

Transforming the UK food system for healthy people and a healthy environment

Call Text

Call Summary

UK Research and Innovation (UKRI) in partnership with government are pleased to announce a highly ambitious £25M call for research to fundamentally transform the UK food system, by placing healthy people and a healthy natural environment at its centre. Proposals are invited for interdisciplinary research consortia to take a systems approach, linking healthy and accessible diets with sustainable food production and supply to help drive food system transformation. This programme aims to address health, environmental and social challenges simultaneously, bringing together researchers, policymakers, business and civil society to develop evidence for multi-pronged and simultaneous action across the food system.

This call is part of a wider £47.5 million interdisciplinary research programme led by the Global Food Security Programme (GFS) and supported by UKRI's [Strategic Priorities Fund \(SPF\)](#). The call is administered by BBSRC, in partnership with ESRC, MRC, NERC, Defra, DHSC, PHE, Innovate UK and FSA.

Call status: **Open**

Application window: **08 October 2019, 00:00 – 26 November 2019, 16:00**

Workshops: Two workshops will be held to communicate more details about the research call and facilitate networking.

- **Manchester (city centre) Monday 21st October**
- **London (central) Friday 25th October**

Further details and registration are available on the [Transforming the UK food system for healthy people and a healthy environment call and workshops page](#).

Background

Poor diet is the biggest risk factor for early deaths worldwide, leading to 1 in 7 deaths in Britain every year¹. Human biology is failing to keep pace with the increasingly obesogenic food environment, with foods high in fat, sugar and salt making up just over half of all meals consumed in the average UK household.² Many studies also suggest that our diets lack oily fish, fibre from wholegrains, fruit, vegetables, nuts and seeds³ and we often consume unhealthy amounts of meat⁴. If diets continue along the current trajectory, it will increase pressure on our health and care systems and the environment, leading to economic and social instability. In England, 61% of women and 67% of men were classified as overweight or obese in 2017⁵, with diet-related chronic disease accounting for £6.1 billion of annual NHS spend (around 9%) and generating a wider economic loss of more than £54 billion per year (3% of UK GDP).⁶

¹ GBD 2017 Diet Collaborators (2019). Health effects of dietary risks in 195 countries, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. The Lancet doi.org/10.1016/S0140-6736(19)30041-8

² Monteiro, C., Moubarac, J., Levy, R., Canella, D., Louzada, M., & Cannon, G. (2018). Household availability of ultra-processed foods and obesity in nineteen European countries. Public Health Nutrition, 21(1), 18-26. doi:10.1017/S1368980017001379

³ [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)30041-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30041-8/fulltext)

⁴ www.chathamhouse.org/sites/default/files/publications/research/CHHJ3820%20Diet%20and%20climate%20change%2018.11.15_WEB_NEW.pdf

⁵ Statistics on Obesity, Physical Activity and Diet. NHS (2017)

⁶ McKinsey Global Institute. Overcoming Obesity: An initial economic analysis. (2014).

Unhealthy consumption patterns are a product of our current food system. Globally, more grains, sugars and fats are produced than are needed for healthy diets, but not enough fruits and vegetables.⁷ These grains, sugars and fats are highly subsidised, and when refined and combined in manufacturing and promoted via marketing and sales promotions, lead to cheap and unhealthy products that permeate our food environments. These patterns of supply and demand lead to over-consumption, poor nutrition and health that are distributed unevenly across society and across the geography of the UK.

The relationship between the supply of food and its consumption is complex. A variety of socio-economic, cultural and biological factors influence diet, the intake of energy-dense foods, and the relationship between calorie intake and how many calories are exerted. These factors are often cumulative which contributes towards significant health inequalities and a disproportionately greater incidence of overweight and obesity in the most deprived groups in society (recognising there are health challenges for all socioeconomic groups). A shift towards healthy diets is clearly complex and will require major change in the behaviour of actors across the food system, from production and supply to consumption and food environments.

In parallel to the health challenges described above, food production systems that supply these diets are unsustainable, using 70% of all fresh water withdrawals, producing around a third of all GHG emissions, and contributing to biodiversity loss, soil degradation and harming aquatic ecosystems.⁸ These effects are being compounded by climate change, which will affect our ability to produce food in the future through extreme weather events, regional climatic changes, changing patterns of pests and diseases and changing sea temperatures, as well as potential impacts on trade. The UN Intergovernmental Panel on Climate Change (IPCC) suggests we have 12 years to avoid climate change catastrophe, which the food system contributes to, but action is required now.

Although much effort has been made to address negative impacts of agricultural practices and promote sustainable production in the UK there is still significant scope, and an urgent need, for change, particularly when combined with transformation of diets for health. It is clear, however, that agricultural production can no longer be addressed in isolation; we also need to consider the role of changing patterns of demand in driving our production systems, especially in terms of how much food and what types of food we need to produce, manufacture and import in the future, and which foods we should prioritise to improve health and sustainability. It is increasingly recognised that we need to move away from a 'calories per hectare' approach to one that considers the 'number of people fed healthily and sustainably per hectare'. This interplay between production and demand, and environment and health, is the type of whole systems research we are looking to support through this programme.

See additional '[Supplementary background document](#)' for further information.

Purpose and aims

The [Strategic Priorities Fund \(SPF\)](#) has been established to drive an increase in high-quality multi- and interdisciplinary research and innovation; and ensure that UKRI's investments link up effectively with Government departments' research priorities and opportunities.

⁷ Krishna Bahadur, KC et al, Plos One, (2018) doi.org/10.1371/journal.pone.0205683

⁸ <https://www.ipcc.ch/site/assets/uploads/2019/08/Fullreport-1.pdf>

The Food Systems SPF is an interdisciplinary programme of research that will help transform the UK food system by placing healthy people and a healthy natural environment at its centre. It will address questions around what we should eat, produce and manufacture in the UK and what we should import. In doing so it will consider the complex interactions between health, environment and behavioural factors, while taking into account wider needs for different groups in society. This will enable a joined-up approach across healthy and accessible diets and sustainable food production and supply, delivering coherent evidence to enable concerted action from government, business and civil society. Any transformation should be safe, fair and economically viable, taking into account livelihoods, financial reward structures and delivery of public goods⁹.

Healthy people and a healthy environment are intrinsically linked through food, and it is only by taking a systemic, holistic, interdisciplinary approach, otherwise known as a ‘food systems approach’ that we can deliver the changes that are required. A system is a set of things working together as part of an interconnected whole. The food systems approach encapsulates the actors, behaviours and outcomes involved in land use, agriculture, aquaculture, storage, processing, manufacture, retail and consumption, alongside the interdependencies, pressures and drivers (see **Figure 1** for a representation of the food system).

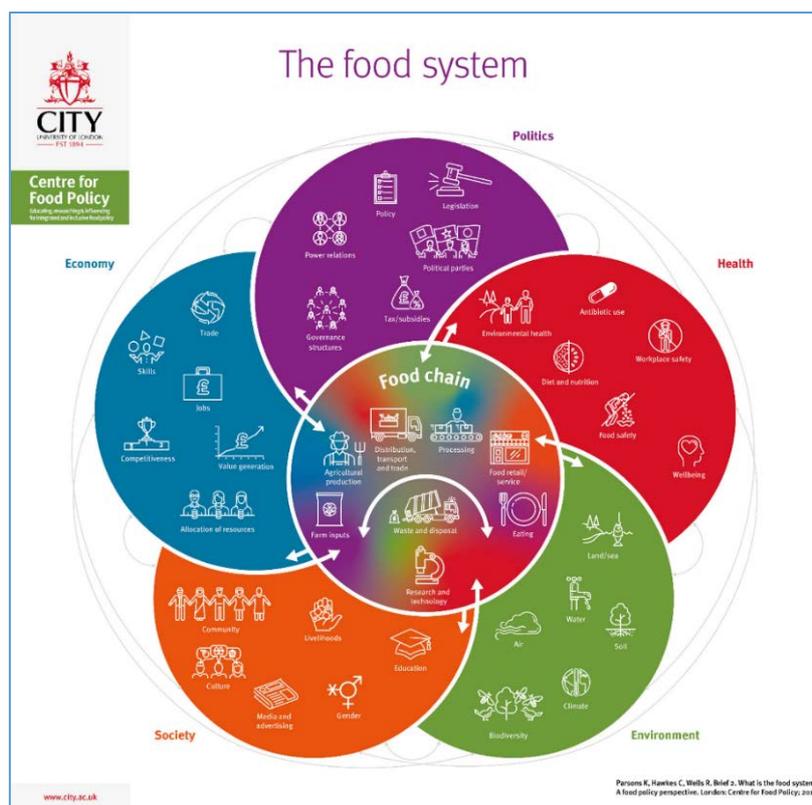


Figure 1. An indicative representation of the food system produced by City University of London. For more information on the food system depicted here, see The Centre for Food Policy Brief¹⁰

It is important to frame issues in this systemic, holistic way because the different parts of the overall food system are highly interconnected, and can interact in complex and non-linear ways. A food systems approach avoids unintended consequences from interventions in one part of the system adversely affecting another (for example; simply growing more vegetables

⁹ RSA Food, Farming and Countryside Commission(2019) Our Future in the Land. Online: file:///C:/Users/fhet11/Downloads/Report-rsa-ffcc-our-future-in-the-land.pdf

¹⁰ Parsons K, Hawkes C, Wells R. Brief 2. What is the food system? A Food policy perspective. In: Rethinking Food Policy: A Fresh Approach to Policy and Practice. London: Centre for Food Policy; 2019' https://www.city.ac.uk/_data/assets/pdf_file/0008/471599/7643_Brief-2_What-is-the-food-system-A-food-policy-perspective_WEB_SP.pdf

for health, without due consideration of demand-side drivers, that end up perishing because people don't want to eat them. Or taxing unhealthy foods which consumers still prioritise due to wider social or cultural factors that lead to reductions in spend on healthy food.)

A food systems approach also provides a framework for multifaceted and holistic action across the system to inform policy and drive change. In the vegetables example, a systemic approach might involve a combination of the following interventions: education in schools on how to cook with vegetables; growing vegetables sustainably; subsidising vegetables in production and/or retail; making vegetables relevant to how and what people eat (for example increasing the proportion in ready meals); and changing the food environment so there is a greater selection and promotion of affordable, accessible and desirable options.

A food systems approach must be taken by all consortia, however we do not expect all consortia to address all parts of the food system (see the Specific Requirements section below).

Research should be shaped and conducted in collaboration with a wide range of stakeholders including government, industry and civil society organisations, ensuring two-way knowledge exchange throughout the research process. Consortia should provide policy advice, evidence and interventions to achieve a range of outcomes, including: improving health by reducing diet-related chronic disease; reducing pressure on health and social care systems; aligning production systems to health and sustainability outcomes; reducing GHG emissions and other environmental impacts; and ensuring future food security.

Policy Drivers

There are multiple UK government policy drivers that will be addressed by this research programme, including: reducing obesity, diet-related ill health and pressure on the NHS; reducing health inequalities; achieving net zero GHG emissions by 2050; reducing the impacts of agriculture and food production on soil health, air quality, water quality, and biodiversity; and building trust within the food system, ensuring that citizen's wider interests are protected and food integrity is recognised and improved.

Other key priorities that will be addressed include the Childhood Obesity Plan¹¹, Eatwell Guide¹², 25-year Environment Plan¹³, Agriculture Bill¹⁴, Fisheries Bill¹⁵ and FSA's Food We Can Trust Strategy¹⁶. By taking a four-country approach, this research programme will also support national strategies from across England, Wales, Scotland and Northern Ireland. For example, the Well-being of Future Generations in Wales Act¹⁷, which takes a systematic approach to long-term health and well-being, and *A Fitter Future for All*¹⁸, in Northern Ireland, which provides a framework for preventing and addressing overweight and obesity.

This programme will play a major role in helping to deliver the forthcoming National Food Strategy¹⁹, providing the evidence for coherent policymaking across government. The Strategy aims to ensure that our food system delivers healthy and affordable food and is built upon a resilient, sustainable and humane agriculture sector. It will explore how the food

¹¹ <https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action/childhood-obesity-a-plan-for-action>

¹² <https://www.gov.uk/government/publications/the-eatwell-guide>

¹³ <https://www.gov.uk/government/publications/25-year-environment-plan>

¹⁴ <https://services.parliament.uk/bills/2017-19/agriculture.html>

¹⁵ <https://services.parliament.uk/Bills/2017-19/fisheries.html>

¹⁶ <https://www.food.gov.uk/sites/default/files/media/document/FSA-Strategic-plan-2015-2020.pdf>

¹⁷ <https://futuregenerations.wales/about-us/future-generations-act/>

¹⁸ <http://www.publichealthwell.ie/sites/default/files/documents/10.14655-799178-799502.pdf>

¹⁹ www.parliament.uk/documents/commons-committees/environment-food-rural-affairs/correspondence/181030-Secretary-of-State-toChair-Food-strategy.pdf

system can restore and enhance the natural environment for the next generation and act as a thriving contributor to both rural and urban economies.

Scope

Proposals are invited for interdisciplinary research consortia to develop evidence to enable food system transformation, linking healthy and accessible diets with sustainable food production and supply. This will require a food systems approach and collaboration across multiple disciplines, for example agri-food, environmental, nutritional and social sciences (including for example expertise in soil science, crop and animal production, aquaculture, biodiversity and ecosystem services, systems engineers, data science, agricultural economics, food science, food manufacturing and processing, food markets, nutrition, biomedical and clinical science, epidemiology, economics, behavioural, social and political science).

As well as being scientifically excellent, the research must take account of and balance the needs of key food system actors, who have a central role to play in delivering transformation. This includes government, business, and civil society organisations, and it is expected that these groups (and other relevant stakeholders) will be fully engaged in the co-design and the co-delivery of projects to ensure food system transformation can be achieved.

Proposals must address two major themes: 1) Defining a transformed UK food system that places healthy people and a healthy natural environment at its centre; and 2) Delivering food system transformation in the UK. We do not expect consortia to address all stages of the food system however all projects should address aspects of BOTH themes. Some examples of the types of challenges under each theme are provided, but these are not intended to be exclusive. This programme is looking for ideas and evidence for **transformational change and how it can be delivered**, rather than more research into the problems.

Programme themes

1. Defining a transformed UK food system that places healthy people and a healthy natural environment at its centre

- How can we transform UK diets to be healthy and environmentally sustainable as well as desirable, affordable and accessible, taking into account the diverse and changing needs of different groups in society (income, gender, life stage, ethnicity, region and neighbourhood)?
- If everyone in the UK adopted healthy diets across their life course, where would this food come from? How much food and what types of food could we produce and manufacture sustainably in the UK, and what would we need to import? What foods should we prioritise and what sustainable food production methods and practices would be adopted to supply these diets? What would best practice look like in terms of sustainable sourcing from overseas?
- How can we transform the UK food system from a 'calories per hectare' approach to one that considers the 'number of people fed healthily and sustainably per hectare'?
- How can we transform the food industry to make every calorie count in terms of wider nutritional benefits whilst using sustainably sourced ingredients? How can we link sustainable nutrition to tangible health outcomes?
- What change is needed within the food system across both production and consumption to achieve the net zero emissions target?

- What is the role of disruptive technologies and big data in transforming the food system? How can we model the interdependencies across the UK food system and link datasets to improve decision-making? How can data-focused research reveal people's preferences and choices about what they buy and eat and how they change?
- Thinking systemically, what are the win-wins, and how do we identify and manage trade-offs and avoid unintended consequences?
- What are the risks and opportunities to food safety from changes to the UK food system?

2. Delivering food system transformation in the UK

- What are the range of potential levers for change, how are these best applied, and what combination of interventions across stakeholders would lead to food system transformation? What is the role of financial incentives (e.g. subsidies/payments for public goods) and disincentives (e.g. taxes and regulation)?
- What are the roles of actors such as government, business, civil society and citizens in transforming the food system to support healthy diets and healthy people whilst ensuring a regenerative, biodiverse, healthy natural environment?
- How can we change the behaviour of actors across the food system, from production to consumption? Where does the power lie?
- What new business models would make healthy and sustainable food systems profitable, or how might we decouple profitability from productivity?
- How can we transform food environments and provision so that healthy and sustainable choices are accessible, desirable and the norm across different groups and communities?
- How can we reflect the costs to health and the environment in food prices whilst protecting those on low incomes?
- How can we ensure high levels of engagement and trust in the UK food system from citizens, industry and trading partners?

Approaches to tackle these questions might include aspects of the following (these are not meant to be prescriptive):

Integrating research across the agri-food-nutrition-health spectrum; diversifying food production and imports to provide sustainable raw materials and novel foods for manufacturing and retail; fortification and biofortification leading to improved nutritional status and measurable health outcomes; land use at different scales balancing food production, environmental and health benefits; biological, social, economic and cultural drivers of food choice, including discrete choice experiments; making food relevant to how and what people eat across different groups in society; the role of marketing in influencing and changing diets; targeted experimentation and robust evaluation of interventions to trial different approaches to driving new behaviours across stakeholders; transforming obesogenic food environments by working back into the food system to change production and manufacturing; big data and modelling the food system to identify specific actions to be taken by stakeholders and the impact of interventions.

Research call exclusions Applications will be rejected before peer review for proposals which:

- Are outside the scope of the call
- Do not cover areas within both themes

- Are not focused on the UK food system and foods consumed in the UK (including both domestic production and imports). Research on food systems in other countries is excluded, however the environmental impacts of the UK's demand on other countries is included.
- Are solely focussed on modelling approaches (modelling approaches are welcome but must not comprise the entire research project).

Project specification

Up to £25M is available to support pre-competitive research proposals subject to the quality of proposals received, with the aim of supporting an appropriately broad and balanced portfolio. Funds can be requested for up to 5 years and must not exceed £6M (representing the 80% contribution to the full economic cost). For each proposal:

- i. The research must be led by an eligible academic organisation (see eligibility criteria section below).
- ii. The research must be interdisciplinary and join up healthy and accessible diets, with sustainable food production and supply. We do not expect consortia to address all stages of the food system; however, at a minimum, each should address production/processing/manufacturing and consumption, in the context of integrated linkages with other parts of the system, even if these wider linkages are not actively researched. Successful consortia will be expected to work together towards the overall aims of the programme, with research across the portfolio of awards covering the whole food system (see supplementary document for further information).
- iii. At the outline stage we expect collaboration with business and civil society organisations (at least one representative from each). Outline proposals must also describe how their research addresses government priorities as set out in the policy drivers section. It should be noted that at the full proposal stage the research must involve collaboration with a diverse stakeholder group consisting of government, business and civil society organisations. It is expected that these stakeholders will have helped shape the research with collaboration and two-way knowledge exchange continuing throughout the research process.
- iv. Although not mandatory, where possible, proposals are strongly encouraged to include financial or in-kind contributions from business, government or civil society partners, to demonstrate genuine collaboration. Contributions do not need to be secured at the outline stage, but where possible you should include emails/letters confirming a willingness to collaborate on the research.

Proposals that do not meet bullet points i, ii and iii will be rejected (see also research call exclusions section).