

New UK Food Safety Network to tackle £9 billion food poisoning challenge

Food poisoning is a major health challenge that costs the UK up to £9 billion each year. To help tackle the problem, the Food Standards Agency (FSA) and Biotechnology and Biological Sciences Research Council (BBSRC) have invested £1.6m into a new Food Safety research Network, hosted by the Quadram Institute.

- in the UK, estimates indicate there are 2.4 million cases of foodborne illness a year
- the estimated annual cost from these illnesses is £9 billion (with £6 billion from unknown causes)
- research shows that the cause of illness is often a microbial pathogen carried over into food from the environment, or from livestock, or even from people
- the microbes which cause the greatest economic impact are *Campylobacter* and *Salmonella*
- listeria-related food poisoning is rare, but has a mortality rate of nearly 13%
- microbes also play a key role in food waste, with *Pseudomonas* accounting for 25% of food spoilage

FSA Chief Scientific Adviser Professor Robin May, said:

We are excited to partner with BBSRC and Quadram Institute for the creation of the UK Food Safety Network. Foodborne disease is a major cause of illness in the UK population and imposes a significant burden on both infected individuals and the economy. The network directly aligns with the core objectives of the FSA Strategy 2022-2027 to ensure food is safe and food is what it says it is. Importantly, the network will ensure that the FSA is well-placed to tackle the challenges of foodborne illnesses by bringing together experts from government, industry and academia to address current and emerging issues of food safety in the UK.

Professor Robin May, FSA Chief Scientific Adviser

The safety of our food is threatened by both enduring and emerging threats from microbes that contaminate our food. This threat is exemplified by microbes that spread between the environment, animals and humans - with foodborne exposures being a means for the transmission of pathogens and novel antimicrobial resistance genes from agriculture.

The challenge is to take an integrated and unified approach to these problems right through from agriculture and the environment, to food production and human health, in what's termed a 'One Health' approach. To do that we need to collaborate with food and other associated industries to share research and innovation and deliver training activities.

Dr Matt Gilmour, Quadram Institute group leader and lead for new network

Each year, food poisoning has a major impact on the health of UK citizens and the health of our economy.

The new UK Food Safety Network presents a tangible and exciting opportunity for collaborations to form between a range of experts to improve our understanding of foodborne disease and identify new ways in which to effectively predict, prevent, respond and recover from such illnesses in the future.

Professor Melanie Welham, [BBSRC](#) Executive Chair

Scientists at the Quadram Institute already use advanced genomic sequencing approaches and genomic epidemiology, which has significantly enhanced the UK's ability to monitor and respond to microbial threats in the food system (also demonstrated by the Quadram team in its work on the SARS-CoV-2 pandemic).

The UK Food Safety Network will connect food industry, food and health policymakers and academia to collaboratively pursue shared research priorities that will protect the UK from foodborne hazards. The Network will serve as an innovation hub to coordinate and fund cross-sectoral research and training activities that address current and emerging challenges.

The Network's objectives are to:

- assemble a community of UK food producers, food policy makers and scientific researchers who collectively can take robust actions toward improving food safety
- identify areas of research need and opportunity that, in the view of food stakeholders and network members, will have meaningful impacts on UK food safety
- coordinate new collaborative research activities that will promote the application of science towards the food safety challenges identified by our food system community
- host training promoting skills development, interoperability and relationship-building between our food system community
- translate the knowledge generated within the Network to food safety stakeholders, and to upcycle existing information and technologies relevant to food safety that have not yet been applied more broadly

We are delighted to have been awarded this grant to help bring our cutting-edge scientific knowledge to the food industry and to help tackle major societal issues such as food safety and food waste.

Professor Ian Charles, Quadram Institute Director