dietary intake research

The Food Databanks National Capability (FDNC) is instrumental in the compilation, interpretation and effective use of food composition data in the United Kingdom that enables the public to make informed decisions about diet and encourages them to choose healthy and nutritious foods.

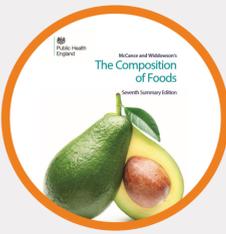
Over a 38-year period, strategic investment from the Biotechnology and Biological Sciences Research Council (BBSRC) has underpinned the sustained development of scientific expertise in food composition research that is maintained by the FDNC at Quadram Institute Bioscience (QIB). The FDNC has played a critical role in generating the data and tools necessary to support innovation in food manufacturing and labelling, standardisation, has been indispensable in developing government policy aimed at reducing diet-related diseases and is also highly valued by doctors, dietitians, researchers and nutritionists who use it to develop therapeutic diets for people who need to carefully manage their nutrient intake for medical reasons.

*QIB receives strategic funding from BBSRC. Before 2017, QIB was known as the Institute of Food Research (IFR).

1978

Institute scientists lead on updating the fourth edition of 'The Composition of Foods' (McCance and Widdowson), a reference book on nutrition that was first published in 1940 by the Medical Research Council. This classic volume was originally used to formulate healthy ration guidelines during World War II and to inform government policy on nutritional fortification of bread.

"The bible for nutritionists, food scientists, dieticians and many others."
 Dr Margaret Ashwell, OBE, President of the Association for Nutrition.



1981

Paul Finglas joins the Institute where his research on food composition is critical for all subsequent updates of 'The Composition of Foods'. The latest edition has sold 4,384 copies, generating an income of £203,766 as of 31st December 2018.

1986

The Institute's contributions to 'The Composition of Foods' are, for the first time, used to calculate nutritional intake values for the rolling programme of National Diet and Nutrition Surveys. Outputs from these surveys continue to be updated and are used to inform government reports, guidelines and policy documents that promote healthy eating as a tool to reduce rates of chronic disease in the UK.

Examples include:

Scientific Advisory Committee on Nutrition's (SACN) reports: 'Folate and disease' (2006); 'Dietary reference values for energy' (2011); and 'Saturated fats and health' (2018).

Scottish Government's policy document: 'Improving maternal and infant nutrition' (2011).

UK Government documents: 'Dietary recommendations' (2012); 'The Eatwell Guide' (2016); and 'Salt intake reduction targets' (2017).

"An unhealthy diet is one of the major risk factors for a range of chronic diseases, including cardiovascular diseases, cancer, diabetes and other conditions linked to obesity."
 World Health Organisation, regional office for the Eastern Mediterranean.

"A government decision to introduce mandatory fortification will mean a major positive impact for the health and wellbeing of babies born in the future. In many cases, it will be the difference between life and death." Kate Steele, Chief Executive of the charity Shine.

2000

Ground-breaking research by Paul Finglas and his group on folate content in foods and dietary estimates directly informs the independent, expert led, nutritional advisory report 'Folic acid and the prevention of disease', published by the Department of Health. This report provided the UK government with fortification levels for bread that would be beneficial in reducing the risk of brain and spinal defects during pregnancy without risk of harm to those with conditions such as pernicious anaemia. After many years of debate, a government consultation on mandatory folic acid fortification is due to take place in 2019.

2005

Paul Finglas with international experts establishes the €12M European Food Information Resource Network of Excellence (EuroFIR) as an online and harmonised food data platform to improve the nutrition of citizens throughout Europe. Under his presidency (2015-present), EuroFIR extended and made available an online database on bioactive compounds from plants that had putative health benefitsⁱ. Researchers use the database for bioactive compound intake levels in populations when studying health effects; it has been cited in over 100 publications to date. The Institute and EuroFIR have also supported development, publication and testing of a European Standard for food composition data (EN16104:2012).



2008

The Institute leads on production of an online, open access, food composition spreadsheet for the UK. This invaluable resource supports research and standardisation; since its launch it has also been used by more than fifty countries to update their national food datasets.

2012

The Institute receives BBSRC funding to establish the Food Databanks National Capability (FDNC), with Paul Finglas as the Lead.



2013-18

Institute researchers and our collaborative partners provide expert advice and a series of training programmes in numerous low to middle-income countries. The exchange of expertise and practical tools has international impact potential, informing nutrition research and food composition policies aimed at reducing the risk of diet-related diseases. This work supports the 'best buy' objectives^{iii,iv} of the World Health Organisation (WHO).

2013

FDNC takes over the management of the UK open access online food composition dataset, which is essential for the food industry to produce appropriate labels that comply with the voluntary 'traffic light' system introduced by the Foods Standards Agency and Public Health England. In March 2019, a searchable version is made available by FDNC on the QIB website and in the first month of availability 737 individuals from eight European countries and the USA access the data.



2016

FDNC leads on the development of Nutritional Information Solutions (NIS), a commercial service providing the food sector with a rapid calculation of the nutritional content of their food products. This supports Trading Standards Organisations and others to ensure information on food labels is accurate and informative and has been used by over 150 companies since its inception.

2017

FDNC establishes a strategic partnership between NIS and Nutritics to further enhance innovation in recipe management and food labelling software throughout the UK through provision of a cloud-based service. This partnership resulted in the nutritional labelling online software that has been validated by EuroFIR.

"The FDNC focus on supporting digital access to food composition data and healthier eating habits could potentially feed into social impact generation for the younger generation, who have been proven to engage more with technological interfaces." James Lay, CEO and Founder, Food Angels UK Ltd.

2018

FDNC lead an EU consortium, funded by EIT-Food, in the development of an online personalised nutrition service platform (QUISPER). This will supply scientifically validated nutrition data, knowledge rules and advisory applications to the commercial market as well as directly to consumers.



The future of FDNC

The considerable expertise and data available within the FDNC continues to be applied through national and international research projects, commercial applications and government policies. The department also feeds into QIB's strategic research programmes and supports the scientific validity of commercial labelling and associated medical-based enterprise in the UK.

References

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