

Campylobacter strategy unites academia, industry and policy-makers

In 2010 UK food research funders announced the first joint strategy for research into *Campylobacter* bacteria in the UK – the UK Research and Innovation Strategy for *Campylobacter* in the food chain 2010-15, or RISC¹. It was developed by BBSRC, the UK Food Standards Agency (FSA), the Department for Environment, Food and Rural Affairs (Defra), the Northern Ireland Department for Agriculture and Rural Development (DARD) and the Scottish Government, and received significant input from industry.



UK Research and Innovation Strategy for *Campylobacter* in the food chain 2010-15. Credit: BBSRC

“This is the first time we’ve really come together in this way to develop a joined-up research strategy with a specific policy outcome as a focus,” says Alisdair Wotherspoon, Joint Head of the Chief Scientist Team at the FSA. The strategy had the aim of addressing the root cause of *Campylobacter* infection in humans, one of the major causes of foodborne illness in people.

The RISC, subsequent research funding and calls for new work have helped to bring the *Campylobacter* research community in the UK together, encouraging them to address the major challenges. The strategy identified a need for research into *Campylobacter* infection, farming practices, slaughter and processing, basic biology and new tools and techniques for detecting *Campylobacter*. It led to commissioning of new research on *Campylobacter* worth £4M, supported by the BBSRC, FSA and Defra, where every project includes at least one industry partner to ensure research outputs will have a significant impact on the food industry. The FSA are also considering using the cooperative approach employed to develop the RISC in other priority policy areas.

Furthermore, *Campylobacter* has been recognised as a strategically important area in the UK’s major cross-Research Council and cross-Government Global Food Security programme, which is addressing fundamental questions to ensure a supply of safe and nutritious food around the world. The programme’s strategic plan references the RISC and includes the challenge of re-

Impact Summary

UK food research funders developed the first joint strategy for research into *Campylobacter* bacteria.

The strategy ensured academics, industry and policy-makers were working together to address the problem of *Campylobacter* contamination in the food chain.

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ducing the prevalence of *Campylobacter* contamination and infection².

Campylobacter in the UK

Campylobacter bacteria cause serious food poisoning, with infections lasting up to a week. In 2009 *Campylobacter* was estimated to have accounted for more than 371,000 cases of food poisoning in England and Wales, leading to 17,500 people being admitted to hospital and 88 deaths³. Many of these cases are likely to have been caused by eating undercooked chicken – a Food

Standards Agency survey found the bacteria in around 65% of chickens sold at retail⁴ although *Campylobacter* is also found in other raw meat, contaminated water and unpasteurised milk. A recent European Food Safety Authority Opinion estimated that 50-80% of human cases may be attributed to the reservoir of *Campylobacter* in chicken as a whole⁵.

Consequently, *Campylobacter* infection has serious economic implications. Overall, 11M working days per year are lost due to infectious intestinal disease in the UK, and *Campylobacter* is one of the two most common causes of such illness⁶.

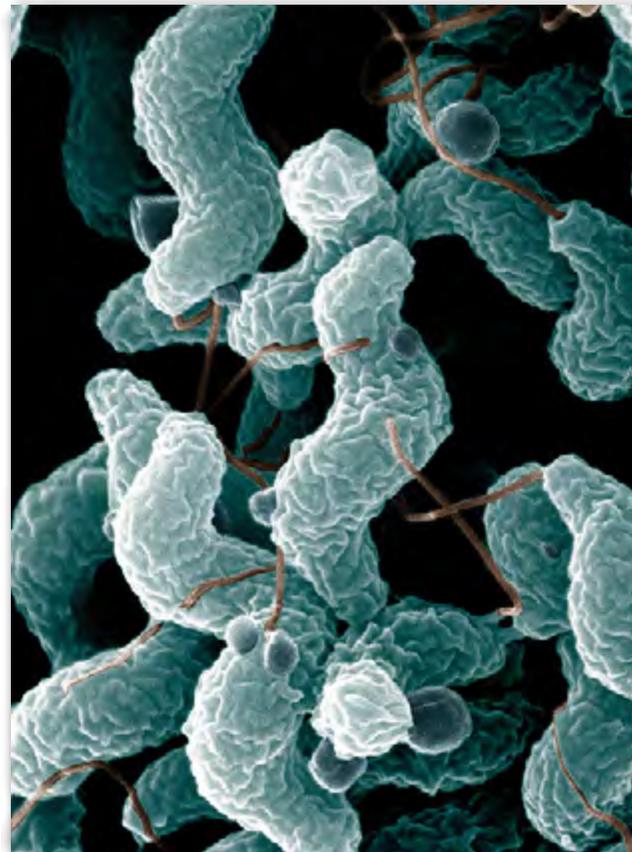
“From the FSA’s perspective, *Campylobacter* is the number one foodborne pathogen we want to tackle,” says Wotherspoon. It was also identified as a priority in the UK cross-Government Food Research and Innovation Strategy, developed by a group led by the Government’s Chief Scientific Advisor Sir John Beddington and published in January 2010⁷.

Working together

The RISC was developed at a workshop in 2009 attended by academics, policy-makers and representatives from industry; all attendees had an interest in addressing the problem of *Campylobacter* in the food chain. “There were different aspects of the problem that needed to be tackled that spanned different funders’ interests. It made sense to try to do that in a cohesive and

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A scanning electron microscope image of *Campylobacter* bacteria.
Credit: Microbe World/Flickr

coherent way,” says Wotherspoon.

The cross-Government Food Research and Innovation Strategy also encouraged a coordinated approach to food research. It states that, “A joined-up approach on food research and innovation is vital: to underpin coherent policy making, to maximise the contribution of UK research in addressing domestic and global goals, and to help the UK benefit from opportunities of vast global markets.”

Hence, talking to industry at an early stage also helped ensure the research outputs would be practically relevant and feasible when applied to industry processes. As a result, the RISC included a number of industry-specific research goals and the subsequent joint research funding call required academic researchers to work with an industry partner⁸.

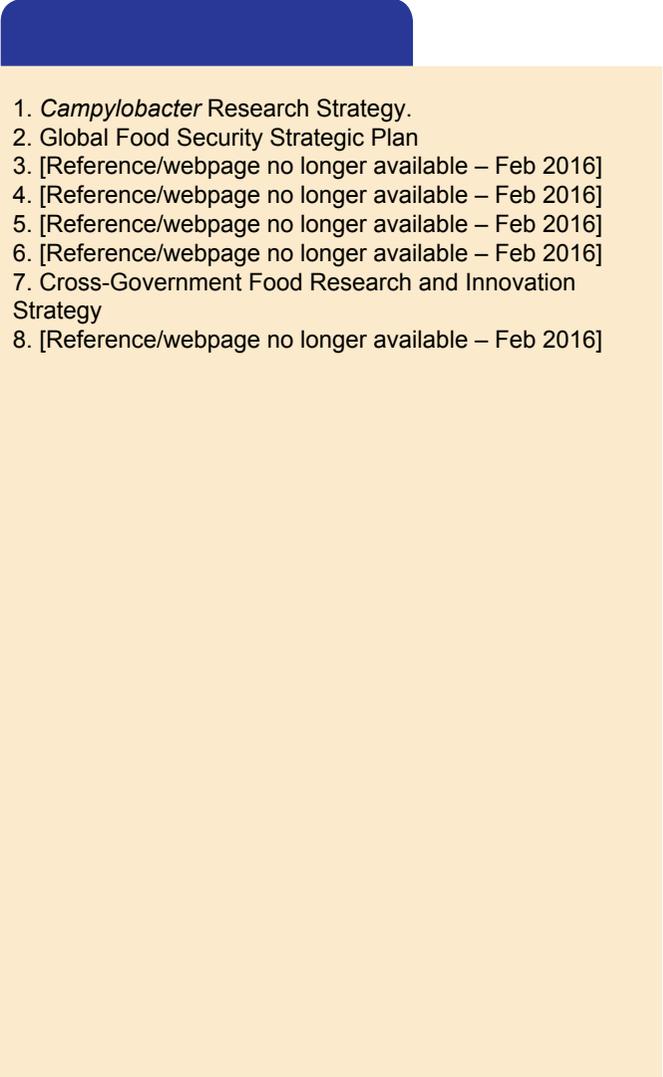
“There’s a lot of mutual dependency in this area. We felt that working together was the best way of actually achieving that,” says Peter Bradnock, Chief Executive of the British Poultry Council and chair of the Joint Working Group on *Campylobacter*.

A focus for research

The research supported by the joint call is still at a relatively early stage. However, the RISC has helped to bring together researchers with industry and with retailers. “We couldn’t have got to where we are with

industry, and with supermarkets, without the strategy,” says Professor Tom Humphrey from the University of Liverpool.

Humphrey is the principal investigator on a grant from BBSRC and FSA to investigate several factors that could affect the susceptibility of chickens to *Campylobacter* infections. He is collaborating with three major European and global food companies and has received co-funding from several other companies, including all the UK’s major supermarkets. The strategy helped Humphrey leverage this extra funding, as it clearly signalled to industry the importance the UK government places on *Campylobacter* research. According to Humphrey, “the strategy did actually provide impetus and demonstrate to industry that this is a global problem.”

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1. *Campylobacter* Research Strategy.
 2. Global Food Security Strategic Plan
 3. [Reference/webpage no longer available – Feb 2016]
 4. [Reference/webpage no longer available – Feb 2016]
 5. [Reference/webpage no longer available – Feb 2016]
 6. [Reference/webpage no longer available – Feb 2016]
 7. Cross-Government Food Research and Innovation Strategy
 8. [Reference/webpage no longer available – Feb 2016]