

Institution: London School of Economics and Political Science
Unit of Assessment: 23 Sociology
Title of case study: Informing food hygiene regulation and compliance to prevent food-borne disease and death
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>LSE research on regulatory enforcement and compliance has challenged the assumption that businesses are capable of self-regulation, particularly in sectors critical to public health such as the food business and particularly in terms of small businesses that rely on government regulations to help them identify and manage business risks. This research became the basis for four specific recommendations on the regulation of food hygiene and safety that emerged from a UK Government inquiry into the 2005 E.coli outbreak. All four recommendations have been implemented and mainstreamed into the practices of the Food Standards Agency (FSA). Collectively, they have contributed to a substantial increase in business compliance with food safety standards and a significant reduction in businesses giving 'cause for concern' around transmission of E.coli and other food-borne pathogens.</p>
<p>2. Underpinning research (indicative maximum 500 words)</p> <p><i>Research Insights and Outputs:</i> Professor Bridget Hutter has been conducting research in the area of regulatory enforcement and compliance for over two decades. Ethnographic research in the 1990s examined the work of regulators in various government departments, including occupational health and safety, environment, railways and environmental health [1]. This was complemented by two research studies focused on the other side of the equation - how businesses respond to regulation and manage their risks. The first study, conducted in the 1990s, examined the range of responses to occupational health and safety legislation across job functions, departments and regions within the UK's national railway organisation [2]. A second study, conducted from 2003-6, provided a detailed analysis of the risk management practices of 28 food retail and catering businesses in the UK [3,4].</p> <p>This body of research illuminated the ways in which risk management practices are influenced by sources of regulation external to the business [5,6]. Specifically, the research found that:</p> <ul style="list-style-type: none"> • state regulation remains a key influence on business risk management practices, e.g. the Food Standards Agency (FSA), but is not sufficient as an influencer by itself • businesses recognize the importance of 'beyond the state' regulators, such as industry and trade associations, consultancies and insurance companies • however, some non-state influences (e.g. lawyers, the media, insurance companies, advocacy groups) are less important than assumed by some of the academic literature • managerial perceptions of consumer expectations are highly influential <p>Reputational risks are a major incentive for businesses to comply with regulation and to implement risk management standards and practices. This is especially the case in the food industry, with managers worried about consumer perceptions of their food safety and food handling practices and convinced that such perceptions are a key influence over consumer decision-making (even though this belief is not supported by hard evidence).</p> <p>Sources of regulation internal to business organizations, such as Board directives and risk officers, were also examined. The research found that while larger, successful organizations do have the regulatory capacity to buy in-house risk regulation expertise (such as risk or compliance officers and departments) or <i>ad hoc</i> advice from outside, they may find it difficult to embed risk regulation arrangements and infrastructures within the entirety of their organization or may suffer internal communication and co-ordination problems. Small and micro businesses (SMEs), on the other hand, are less likely to have either the knowledge resource in-house or the capacity to purchase specialist help. They are thus much more likely than larger organisations to be reliant on state regulators to help them understand and manage their risks.</p>

These findings raise questions about government policies and practices that assume the ability of businesses to self-regulate and about the withdrawal of inspections that help businesses, especially SMEs, to identify and manage risks. Such questions are particularly relevant and critical in regulating the food industry. Hutter found that the risk related to food hygiene and safety was considered one of the top risks by food retail and catering businesses and that SMEs in this sector tended to rely on environmental health officers to help them understand and manage their risks at the very time such officers were being cut back. People assume that big businesses represent bigger risks, but in fact smaller businesses taken together account for a significant portion of the food sector and some of the E.coli outbreaks in the UK and Germany have actually come out of small businesses.

Key Researcher: Bridget Hutter is LSE Professor of Risk Regulation in the LSE Sociology Department. She joined LSE in 1982 and served as Director of the ESRC Centre for Analysis of Risk and Regulation (CARR) (2000-2010) and Editor of the *British Journal of Sociology* (2002–2008). Clive Jones served as Research Assistant (2002-2005).

3. References to the research (indicative maximum of six references)

1. Hutter, B.M. (1997) *Compliance: Regulation and Environment*. Oxford socio-legal studies. Oxford University Press. (Research monograph) LSE Research Online ID: 51607
2. Hutter, B.M. (2001) *Regulation and Risk: Occupational Health and Safety on the Railways*. Oxford University Press. (Research monograph) LSE Research Online ID: 12982
3. Hutter, B.M. and C.J. Jones (2007) 'From government to governance: External influences on business risk management', *Journal of Regulation and Governance* 1(1): 27-45. (Peer-reviewed) DOI: 10.1111/j.1748-5991.2007.00004.x
4. Hutter, B.M. (2011) *Managing Food Safety and Hygiene: Governance and Regulation as Risk Management*. Cheltenham: Edward Elgar. (Research monograph) LSE Research Online ID: 37125
5. Hutter, B.M. (2011) 'Negotiating social, economic and political environments: Compliance with regulation within and beyond the state' in C. Parker and V. Nielsen (eds.) *Explaining Compliance: Business Responses to Regulation*. Edward Elgar Available from LSE on request
6. Hutter, B.M. (2011) 'Understanding the new regulatory governance: business perspectives' *Law & Policy* 33(4): 459-76. (Peer-reviewed) DOI: 10.1111/j.1467-9930.2011.00346.x

Evidence of Quality: Outputs in leading peer-reviewed socio-legal journals; books with a major university press (OUP) and with Edward Elgar, which has become a leading publishing house for international regulation research.

Grants: Michael Peacock Foundation (2000-2005) – funding of Peacock Chair in Risk Management, which contributed approximately £10k per year to research during this period.

4. Details of the impact (indicative maximum 750 words)

One of the growing health threats in the UK and internationally is the pathogens that cause bloodstream infections. In 2011-2012 there were 99000 reported cases of bloodstream infections in England, Wales and Northern Ireland, with E.coli accounting for 36% of these cases. The overall number of cases has been increasing, with about half of these resistant to antibiotics and therefore untreatable by conventional methods and approximately 5% resulting in death. The growing resistance of such pathogens to antibiotics is claimed to pose a threat equivalent to terrorism, according to the UK Government's Chief Medical Officer, and indicates the need to identify alternative avenues besides medication for prevention and control. In the case of E.coli, one of these avenues is enforcement and compliance around food hygiene, given that this particular pathogen is often spread through infected raw and ready-to-eat food. The underpinning research described in this case study has been instrumental in helping to define the food hygiene regulation necessary to battle the threat of E.coli and other food-borne pathogens in the UK. Such regulation

has been instituted by the Food Standards Agency (FSA) and has resulted in a significant increase in business compliance with food hygiene regulations.

In September 2005 there was an outbreak of E.coli O157 in South Wales, with a majority of the 157 victims being children from 44 schools. Thirty-one people were admitted to hospital, of whom some developed serious long-term health implications; a five-year-old boy died. It was the second largest outbreak of its kind in the UK. Professor Hugh Pennington was appointed to chair an inquiry into this outbreak and commissioned Professor Hutter to prepare a report on *Risk Regulation and Compliance*. Her 2008 report [A], drafted with the assistance of former CARR graduate Dr Tola Amodu, set out the key principles of food hygiene regulation in the UK and considered issues of enforcement and compliance. The report highlighted the main tensions characterising risk regulation in an area such as food hygiene populated predominantly by small businesses (i.e. restaurants, butchers, etc). It drew directly upon the findings of Hutter's research, particularly those relating to the weaknesses in government policies that advocate self-regulation and the difficulties of generalist inspectors working with more technical concepts.

The report was taken as evidence that informed the Inquiry's recommendations concerning regulation of food hygiene [B]. In particular, it was instrumental in the formulation of four key recommendations presented in the Inquiry's formal report [C]. These were as follows:

- 'Light touch' enforcement of individual food businesses should be kept under constant review, as some small businesses lack the capacity to appreciate and manage food hygiene risks and require more attention and support (Rec 7)
- Training should be developed to ensure environmental health officers have the necessary knowledge and skills to regulate food hygiene (Rec 9)
- Decisions about confidence in food safety management by a business should be evidence based (Rec 12)
- The Food Standards Agency (FSA) should develop a means to assess how hygiene inspections are conducted by local authorities (Rec 15).

Following the publication of the Inquiry's report (March 2009), the FSA established "as a matter of priority" a Food Hygiene Delivery Programme (FHDP) to prioritise, direct and measure progress in its programme of work to improve food hygiene delivery and enforcement across the UK [D]. Chaired by the FSA Director of Operations, it was set up to drive forward actions to respond to the recommendations of the Public Inquiry. Hutter was consulted on the FHDP and provided specific advice on such issues as non-state regulation, local authority enforcement and encouraging business compliance.

In early 2012 Professor Hutter was invited to give the seventh Chief Scientist's lecture to a gathering of FSA scientists, at which she detailed her research on governance and regulation in managing food safety and hygiene [4]. Her findings were disseminated more broadly through an article in FSA's official publication *Bite* [E] and in a blog by FSA Chief Scientist Andrew Wadge [F].

Professor Hutter was also invited to give oral evidence to the FSA's Review of Delivery of Official Controls (RDOC), which was tasked with supporting and improving the activities of local authorities and port health authorities in monitoring and securing business compliance with laws and regulations related to food handling and hygiene. The evidence she provided "fed into the thinking of the Review of Official Controls work" [G], particularly in terms of its guiding principles and expected outcomes.

Derrick Jones, Head of FSA's Analysis and Research Division, noted that the oral evidence and written research by Professor Hutter has "helped to inform the Agency's on-going development of our compliance and enforcement strategy...providing a broader context for enforcement regulation and evidence on what small businesses find helpful in their relationships with regulators, and stimulating us to think about our further research needs for supporting and developing our strategies" [G].

In November 2012 the FSA reported that 80% of expected progress on Recommendation 7 of the

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Inquiry report had been achieved and 100% on Recommendations 9, 12 and 15, with the fully completed recommendations now mainstreamed into business as usual [D]. Specific changes included:

- introduction of a 'cause for concern' initiative of focussed action for businesses failing to achieve compliance (Rec 7)
- a programme of training for local authority enforcement officers, official veterinarians and meat hygiene inspectors on 'Effective Evaluation of Food Safety Management Systems', attended by over 2600 officials (Rec 9)
- an evidence-based approach to audits and enforcement by Official Veterinarians (Rec 12)
- revision of the local authority inspection process and issuance of a new guide for local authorities called Making Every Inspection Count (Rec 15).

In terms of downstream impact, business compliance was significantly improved, with 81.6% of supervised businesses in the 'broadly compliant' category, up from 64% in October 2009. Only 15.2% were 'not broadly compliant' and 3.2% a 'cause for concern', compared to 27% and 9% respectively in 2009.

In assessing overall impact, the FSA concluded that the Public Inquiry and the establishment of the FHDP "have been key in informing the future direction of food safety and official control delivery in the UK. They have been the catalyst for a number of significant developments in FSA policy with the intention of lasting impact on public safety" [D]. Professor Hutter's research underpinned four of 24 recommendations taken forward from the Inquiry and now mainstreamed in the FSA's new approach to food hygiene regulation, as well as informing the work of the Review of Delivery of Official Controls and FSA's own ongoing strategic research programme.

Hutter's influence on food hygiene and safety regulations has extended beyond the UK, e.g. the Food Standards agency in Australia and New Zealand (FSANZ). E.coli infections are an important cause of foodborne disease in this region and a significant expense for the health system. Individuals are ill from 3 to 31 days and 41% end up in hospital at an overall cost of over \$3000 per case. According to FSANZ's Principal Economist Jason March, Hutter's research has been useful in "framing and formulating our responses to a number of food regulatory issues", including reducing the risks associated with "infrequent yet possible disastrous outbreaks" like E.coli and "recognising and taking into account the actual regulatory capacity of all the businesses across the food supply chain, particularly the small farmers that typically fall outside the present voluntary arrangements" [H].

5. Sources to corroborate the impact (indicative maximum of 10 references)

All sources listed below can also be seen at <https://apps.lse.ac.uk/impact/case-study/view/64>

- A. Hutter, B.H. and Amodu, T. (2008) *Risk Regulation and Compliance: Food Safety in the UK*. <http://new.wales.gov.uk/ecolidocuments/NCP/NCP.04219.pdf>
- B. Testimonial from the Chairman of the Public Inquiry into the September 2005 outbreak of E.coli O157 in South Wales. This source is confidential.
- C. *The Public Inquiry into the September 2005 Outbreak of E.coli O157 in South Wales* (<http://wales.gov.uk/ecolidocs/3008707/reporten.pdf?skip=1&lang=en>).
- D. Food Hygiene Delivery Programme Update. 13 November 2012. (FSA 12/11/05). (<http://www.food.gov.uk/multimedia/pdfs/board/fsa121105.pdf>).
- E. FSA's Bite magazine (www.food.gov.uk/multimedia/pdfs/publication/bite-2012-9.pdf).
- F. FSA Chief Scientist reflecting on Professor Hutter's lecture held at the FSA on 27 March 2012. (http://blogs.food.gov.uk/science/entry/under_pressure)
- G. Testimonial from Head of the Analysis and Research Division, UK Food Standards Agency. This source is confidential.
- H. Testimonial from Principal Economist, Food Standards Australia New Zealand (FSANZ). This source is confidential.