

The Food Hygiene Rating Scheme and the Food Hygiene Information Scheme:

Evaluation findings 2011-2014

Submitted to the Food Standards Agency by:

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Main messages

A comprehensive evaluation of the Food Hygiene Rating Scheme (FHRS), running in England, Wales and Northern Ireland, and the Food Hygiene Information Scheme (FHIS), operating in Scotland, focused on a two-year period of operations between 2011 and 2013.

- The evaluation studied the experiences of local authorities, food businesses and consumers, and assessed the impact of the schemes on improving hygiene standards at food premises and reducing food-borne illness in the population, the ultimate goal of the schemes.
- A theory of change (refer to Appendix 2) served as the conceptual framework for the evaluation. It was expected that better performing food premises would have a food hygiene rating or result on display to customers and that competition among food business operators would drive standards higher. Alongside this, it was anticipated that consumers would incorporate hygiene information into their food purchasing decisions, avoiding those establishments with lower standards, and thus incentivising business operators to improve their hygiene. Increased compliance with food hygiene standards would lead to a reduction in food-borne illness.
- The evaluation found positive impacts on food hygiene standards for local authorities that were running the FHRS. Findings for the FHIS in Scotland were not statistically significant although impact estimates broadly followed the same trends as for the FHRS. The evidence suggests that, compared to the other countries, lower scheme engagement among Scottish food business operators and consumers can help explain the weaker findings for the FHIS, to date.
- The FHRS effectively improved broad compliance (equivalent to a FHRS rating of 3 or above) among food premises by 2.0 percentage points in the first year of operations. By the end of the second year, the scheme increased the proportion of fully compliant food premises (equivalent to a FHRS rating of 5) by 3.3 percentage points. At the same time, the FHRS reduced the number of poorly compliant food premises (equivalent to a FHRS rating of 0 or 1) by 1.9 and 1.7 percentage points over the first two years of operations, respectively. These positive results align with international evidence on the introduction of food hygiene information schemes (see section 1.2).
- Due to serious data limitations it was not possible to derive reliable impact estimates testing the effect of the FHRS/FHIS on the incidence of food-borne illnesses.

- UK-wide implementation of the schemes is on target. To maintain momentum, local authorities should continue to support food safety inspection teams with adequate resourcing and support.
- Food business engagement with the schemes was found to go beyond commercial interests. Other motives like personal pride and avoiding the stigma of a poor rating/result could be used as selling points to encourage food hygiene improvements. The research identified a gap in knowledge about the role that business competition plays in driving up hygiene standards.
- Limited public access to food hygiene information at the point of choice was found to be a weakness of the FHRS/FHIS. Making display mandatory at food business premises would help address this issue. Higher profile marketing initiatives at the national level may be needed to inform consumers where they can find the information and prompt them to seek it out. At present it is unknown the extent to which mandatory display and higher profile marketing would increase consumer use of the schemes.
- A culture of food hygiene information use needs to be developed and promoted among food businesses and consumers. Tracking the FHRS ratings and FHIS inspection results of individual food premises will identify which types of businesses show changes/stability in compliance over time. This will help to tailor interventions and support, particularly for poor performing food premises. Consumer segmentation research would improve knowledge about where food hygiene information is sourced, who uses it and when. Marketing activities could build on knowledge about when hygiene information is more likely to be used.

Executive Summary

This report considers together the findings from the process and impact study strands of the evaluation of the Food Hygiene Rating Scheme (FHRS) operating in England, Wales and Northern Ireland and the Food Hygiene Information Scheme (FHIS) that is operating in Scotland alongside additional research evidence on the schemes. The purpose was to provide a cumulative picture of the operation of the schemes and their impacts.

Background

- The FHRS and FHIS are intended to communicate the standard of food hygiene of food premises so that members of the public can factor this information in to their decisions and make informed choices about where to eat or buy food. At the same time, food hygiene standards are expected to rise as food businesses respond to public demand for higher standards and competition among food businesses would drive standards higher. The ultimate goal of the schemes is to reduce the incidence of food-borne illnesses in the UK population.
- In 2011, the FSA commissioned a comprehensive evaluation of the FHRS and FHIS.

Evaluation aims and methods

- Theories of change (refer to Appendix 2) were developed to set out the scheme logic and assumptions underpinning behaviour change for each of the stakeholder groups: local authorities, food business operators and consumers. These theories of change served as the conceptual framework for the evaluation. The overall aim of the evaluation was to assess whether the FHRS and FHIS are operating as intended; whether the schemes improved food hygiene standards at food premises and ultimately contributed to a reduction in food-borne illnesses.
- The evaluation consisted of two main strands: a process study and an impact study. The findings of these are brought together and considered in this synthesis report. Process study fieldwork took place between autumn 2011 and summer 2013 and collected data from the perspectives of local authority food safety team staff, food business operators and consumers. The impact study focused on those local authorities that launched the FHRS or FHIS during the 2010/11 financial year and tested the causal effect of the FHRS/FHIS on two sets of outcomes: i) compliance with food hygiene standards and ii) food-borne illnesses.

Impacts

Impacts on food hygiene compliance

- FSA trend statistics have shown improvements in food hygiene standards over time. The evaluation impact study confirmed that the FHRS (all countries together and England alone) significantly contributed to a rise in standards. This was not the case for the FHIS where no statistically significant impacts on compliance with food hygiene law were found within Scottish local authorities. However, the trends were broadly in the same direction as for the FHRS.
- Due to the FHRS, the proportion of broadly compliant food premises (equivalent to an FHRS rating of 3 or above) was 2.0 percentage points higher than would have been the case if the schemes had not been introduced (refer to Table 3.2). Additionally, by the end of the second year of roll out, the FHRS improved the proportion of fully compliant food premises (equivalent to an FHRS rating of 5) by 3.3 percentage points more than would have been the case if the scheme had not been operating.
- At the other end of the compliance spectrum, the FHRS significantly *decreased* the volume of poor performing food premises (equivalent to an FHRS rating of 0 or 1) by 1.9 and 1.7 percentage points after the first and second years of operations, respectively.

Impacts on the incidence of food-borne illness

- Various issues pertaining to the reporting of diseases and the location of cause, along with data limitations, suggest that impact estimates for food-borne illnesses should be treated with caution.
- Impact analyses were performed for England and Wales only as data were not available at the local authority level within Northern Ireland and Scotland.
- The study found a significant impact for one of the three sets of data that were investigated. One year after the scheme was implemented, the FHRS significantly reduced the incidence of formally reported food poisoning cases¹ in the English and Welsh populations (jointly considered) and in England (alone). This result did not persist in the second year of FHRS operations. The analysis found no significant impacts on the incidence of either Salmonella or Campylobacter.

¹ Source: Notifications of Infectious Diseases (NOIDS) data.

Findings by stakeholder group

Local authorities

- On the whole, evidence from the process study suggests that local authorities carried out activities as outlined in the theory of change (refer to Chapter 2); however, there were variations by country and at the local authority level. Local authority inspection officers in all countries responded positively to the national guidance and the training and support. In contrast, marketing of the schemes seemed to vary with a greater degree of activity concentrated in Northern Ireland and Wales. Additionally, some local authority operations were being restricted by a limited resource allocation and there was concern that further cut-backs would compromise scheme delivery.
- In terms of outcomes, local authority uptake was very positive as, by the end of the evaluation, all but one UK local authority was either operating or had committed to run the FHRS/FHIS.
- In Scotland, the FHIS was perceived by local authority officers to be applied consistently and, to a lesser extent, this was also the case for the scoring of FHRS ratings in Northern Ireland. But there were perceived inconsistencies in the way different local authorities in England and Wales approached the scoring of FHRS ratings. The findings reinforce the need for ongoing training and support to address the ways in which the FHRS is applied.

Food business operators

- According to the theory of change for food businesses², the FHRS/FHIS would encourage certain behaviours that would help to drive up hygiene standards: display of stickers/certificates, competition over ratings/results and the use of safeguard measures to challenge results (refer to Chapter 3). Although the evaluation found instances of all these practices, the extent of these behaviours was lower than anticipated:
 - As predicted by the theory of change, a greater proportion of higher performing food businesses displayed their rating/ result. However, 2014 audit data found that about half of proprietors were not showing their certificate or sticker at the time and substantial numbers of those with an FHRS rating of 3 or above or a FHIS Pass result were not (refer to Tables 3.1 and 3.2). This finding raises doubts about whether the supply of point-of-purchase food

² Different terminology is used when discussing impact and process study findings for this stakeholder group. Impacts refer to the FHRS rating / FHIS inspection result assigned to a business premises. The process study research was also premises based but since surveys and interviews collected experiences and attitudes, findings are reported for individuals – referred to as ‘food business operators’ or ‘food businesses’ collectively.

hygiene information was sufficient for this information to be factored in to consumer decisions.

- The evaluation found that food business operators generally did not believe their customers were using the FHRS/FHIS so consumer pressure to improve ratings/ inspection results had a lesser role than anticipated.
- The vast majority of food business operators felt it was important to have a better rating/result than their competitors. Half said they were aware of at least one of the ratings/results of other local businesses.
- Use of food business safeguards (the right to appeal, the right to request a re-inspection and the right to reply) were lower than expected by local authority officers. The process study found unexpected barriers to their use: e.g., lack of time, lack of understanding about the process, fear of inspection authorities.
- Compared to the other countries, Scottish food business operators reported fewer enquiries about the scheme from their customers; fewer Scottish food business operators were aware of their competitor's inspection results, and; fewer were aware of or had used the food inspection safeguard measures.
- The evaluation evidence suggests that, aside from concern for trade, there was a range of factors that motivated food business operators to engage with the FHRS/ FHIS. Non-commercial reasons like pride and business reputation were also important.

Consumers

- Of all the stakeholder groups, the role that consumers play as outlined in the theory of change was least understood according to the evaluation results. It was assumed that awareness and understanding would lead to scheme use (refer to Chapter 4). It was anticipated that consumers would include hygiene information in their food purchasing decisions and ultimately purchase from those food establishments with higher ratings.
- Based on national survey data (refer to Table 4.1), consumer awareness of the FHRS has risen over time, and there is little reason to expect this trend won't continue. However, awareness of the FHIS in Scotland has not increased over the same time period and significantly lags behind the other countries.
- Scheme awareness and reported use were notably higher in Northern Ireland where it is known that more resources have been invested in marketing the FHRS nationally, particularly during the launch of the scheme. Scheme awareness and use were lower in Scotland, compared to the other countries.
- To date, there is limited data on how FHRS/FHIS ratings and inspection results are used by consumers. Understanding and use of the FHRS/FHIS have been gauged through people's perceptions and hypothetical scenarios (due to limited

experience of the schemes). The research suggests that consumers lack understanding on how to interpret different ratings/ inspection results and about the rationale for the frequency of food hygiene inspections.

- Consumer engagement with the schemes was found to be more complex than anticipated as the importance of food hygiene information depended on the circumstances of each individual purchasing decision. Generally, people were more likely to refer to hygiene information when taking care to deliberate over eating decisions, such as for special occasions and unfamiliar places (on holiday or newly opened premises) or when choosing food for vulnerable people. On the other hand, food hygiene information might be disregarded when consumers have a positive attachment to a particular business or type of food.
- Given these findings, it was evident that consumer awareness and understanding do not necessarily lead to the use of food hygiene information. Even when consumers were made aware of food hygiene standards through the FHRS/FHIS, they weighed them alongside other factors when making food choices.

Conclusions

- The evaluation found the FHRS added value to FSA and local authority efforts to improve compliance with food hygiene regulations. This was an important outcome for the scheme and indicates that the FHRS influenced positive changes in the attitudes and practices of food business operators in England, Wales and Northern Ireland.
- Compared to the other countries, lower levels of scheme engagement among Scottish food business operators and consumers can help to explain the lack of statistically significant impacts of the FHIS in Scotland, to date.
- It was not clear from the evaluation what were the important motivators for behaviour change, for different types of food business operators and particularly those with poor hygiene standards. The food hygiene stickers and certificates may have helped to focus attention on hygiene standards, rewarding food establishments with high standards and shaming those with poor standards. This may have incentivised some food business operators to improve their hygiene out of concern for their integrity (personal or business) or financial viability.
- Evidence from the evaluation suggests that, to date, consumer influence on improving food hygiene standards has not been borne out as envisaged in the theory of change. Consumer awareness and usage of food hygiene information was lower than expected. This was partly due to the fact that evaluation fieldwork took place during the first two years of scheme operations as the FHRS/FHIS were gradually rolled out across the UK.

- The evaluation exposed gaps in the FHRS/FHIS theories of change. These were revised to highlight additional assumptions in the chain of events leading to the anticipated behaviour outcomes for each stakeholder group (refer to Chapter 6).

Recommendations

The recommendations address issues in the operation of the FHRS/FHIS where improvements may strengthen its potential and gaps in knowledge about the dynamics of the schemes. For additional recommendations that stem from specific findings in the process and impact studies, the reader should refer to the separate reports available on the FSA website.³

Encouraging change among food business operators

Further work is required to understand the motivations of food business operators in order to enhance their engagement with the schemes and encourage a culture of use:

- Monitoring changes in compliance levels over time will add to understanding trends in compliance rates. Tracking individual food premises over time will help identify the characteristics of food businesses associated with changes (in either direction) or stability. Interventions can then be better targeted.
- There is a need to develop interventions and support to address barriers (e.g. attitudinal, financial) that are keeping the minority of poor performing food businesses below the compliance threshold.
- In order to raise the importance of food hygiene information to business trade, local authority communications to food businesses should highlight the growing awareness of FHRS/FHIS ratings/ inspection results among consumers.
- In order to encourage competition, local authorities should consider more proactively sharing the ratings/ inspection results of local food premises with food business operators.

Encouraging change among consumers

More work is required to understand consumer engagement and to encourage a culture of food hygiene information use:

- Consumer segmentation research would improve knowledge about where food hygiene information is sourced, who uses it and when.

³ http://www.foodbase.org.uk/results.php?f_report_id=757

- What is known about the use of food hygiene information should be incorporated into future marketing activities to demonstrate how the information can be applied, for example, when deciding where to eat for a special occasion. Small steps may be needed to develop a culture of use.
- To protect the integrity of the FHRS/FHIS, the FSA and local authorities need to be mindful of consumer expectations for annual (or more frequent) food hygiene inspections.

Enhancing operations

- To improve transparency and public accessibility, mandatory display of food hygiene information at point-of-choice should be considered more widely across the UK. The Welsh experience can be used as a test case to gauge its effectiveness on stakeholder engagement and scheme outcomes.
- To ensure that changes made at a food establishment are reflected in the rating/inspection result, the FSA and local authorities should consider ways to encourage food business operators to use the safeguard measures for requesting revisits in order to achieve a new rating and the 'right to reply' on the FSA website.

Future evaluations

- Because the reduction of food-borne illness is a prime objective in the FSA's strategy to improve food safety, it is recommended that the Agency continue to work closely with the relevant surveillance agencies to maximise the use of available data.

1 Introduction

In 2011, the Food Standards Agency commissioned an evaluation of the FHRS (Food Hygiene Rating Scheme) operating in England, Wales and Northern Ireland and the FHIS (Food Hygiene Information Scheme) that is operating in Scotland. This report brings together the findings from the full evaluation – the process and impacts studies – to provide a cumulative picture of how the schemes are operating and their impacts.

For further details on the evaluation, readers can refer to the associated reports available on the FSA website.⁴

1.1 Overview of the schemes

The FHRS and the FHIS are FSA (Food Standards Agency)/ local authority partnership initiatives. The FHRS was launched formally in November 2010 while the FHIS was first piloted in five Scottish local authorities between 2006 and 2008 before it was rolled out nationally. The schemes provide transparency to the findings from statutory hygiene inspections of food premises. Inspections are carried out by local authority food safety officers to ensure that food premises are complying with food hygiene law. The schemes are supported by FSA guidance.⁵

The initiatives are intended to communicate the standard of food hygiene of individual food premises so that members of the public can make informed choices about where to eat or buy food. The ultimate goal of the schemes is to reduce the incidence of food borne illnesses in the UK population.

In England, Wales and Northern Ireland, food businesses are assigned a FHRS rating on a six point scale indicating the level of compliance with food hygiene law – ranging from ‘0’ (urgent improvement necessary) to ‘5’ (very good).



⁴ http://www.food.gov.uk/science/research/ssres/foodsafetyss/fs244011/#anchor_3 and http://www.foodbase.org.uk/results.php?f_report_id=757

⁵ <http://www.food.gov.uk/multimedia/pdfs/enforcement/fhrsguidance.pdf> and <http://www.food.gov.uk/multimedia/pdfs/fhispostpilotguide.pdf>

In Scotland, food businesses are assigned an FHIS inspection result of 'Pass' or 'Improvement Required'.⁶



Food businesses operators are given stickers/certificates showing their inspection rating/result for display at their premises. Those in England, Northern Ireland and Scotland are encouraged to display these. In Wales, legislation was introduced in November 2013 requiring businesses to display a sticker with their rating at their premises. Consideration of similar legislation for Northern Ireland began in autumn 2014. Ratings and inspection results are also available to the public through the FSA website and through mobile apps.

At the time of report writing, the FHRS is running in all areas of Wales and Northern Ireland. In England, all but one local authority is operating the FHRS. In Scotland, all local authorities are running the FHIS.

The FHRS and FHIS run alongside other FSA programmes and activities for improving food hygiene and reducing food-borne disease such as campaigns to improve public awareness of good food hygiene practices at home; assisting food business operators with food safety management systems with guidance like Safer Food Better Business; and the E. coli cross-contamination guidance.⁷ The reduction of food-borne disease is a key objective in the FSA's strategy to improve food safety. More details on the FHRS and the FHIS are available in Appendix 1.

1.2 Research evidence on food hygiene information schemes

The decision to launch the FHRS and FHIS schemes at the national level was in part based on positive evidence on the effectiveness of various local schemes that were run by local authorities prior to 2008.⁸ Consumer research found that although awareness of the local schemes was low, people anticipated that the display of food hygiene information would influence where they purchased food.⁹ The research also

⁶ Information on the schemes can be obtained at <http://www.food.gov.uk/policy-advice/hygieneratings/>.

⁷ FSA (2011) *Foodborne disease strategy 2010-15: An FSA programme for the reduction of foodborne disease in the UK*.

⁸ Food hygiene information programmes began operating in some UK local authorities around 2000 with the display of hygiene ratings at food business premises or on websites. Formats included a 2-tier system (e.g., in Scotland) and 3-6 tier systems using star ratings, or smiley faces.

⁹ Greenstreet Berman (2008) Evaluation of local food hygiene (scores on the doors) schemes (<http://www.food.gov.uk/business-industry/caterers/hygieneratings/fhrsbackground/sotdevaluation>)
Jigsaw Research (2007) *Food Hygiene Information Scheme Pilot*

found business operators were positive about making food hygiene ratings more transparent and indicated they would display a certificate. A study of Norwich City Council's award scheme found a positive result on compliance rates; monitoring data showed ratings generally improved between the first and second inspection, indicating that food businesses were striving to achieve higher standards of food hygiene.¹⁰

International evidence on the effects of public display of food hygiene inspection results has been very positive. Food hygiene information programmes in Denmark, USA, Canada, and Australia have found improvements in food business compliance after implementation.¹¹ Formats for communicating food hygiene to the public have ranged from smiley faces (Denmark) to letter grades (New York, Los Angeles) to traffic lights (Toronto) and stars (New South Wales). In Toronto, compliance rates were shown to increase by 10% in the first three years of the DineSafe programme, from 78% to 88%.¹² In Los Angeles, improvements to food hygiene were found whether the display of inspection results was voluntary or mandatory.¹³ In New York, an evaluation found a marked improvement in standards of food hygiene after it became mandatory for food establishments to display their inspection outcome in July 2010.¹⁴

Food hygiene information schemes have also been attributed with reducing the incidence of food-borne illnesses – whether due to improved hygiene in businesses or to customers choosing to purchase food from establishments with a higher

(<http://www.food.gov.uk/scotland/safetyhygienescot/foodhygieneinfoscot/fhisreport>), and Navigator Research (April 2010) Communications Development Research for a National Food Hygiene Rating 'Scores on the Doors' Scheme (<http://tna.europarchive.org/20130513091226/http://www.food.gov.uk/news-updates/news/2010/jun/research>).

¹⁰ Burton, Y. (2007) *An assessment of Norwich City Council's Safer Food Award. Project for University Diploma in Food Safety and Food Legislation*, Department of Chemical Engineering, University of Birmingham.

¹¹ Basur, S. (2003) Evaluation of the Food Premises Inspection and Disclosure System <http://www.toronto.ca/legdocs/2003/agendas/committees/hl/hl030127/it004.pdf>; <http://www.legco.gov.hk/yr07-08/english/sec/library/0708in19-e.pdf>; <http://www.findsmiley.dk/en-US/Forside.htm>;

Farley, T (2011) Restaurant Letter Grading: the first 6 months, NYC Department of Health and Mental Hygiene;

Morris, J. (2005) Publication of hygiene inspection information, Chartered Institute of Environmental Health;

Jin, G. and Leslie, P. (2003) The effect of information on product quality: Evidence from restaurant hygiene grade cards. *The Quarterly Journal of Economics*, 409-451.

¹² Thompson, S., de Burger, R. and Kadri, O. (2005) 'The Toronto food inspection and disclosure system: A case study', *British Food Journal*, **107** (3), pp.140-49.

¹³ Jin and Leslie (2003) Ibid.

¹⁴ Farley (2011) Ibid.

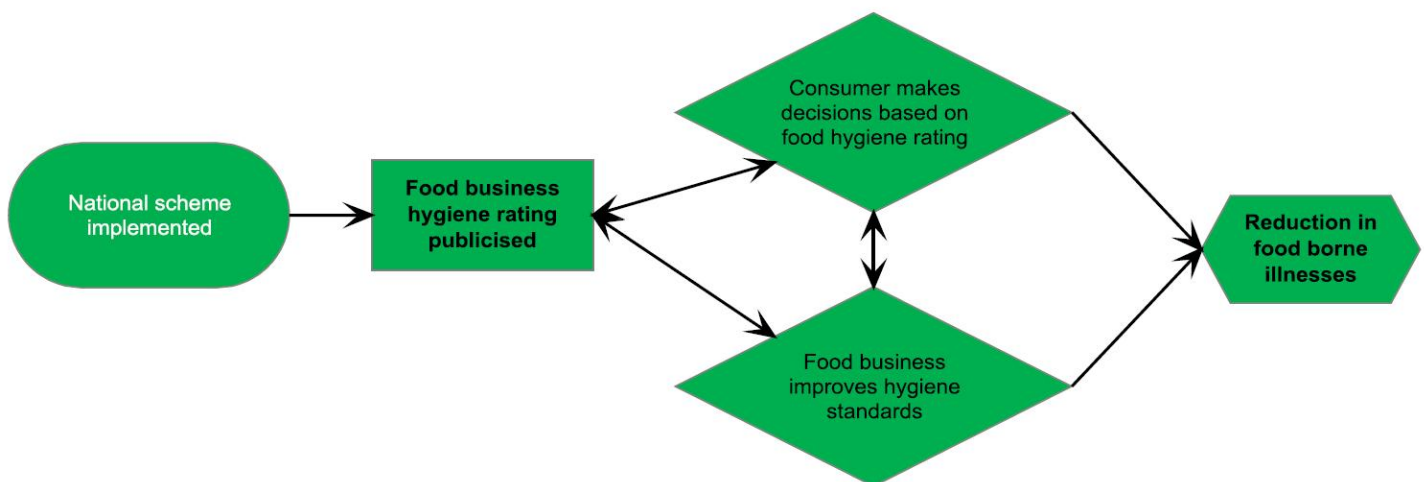
standard of hygiene. For example, in New York City, Salmonella cases reduced by 14% in the first 18 months of the scheme.¹⁵ In Toronto, the incidence of food-borne illness declined during a five year period and this coincided with increased compliance with food safety regulations following introduction of the Dinesafe programme.¹⁶ Research in Los Angeles found that hospitalisations related to food-borne illness decreased for three consecutive years following the introduction of the letter grading programme. An impact study of hospitalization rates where the scheme was running in Los Angeles County, compared to the rest of California, concluded that the grade card scheme decreased hospitalisations by 20%.¹⁷

In a review of public health outcomes associated with food hygiene information schemes, Lee (2013) identified both the lack of reliable indicators and other risk reduction strategies as a challenge to attributing causation to the programmes.¹⁸ He concluded that future evaluations should combine different measures of outcomes to gauge performance of the interventions.

1.3 The evaluation framework

The FHRS/FHIS theories of change served as a conceptual framework for the evaluation. The overarching model is depicted in Figure 1.1 while theories of change models for each of the key stakeholder groups are available in Appendix 2.

Figure 1.1: Overarching FHRS/FHIS theory of change



¹⁷ Jin, G. and Leslie, P. (2003) The effect of information on product quality: Evidence from restaurant hygiene grade cards. *The Quarterly Journal of Economics*, 409-451.

¹⁸ Lee, B. (2013) *A review of food safety interventions and evaluation in food service establishments*. Vancouver: National Collaborating Centre for Environmental Health. Available at: http://www.nccch.ca/sites/default/files/Food_Safety_Interventions_Sept_2013.pdf

The theories of change spell out the policy intent for behaviour change within each of the target populations – local authorities, food business operators and consumers. The expectations for the schemes are far reaching – requiring the buy-in of local authorities and the retail food and catering sectors, influencing consumer choices over food purchases and, in the longer term, contributing to the reduction of food-borne illnesses. The underlying assumption is that, when making decisions about where to eat or buy food, consumers will take food hygiene information into account and avoid food premises with poor hygiene standards. This consumer behaviour change will drive change among food business operators. At the same time, it was expected that food business competition over ratings / inspection results would drive standards higher. Changes that improve food premise hygiene will in turn reduce the risk of food related illnesses.

1.4 Aims of the evaluation

In 2011, the FSA commissioned a comprehensive evaluation of the FHRS and FHIS in order to develop understanding and assess:

- uptake of the FHRS and FHIS by local authorities
- operation of these national scheme within local authorities
- consumer awareness and understanding of the FHRS/FHIS
- food business operator engagement with the national schemes, including levels of voluntary display and competition over ratings / inspection results
- influence of the FHRS/FHIS on consumer behaviour
- impact on food premise compliance with food hygiene standards
- impact on the incidence of food-borne illnesses

The overall aim was to assess whether FHRS and FHIS are operating as intended as set out in the theories of change; whether the schemes improved food hygiene standards in food premises and ultimately contributed to a reduction in food-borne illnesses.

1.5 Evaluation design

The evaluation consisted of two strands: a process study and an impact study.

1.5.1 Process study

The process evaluation was carried out in two phases: stage 1 (October 2011 to February 2012) focused on early implementation and delivery of the FHRS/FHIS while stage 2 (February to June 2013) focused on established operations of the

FHRS/FHIS and perceived impacts. An additional objective of stage 2 was to gain understanding of the attitudes and experiences of those food businesses with relatively poorer standards of food hygiene.

The process study employed a case study approach in which fieldwork took place within a sample of UK local authorities. Data collection included interviews with local authority officers and food business operators, a survey of food business operators and focus groups with consumers.

Further details on the methods are provided in the process study reports, available on the FSA website.¹⁹

1.5.2 Impact study

The impact evaluation provided estimates of the causal effect (or impact) of the FHRS/FHIS on two sets of outcomes: i) compliance with food hygiene law for business premises²⁰ within local authorities and ii) the incidence of food-borne illnesses. Additionally, the analysis explored whether having run a local food hygiene scheme prior to rolling out the FHRS or FHIS altered the impact of these schemes.

The study used a difference-in-differences (DID) methodology: outcomes for local authorities that introduced the FHRS/FHIS (in financial year 2010/11) were compared to outcomes for local authorities that did not. The difference between the outcomes observed for the two groups of local authorities provided an estimate of the causal effect of the FHRS/FHIS. Impacts were observed in the first and second years after local authorities launched a national scheme (early adopters), financial years 2011/12 and 2012/13.

More details on the methods and study limitations are provided in the impact report.²¹

¹⁹ http://www.food.gov.uk/science/research/ssres/foodsafetyss/fs244011/#anchor_3 and http://www.foodbase.org.uk/results.php?f_report_id=757

²⁰ Different terminology is used when discussing impact and process study findings for this stakeholder group. Impacts refer to the FHRS rating / FHIS inspection result assigned to a business premises. The process study research was also premises based but since surveys and interviews collected experiences and attitudes, findings are reported for individuals – referred to as ‘food business operators’ or ‘food businesses’ collectively.

²¹ Sallis, S, Jabin, N. and Morris, S. (2015, forthcoming) Evaluation of the impact of the Food Hygiene Rating Scheme and the Food Hygiene Information Scheme on food hygiene standards and food-borne illnesses.

1.6 This report

To construct a wider picture of scheme operations and outcomes this report incorporates related data sources (consumer surveys, food business surveys, consumer insight research) and international literature on the performance of food hygiene information schemes. During a workshop conducted in July 2014, FSA staff and the research team systematically assessed FHRS/FHIS activities, outcomes and impacts in light of the evidence. Evidence gaps were also identified.

Chapters 2 to 4 use the theory of change to summarise findings separately for each stakeholder group: local authorities, food business operators and consumers. Chapter 5 presents findings from the impact study on the effect of the FHRS on the incidence of food-borne illnesses. Chapter 6 outlines revised FHRS/FHIS theories of change following from the cumulative evidence. Conclusions and recommendations for developing the FHRS/FHIS further are presented in Chapter 7.

2 Local authorities

This chapter presents an overview of the evaluation findings from both stages of the process study, considering the contribution of local authorities as set out in the FHRS/FHIS theory of change: those scheme activities and intermediate outcomes that were considered necessary for achieving behaviour change among food business operators and consumers.

2.1 Theory of change

The theory of change for the FHRS/FHIS identifies two outcomes for local authorities: i) a common understanding of what the schemes were aiming to achieve and ii) a consistent inspection regime across all local authorities. (The theory of change model for local authorities is available in Appendix 2.) In order to arrive at these outcomes the theory identifies a number of activities:

- Provision of FSA guidance on the schemes
- Marketing and communications to promote the schemes
- Training and support for local authority food safety teams to develop understanding and to establish consistency in how scores are determined
- Adequate resources for local authority operations

The remainder of this chapter relates the evaluation evidence to these intermediate steps and outcomes for local authorities.

2.2 Scheme guidance

The evaluation found that, for the most part, the guidance that was developed, and later revised, by the FSA was applied as intended. National guidance was distributed for both the FHRS ('Brand Standard') and the FHIS. This guidance was well received. Local authority food safety officers in both FHRS and FHIS areas described the guidance as clear, comprehensive and useful for practical scoring. However, food safety officers in FHRS areas felt that the new safety controls for E. coli O157²² needed to be incorporated into the 'Brand Standard'.

²² <http://www.food.gov.uk/business-industry/guidancenotes/hygguid/ecoliguide>

2.3 Marketing

The evaluation found that the intensity of communication activities to promote the FHRS/FHIS to the public varied by local authority and across countries. More marketing investment and corresponding activity at the national level was noted in Northern Ireland and Wales.

Although the FSA issued local authorities with marketing materials and seasonal reminders encouraging consumers to check FHRS ratings/FHIS results before deciding where to eat or buy food, the extent to which these communications were used was discretionary at the local level. Local authority officers generally felt that wider promotion of the scheme was needed at the national level because they did not necessarily have the time or financial resources for ongoing local communications.

2.4 Training

FHRS/FHIS training (FSA and regional/local) and other forms of support (e.g., team meetings, cross-local authority workshops, regional liaison groups) took place across all local authorities in the study. Feedback was positive.

In both FHRS and FHIS areas, the training and support were viewed as useful for sharing practices and case scenarios (within and across teams). Local authority officers felt that these efforts helped develop scoring consistency *within* food safety teams (an issue that was identified in the early stages of the process study).

2.5 Resourcing

Evaluation evidence from the process study found there were resource limitations that restricted scheme operations in some local authorities and there was concern that further budget cuts would compromise future operations. Although the extent of this issue was not measured, it was generally found that staff shortages were regularly identified as a reason why not all food businesses within scope of the schemes had received an inspection. Likewise, those food safety teams that lacked administrative support found the paperwork associated with the FHRS/FHIS to be a burden. As mentioned above, budget limitations also explained why local authorities had not marketed the scheme locally.

2.6 Local authority uptake

The evaluation found that the local authorities widely supported a common approach to publication of information on food hygiene standards. Progress with local authority buy-in to the schemes was very positive as take-up rapidly increased during the course of the evaluation. By March 2014, all local authorities in Wales, Northern

Ireland and Scotland, and all but one local authority in England, were either operating or had committed to run the national scheme.

The process evaluation found a strong commitment to the FHRS/FHIS in the sampled areas. Food safety officers supported the schemes and were positive about using a common framework to communicate food hygiene standards.

2.7 Consistency of inspections

In England and Wales, consistency of FHRS scoring *between* local authorities was identified as a concern in the implementation of the scheme. Local authority officers in England and Wales noted differences when they compared the component scores of FHRS ratings in cross-team training exercises. This was considered to be less of an issue in Northern Ireland and was not associated with Scotland concerning the FHIS.

Inconsistencies in the inspection process were also identified by food business operators in FHRS areas who observed that both the focus of an inspection and the rating can vary according to the local authority officer. They noted that the timing of inspections can also influence a rating, for instance, those carried out during peak and off-peak periods.

2.8 Conclusion

A summary of the evaluation findings concerning the activities and outcomes of local authorities is presented in Table 2.1.

On the whole, evidence from the process study suggests that local authorities carried out activities as outlined in the theory of change (refer to Chapter 2); however, there were variations by country and at the local authority level. Local authority inspection officers in all countries responded positively to the national guidance and the training and support. In contrast, marketing of the schemes seemed to vary with a greater degree of activity concentrated in Northern Ireland and Wales. Additionally, some local authority operations were being restricted by a limited resource allocation and there was concern that further cut-backs would compromise scheme delivery.

In terms of outcomes, local authority uptake was very positive as, by the end of the evaluation, all but one UK local authority was either operating or had committed to run the FHRS/FHIS. In Scotland, the FHIS was perceived by local authority officers to be applied consistently and, to a lesser extent, this was also the case for the scoring of FHRS ratings in Northern Ireland. But there were perceived inconsistencies in the way different local authorities in England and Wales

approached the scoring of FHRS ratings. The findings reinforce the need for ongoing training and support to address the ways in which the FHRS is applied.

Table 2.1: LA theory of change: summary of main findings

Intervention Activities	Outcomes	Evidence fitness for purpose*	Extent achieved*
Guidance		✓	✓
Training & support		✓	✓
Marketing & communication activities		Varies by LA and country	Partially, varies by country
Resourcing		Partial, extent of under-resourcing not known	Ongoing concerns for future
	Common understanding of scheme	✓	✓
	Consistent inspection regime	✓	Partially, varies by country

* The 'evidence fitness for purpose' refers to the quality of the data on the activity or outcome. A tick (✓) indicates that the evidence was considered adequate for formulating conclusions. The 'extent achieved' qualifies how the findings for outcomes can be interpreted. The quality of the empirical data and the extent achieved were assessed during the evaluation synthesis study workshop that was attended by FSA staff and the evaluation team.

3 Food business operators

This chapter assembles the evaluation evidence on food business operators in connection with the FHRs/FHIS, using the theory of change as a framework for organising the results.

3.1 Theory of change

Food businesses are identified as key agents for change as they interact directly with both local authorities and consumers. (Refer to Appendix 2 for a model depicting the theory of change for food business operators.) The theory assumes the following elements are needed:

- Awareness and understanding of FHRs/FHIS
- Perceptions of consumer engagement with the scheme – business operators believe that consumers are using the scheme
- Voluntary display – business operators with higher FHRs ratings / FHIS Pass results display stickers / certificates because they believe that this attracts customers, while businesses with low ratings / Improvement Required results may not display but worry that not doing so deters customers
- Competition – food business operators which face competition from nearby businesses are particularly likely to try to achieve higher ratings / inspection results and to display them
- Behaviour change – food business operators are willing and able to improve and maintain hygiene standards so that they can achieve higher ratings / Pass results. Food businesses will use their rights to appeal and request a re-inspection visit to achieve a higher result. The schemes should bring about improvements in compliance with food safety regulations.

Evidence on each element of the food business theory of change is discussed in turn below.

3.2 Scheme awareness

Cross-sectional surveys show that food business awareness of the FHRIS is high (GfK Social Research, 2014).²³ Over 90% of food businesses surveyed reported they were aware of the scheme and this level has remained about the same since 2012.

According to the 2014 GfK survey, awareness of the FHIS among food businesses in Scotland was lower at 67% and this level of awareness has not changed significantly since the 2012 survey.

Awareness tends to be higher in Wales and Northern Ireland where there have been national campaigns to promote the FHRIS. Additionally, in the process evaluation interviews with food businesses, there was evidence that some operators in England and Scotland were not fully aware of the scheme. Findings suggest that poor performing food business operators did not fully understand scheme processes. A recurrent issue among these proprietors was a lack of clarity on what additional changes were needed in order to achieve a '5' rating or a 'Pass' result.

3.3 Perceptions of consumer engagement

There was a general view among food business operators that their customers are not aware of the FHRIS/FHIS or, if they are aware, they consider other factors like food quality and price, more important than food hygiene information.²⁴ Food business operators that were surveyed as part of the process study reported that only a minority of their customers had enquired about their rating/result or about the scheme or commented they had used the scheme to select where to eat. Customer engagement in these ways was found to be significantly lower in Scotland compared to the FHRIS areas.

For these reasons, proprietors placed less value on the FHRIS/FHIS when considering their business trade.

3.4 Display of ratings/ inspection results

As predicted by the theory of change, display of stickers/certificates was associated with the outcome of the FHRIS/FHIS inspection, with higher rates of voluntary display reported among food businesses with a 4/5 rating or 'Pass' inspection result, as indicated in the evaluation survey of food business operators. A similar trend is found

²³ The report, 'Business display of food hygiene ratings in England, Northern Ireland and Scotland' is available at: <http://www.food.gov.uk/sites/default/files/FHRIS-FHIS%20display%20report%20-%20FINAL.pdf>

²⁴ This finding is corroborated by perceptions among local authority officers that public awareness of the national schemes was low, particularly in England and Scotland.

in GfK audits of display in FHRS areas.²⁵ As shown in Table 3.1, in the three FHRS countries, display of a sticker/certificate somewhere on the premises was highest among food businesses with a 4/5 rating, compared to those with a rating of 3 or a rating of 0, 1 or 2.

Table 3.1: Audited display of FHRS stickers/certificates 2011-2014

FHRS rating	England %			Northern Ireland %			Wales* %	
	2014	2013	2012	2014	2013	2012	2013	2011
ALL	53	52	43	56	57	50	47	31
4 or 5	63	64	56	65	67	57	66	52
3	31	28	26	17	24	33	22	21
0, 1 or 2	20	10	12	22	13	22	17	6

Adapted from GfK audits of display (2011, 2012, 2013, 2014)

<http://www.food.gov.uk/science/research/ssres/foodsafetyss/fs244011a-0>

* In Wales, a separate audit was carried out in 2011. No audit was carried out in 2014 due to the legislation introduced in November 2013 requiring businesses to display their rating at their premises.

In Scotland, the GfK 2014 audit found 55% of food businesses with a Pass result were displaying a sticker or certificate on their premises (refer to Table 3.2). This rate of display was higher than the previous audit in 2012 which found just under half (47%) of businesses with a Pass result were displaying.²⁶

Table 3.2: Audited display of FHIS stickers/certificates 2012-2014

FHIS result	Scotland %	
	2014	2012
Pass (including Pass with Eat Safe)	55	47

Adapted from GfK audits of display (2012 and 2014)

<http://www.food.gov.uk/science/research/ssres/foodsafetyss/fs244011a-0>

As shown in Tables 3.1 and 3.2, just over half of food businesses were displaying their rating at the time of the GfK 2014 audit. Additionally, in the FHRS areas where display is not mandatory (England and Northern Ireland), the overall rate of voluntary display remained about the same between the 2013 and 2014 audits.

²⁵ <http://www.food.gov.uk/sites/default/files/FHRS-FHIS%20display%20report%20-%20FINAL.pdf>

²⁶ The GfK research in Scotland did not include an audit of display among businesses with an 'Improvement Required' result.

More crucially, however, year on year the audit shows that substantial numbers of businesses that were deemed to be broadly compliant or better (with a FHRS rating in the range of 3-5 or a FHIS Pass result) had no sticker or certificate on display. In the evaluation process study, the display of stickers/certificates was perceived by local authority officers to be much lower than expected despite efforts to encourage display. These findings suggest that consumers may not have had sufficient access to food hygiene information at point of choice, raising doubts about the role of customer pressure on driving up food hygiene standards, i.e. their ability to use ratings/ results as a basis for choosing where to eat or buy food, or to engage with food business operators about food hygiene standards.

Food business surveys conducted for the evaluation and by GfK Social Research (2014) provide some insights as to why food business operators were not displaying their sticker/certificate. These included: dissatisfaction with a low rating; concern it would harm the reputation of the business; not knowing the whereabouts of the sticker/certificate; because it was not a legal requirement; and considering the sticker to lack aesthetic appeal.

3.5 Competition

From the process evaluation, there were some indications that food business operators were consciously aware of the ratings/ inspection results of other businesses, both in the qualitative fieldwork and the food business survey. Overall, 51% of surveyed proprietors said they were aware of at least some competitor's ratings/ inspection results (46% were not aware). Awareness varied by country and was significantly higher in Northern Ireland (62%) and Wales (62%) and significantly lower in Scotland (33%). Moreover, the vast majority of surveyed food businesses agreed that it was important for them to have a better inspection result than their competitors: 90% in Scotland and 84% in FHRS areas. The gap between those who believed a higher rating or Pass result was important and those that said they were indeed aware of their competitors' performance may indicate that food business operators were not actively seeking out information. This can partially be explained by the availability of information at street level as proprietors indicated that displayed stickers/ certificates were the main source of information about their competitors' ratings/ inspection results. The survey findings also indicate that food business operators had a positive attitude about achieving a higher rating/ inspection result (or maintaining a '5' rating or 'Pass' result) on its own merit. The vast majority of food businesses felt it important to improve their rating /inspection result and this finding was similar across countries and level of ratings/results.

Overall, the evidence suggests that competition over ratings/ inspection results was only a partial driver for food business operators to improve their hygiene standards. Instead, the evaluation uncovered other possible motivators like self-image and

wanting to communicate good standards to their customers. Among surveyed food businesses, 'pride' was the most common reason for achieving a high rating/ inspection result. Other related reasons included wanting to maintain high standards and to implement best practices.

3.6 Safeguard measures

In general, the process study found that awareness of safeguard measures was high, while take up of these rights was lower than anticipated by food safety officers. The majority of surveyed food business operators in FHRs areas were aware of the right to a re-visit, the right to appeal and the right to reply (81%, 79% and 74% respectively) while only small minorities had requested a revisit (17%) or exercised their right to an appeal (8%) or the right to reply (8%). Surveyed businesses in Scotland were significantly less likely to be aware or to use any of the safeguards, compared to FHRs areas.

Qualitative research with poor performing food businesses identified some possible barriers to the use of safeguard measures. Proprietors were too busy in the day-to-day running of the business to initiate the process; they were still attending to changes or were uncertain about what changes were needed; or they were not aware of the safeguards. Moreover, some food business operators expressed anxiety about local authority officer visits or they lacked confidence that a re-inspection would result in a higher rating/ result.

3.7 Improvements in compliance – outcomes and impacts

3.7.1 Trends and perceived outcomes

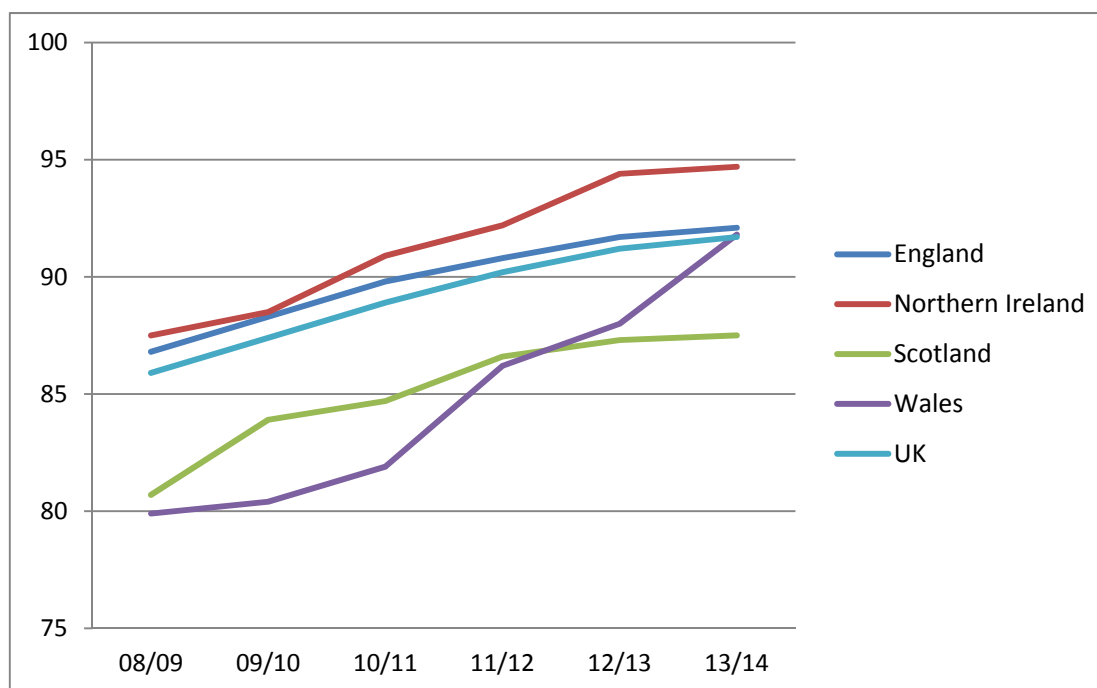
Prior to and during the roll out of the FHRs/FHIS, the annual Local Authority Enforcement Monitoring System (LAEMS) returns to the FSA show steady improvements in business compliance with food hygiene law. As shown in Figure 3.1, between 2008-09 and 2013-14 compliance across the UK increased by 6%, from 86% to 92%.²⁷ The same positive trend was observed in all four countries.

Similar results were also reported in the process evaluation. Local authority officers in all FHRs countries perceived positive changes in the compliance of food

²⁷ Figures refer to percentage of establishments that are broadly compliant or better (excluding establishments not yet risk rated). Based on LAEMS calculations, a food establishment is 'broadly compliant' for food hygiene if it has an intervention rating score of not more than 10 points under each of the following three criteria: Level of (Current) Compliance – Hygiene; Level of (Current) Compliance – Structure; and Confidence in Management. For most recent figures see: www.food.gov.uk/sites/default/files/laems-annual-rep-13-14.pdf

businesses and felt this was driven in part by the scheme.²⁸ Additionally, surveyed food business operators in all countries reported they had implemented the requested changes and indicated they intended to maintain these improvements and strive towards higher ratings/ inspection results.

Figure 3.1: Trends in food business broad compliance: 2008-2014



Source: LAEMS Board Papers

However, these data need to be treated with caution as they are based on people’s perceptions. Also, LAEMS trend statistics cannot identify whether or not the changes are directly attributable to the FHRs/FHIS; positive changes in compliance rates were occurring across local authorities, regardless of whether they were operating a food hygiene information scheme (local or national), or not. To address this, the evaluation impact study was used to determine the extent to which the observed changes in compliance can be independently attributed to the FHRs/FHIS.

3.7.2 FHRs/FHIS impacts on compliance with food hygiene regulations

The impact study used statistical techniques to test if the schemes have improved hygiene standards in food premises. To do so, compliance outcomes for local authorities that operated the FHRs or FHIS were compared to compliance outcomes

²⁸ Local authority officers in Scotland were less positive about improvements to date. This was mainly attributed to the low profile of the scheme.

in local authorities that did not. The analysis examined broad, full and poor compliance.²⁹ This summary is based on findings from the impact study report.³⁰

Overall, the analysis found the FHRS had a positive impact on compliance with food hygiene law, both one and two years after the schemes were introduced.³¹ Impact estimates for the FHIS in Scotland followed the same trends as those found for the FHRS, however, the impacts were not statistically significant. Therefore, only findings for the FHRS are presented here.

Table 3.2 shows average outcome measures on compliance rates for the FHRS local authorities.³² Impact estimates took into account baseline differences between the groups and controlled for variations in local authority characteristics.³³ Findings to note are those with at least a 5% level of statistical significance, identified with asterisks.

Table 3.2: FHRS impacts on compliance in England, Wales and Northern Ireland[^]

	Prior to national schemes	One year outcome (2011/12)	Two year outcome (2012/13)
FHRS LAs			
Broadly compliant % (impact ppts)	86.7	91.0 (2.0)***	92.1 (1.5)
Fully compliant % (impact ppts)	41.4	49.6 (1.8)	54.7 (3.3)**
Poorly compliant % (impact ppts)	8.5	5.8 (-1.9)***	4.7 (-1.7)**

[^] Adapted from Table 5.1 in Salis et al (2015)

Asterisks indicate significant impacts: ** 5% level; *** 1% level

The impact estimates (shown in bold parentheses) indicate the extent to which the compliance measures (column 2) increased or decreased as a result of the FHRS.

²⁹ Broad compliance was defined as being equivalent to a 3, 4 or 5 FHRS rating. Full compliance was defined as being equivalent to a 5 FHRS rating. Poor compliance was defined as being equivalent to a 0 or 1 FHRS rating.

³⁰ Refer to Salis et al (2015), chapter 5.

³¹ Impact estimates were similar when analysing England, Wales and Northern Ireland combined, as well as England alone. It was not possible to examine impacts separately for Wales and Northern Ireland due to small sample sizes.

³² Compliance rates in Figure 3.1 and Table 3.2 are not comparable because not all local authorities were included in the impact study (in terms of numbers and types of premises). Note that comparison local authorities that were not operating the FHRS may have been running a local food hygiene scheme.

³³ Therefore, the impact is not the simple arithmetic difference between the FHRS measure and the corresponding measure for non- FHRS local authorities.

The findings show that after the first year of operation (column 3), the FHRS improved broad compliance by 2.0 percentage points (ppts). (This means, without the schemes, average broad compliance would have been lower in FHRS areas by 2.0 percentage points, at 89.0% instead of 91.0%.) Although the effect of the scheme on broad compliance was still positive in the second year of operation, it was slightly weaker and not statistically significant.

The analysis showed an opposite impact trend on the rate of full compliance: at the end of the second year of operation the impact on full compliance was higher (and statistically significant) compared to the first year of operation. Two years on, the FHRS had improved full compliance in food premises by 3.3 percentage points (column 4) so that this rate was 54.7% instead of 51.4% if the scheme had not been running.

At the other end of the compliance spectrum, impacts were also found on the rate of poor compliance – the FHRS effectively reduced the incidence of poorly compliant food premises by 1.9 and 1.7 percentage points over the first and second years of FHRS operations, respectively. Although it could be speculated that the poorly compliant might have moved into the ranks of the compliant food premises, this would need to be confirmed by tracking individual food premises over time.

Changes in the magnitude of the impacts make intuitive sense. It could reflect the time needed for food businesses to address requested changes so improvements in compliance levels might have happened gradually over time (and this would be reflected in movements from an FHRS equivalent rating of either 3 or 4 one year after the FHRS rollout to a rating of 5 two years after). Alternatively, the trends could be a function of the inspection cycle. For example, lower risk food businesses that are inspected every two years would be more likely to be fully compliant with hygiene requirements than higher risk food businesses (e.g. those inspected more frequently) and so the impact detected on full compliance was greater at the end of the second year of operations. A longer observation period, and longitudinal tracking on how different levels of compliance evolve over time for individual premises, would be needed to interpret the findings of the impact study more fully.

The effect of a previous local scheme

Only in England was the existence of a previous local food hygiene information scheme found to influence the effect of the FHRS and this did not persist beyond the first year of FHRS operations. After one year, full compliance was 4.4 percentage points *lower* in English local authorities that ran a previous local scheme compared to those that did not. By two years this difference disappeared. The FHRS in England may have had less influence initially in local authorities that ran a local scheme previously, suggesting that local schemes had already exerted a positive impact on business compliance, leaving less scope for the FHRS impact.

There was no evidence to suggest that having a previous local scheme altered the impact of the FHRS in England, Wales and Northern Ireland (combined) or the impact of the FHIS in Scotland.

3.8 Conclusion

A summary of the evaluation findings concerning the role of food business operators is presented in Table 3.3.

Table 3.3: Food business operator theory of change: summary of main findings

Outcomes/ Impacts	Evidence fitness for purpose*	Extent achieved*
Impact: improved food hygiene	Partial: separate estimates not possible for all countries	(FHRS) ✓ (FHIS) Partial – expected direction, not statistically significant
Better performing display rating/ result	✓	Partial: although higher performing more likely to display, rate was lower than expected
Food businesses believe customers are using scheme to inform food purchasing	✓	X
Rating/ result competition	X	Unknown
Use of safeguard measures	Partial, wider monitoring needed	Lower than anticipated

* The 'evidence fitness for purpose' refers to the quality of the data on the outcome. A tick (✓) indicates that the evidence was considered adequate for formulating conclusions. The 'extent achieved' qualifies how the findings for outcomes can be interpreted. The quality of the empirical data and the extent achieved were assessed during the evaluation synthesis study workshop that was attended by FSA staff and the evaluation team.

FSA trend statistics have shown improvements in food hygiene standards over time. The evaluation impact study confirmed that the FHRS (all countries together and England alone) significantly contributed to a rise in standards. This was not the case for the FHIS where no statistically significant impacts on compliance with food hygiene law were found within Scottish local authorities. However, the trends were broadly in the same direction as for the FHRS.

Due to the FHRs, the proportion of broadly compliant food premises (equivalent to an FHRs rating of 3 or above) was 2.0 percentage points higher than would have been the case if the schemes had not been introduced (refer to Table 3.2). Additionally, by the end of the second year of roll out, the FHRs improved the proportion of fully compliant food premises (equivalent to an FHRs rating of 5) by 3.3 percentage points more than would have been the case if the scheme had not been operating.

At the other end of the compliance spectrum, the FHRs significantly *decreased* the volume of poor performing food premises (equivalent to an FHRs rating of 0 or 1) by 1.9 and 1.7 percentage points after the first and second years of operations, respectively.

According to the theory of change for food business operators, the FHRs/FHIS would encourage certain behaviours that would help to drive up hygiene standards: display of stickers/certificates, competition over ratings/results and the use of safeguard measures to challenge results. Although the evaluation found instances of all these practices, the extent of these behaviours was lower than anticipated:

- As predicted by the theory of change, a greater proportion of higher performing food businesses displayed their rating/ result. However, 2014 audit data found that about half of proprietors were not showing their certificate or sticker at the time and substantial numbers of those with an FHRs rating of 3 or above or a FHIS Pass result were not (refer to Tables 3.1 and 3.2). This finding raises doubts about whether the supply of point-of-purchase food hygiene information was sufficient for this information to be factored in to consumer decisions.
- The evaluation found that food business operators generally did not believe their customers were using the FHRs/FHIS so consumer pressure to improve ratings/ inspection results had a lesser role than anticipated.
- The vast majority of food business operators felt it was important to have a better rating/result than their competitors. Half said they were aware of at least one of the ratings/results of other local businesses.
- Use of food business safeguards (the right to appeal, the right to request a re-inspection and the right to reply) were lower than expected by local authority officers. The process study found unexpected barriers to their use: e.g., lack of time, lack of understanding about the process, fear of inspection authorities.

The evaluation evidence suggests that, aside from concern for trade, there was a range of factors that motivated food business operators to engage with the FHRs/ FHIS. Non-commercial reasons like personal pride and business reputation were also important.

4 Consumers

This chapter combines the evidence from the process study and other related consumer insight research about consumer perceptions and reported behaviours concerning the national schemes.

4.1 Theory of change

The theory of change assumes consumers will take into account food hygiene information when they decide where to eat or buy food. (Refer to Appendix 2 for a model showing the theory of change for consumers.) There are three elements to the theory:

- Awareness of FHRS/FHIS
- Understanding of these national schemes
- Behaviour change – consumers check food business ratings/ inspection results (stickers, certificates or online) and are more likely to use food businesses with higher ratings/ Pass results

The following sections address these components in turn with empirical evidence from the research with consumers.

4.2 Scheme awareness

In the process evaluation, there was a recognised need to improve consumer awareness of the FHRS/FHIS in all countries and this was reported by all stakeholder groups. Building the public profile of the schemes through local advertising and communication activities was not considered sufficient.

Results from the FSA Biannual Tracker Survey³⁴ indicate that awareness of the FHRS has gradually increased over time. In November 2013, awareness of the FHRS stood at 37%, up 16% from November 2011 (refer to Table 4.1). Consumer awareness of the FHRS was highest in Northern Ireland (44%) where there have been national advertising campaigns followed by Wales (39%) and England (37%) – data not shown in the table. In Scotland, awareness of the FHIS remained constant over the same two-year period, at about 10%.

³⁴ Food Standards Agency (2013) Biannual Public Attitudes Tracker: Wave 6, May 2013. <http://www.food.gov.uk/multimedia/pdfs/publication/tracker6.pdf>

Table 4.1: Consumer awareness of FHRS/FHIS

	Scheme awareness					Seen sticker/certificate		
	Nov13 %	May13 %	Nov12 %	May12 %	Nov11 %	Nov13 %	May13 %	Nov12 %
FHRS	37	34	30*	24*	21	66*	57*	50
FHIS	9	11	12	11	10	50	45*	32

Source: FSA Biannual Public Attitudes Tracker Wave 7

<http://multimedia.food.gov.uk/multimedia/pdfs/science-research/biannual-attitudes-tracker-nov-2013.pdf>

* Statistically significant difference to the previous wave of research

Awareness of FHRS and FHIS stickers/certificates was also gauged through the Tracker Survey with a new question introduced in November 2012 (respondents were shown stickers and certificates and asked if they had seen them). Reports that people had seen FHRS stickers/ certificates significantly increased between November 2012 and 2013 – up from 50% to 66% (refer to Table 4.1). In 2013, awareness of stickers/ certificates was notably highest in Northern Ireland (86%), followed by Wales (66%) and England (65%) – data not shown. In Scotland awareness of FHIS stickers or certificates over the same period increased from 32% to 50%.

4.3 Scheme understanding

The research evidence indicates that consumers generally supported food hygiene information schemes in principle. They also trust that the FSA and local authorities are maintaining food safety in the public interests.

The research found that consumers may need additional details to be more confident about both the meaning of specific ratings/ inspection results and the rationale for the frequency of inspecting individual food premises. In FHRS areas in particular, although a rating of 3 or 4 was viewed to be a target threshold for food hygiene, there was a general lack of consensus about what standard of hygiene was associated with the different ratings. To help with understanding, people expressed a preference for a more detailed breakdown on the composition of ratings/ inspection results. In related research³⁵, consumers felt, in principle, there should be greater transparency on food hygiene information and they should have a choice over the level of detail provided (to avoid information overload). However, consumers agreed that it was unlikely people would want to access detailed information (e.g., summary

³⁵ TNS BMRB (2012) Citizens Forum: Expanding Food Hygiene Information. Available at: <http://www.food.gov.uk/multimedia/pdfs/citizens-forum-report-2012>

inspection reports, breakdowns on the component scores of ratings/results) on a regular basis, with the exception of certain at-risk groups.

Finally, in both the process evaluation and consumer insight research it was assumed that food premises would need to be inspected at least annually and more often if improvements were necessary. Consumers questioned the validity of stickers and certificates that were more than a year old.

4.4 Scheme use

To date, there is limited data on how FHRs/FHIS ratings and inspection results are used by consumers. In the 2012 Food and You Survey, respondents were asked if they had ever checked a sticker/ certificate before deciding to eat somewhere.

Reported use varied by country and was highest in Northern Ireland (27%) followed by Wales (13%), England (11%) and Scotland (6%). But this research only reflects the first 1-2 years of operations and when a smaller number of UK local authorities were running a national scheme.

Findings from the process study and other consumer insight research³⁶ indicate that the role of the FHRs/FHIS in food purchasing decisions is far more complex than anticipated in the theory of change; awareness of the information, although necessary, is not sufficient for its use.

Access to food hygiene information may have also been a barrier to its use, given that only about half of food business operators displayed their sticker/ certificate somewhere on their premises (refer to section 3.4).³⁷

In the focus group research, consumers that had used hygiene information in the past said they did not always refer to this information when purchasing food. Instead, personal preferences and the circumstances of the eating occasion influenced the likelihood that food hygiene information was taken into account. In general, people were more likely to refer to hygiene information when taking care to deliberate over eating decisions, such as for special occasions and unfamiliar places (on holiday or newly opened premises) or when the eating party includes vulnerable people. On the other hand, food hygiene information might be disregarded when consumers have a positive attachment to a particular business or type of food.

The research on consumer use of the schemes was largely based on hypothetical situations as many of the study participants had limited experiences of FHRs/FHIS. This needs to be borne in mind when interpreting the results.

³⁶ TNS BMRB (2012) Citizens Forum: Expanding Food Hygiene Information. Available at: <http://www.food.gov.uk/multimedia/pdfs/citizens-forum-report-2012>

³⁷ Data on FSA website traffic or the extent to which the mobile apps were used to access the information were not available.

4.5 Conclusion

A summary of the evaluation findings concerning the role of consumers is presented in Table 4.2.

Table 4.2: Consumer theory of change: summary of main findings

Outcomes/ Impacts	Evidence fitness for purpose*	Extent achieved*
Aware of scheme	✓	Increase over time; varies by country
Understand scheme	Partial, mainly based on hypothetical scenarios	More data is needed
Compare ratings/results (use)	Partial, mainly based on hypothetical scenarios	More data is needed Complex, based on different food purchase circumstances
Purchase from higher performing businesses (use)	Partial, mainly based on hypothetical scenarios	More data is needed Complex, based on different food purchase circumstances

* The 'evidence fitness for purpose' refers to the quality of the data on the outcome. A tick (✓) indicates that the evidence was considered adequate for formulating conclusions. The 'extent achieved' qualifies how the findings for outcomes can be interpreted. The quality of the empirical data and the extent achieved were assessed during the evaluation synthesis study workshop that was attended by FSA staff and the evaluation team.

Of all the stakeholder groups, the role that consumers play as outlined in the theory of change was least understood according to the evaluation results. It was assumed that awareness and understanding would lead to scheme use. It was anticipated that consumers would include hygiene information in their food purchasing decisions and ultimately purchase from those food establishments with higher ratings.

Based on national survey data, consumer awareness of the FHRS has risen over time, and there is little reason to expect this trend won't continue. However, awareness of the FHIS in Scotland has not increased over the same time period and significantly lags behind the other countries.

Scheme awareness and reported use were notably higher in Northern Ireland where it is known that more resources have been invested in marketing the FHRS nationally.

To date, there is limited data on how FHRS/FHIS ratings and inspection results are used by consumers. Understanding and use of the FHRS/FHIS have been gauged through people's perceptions and hypothetical scenarios (due to limited experience of the schemes). The research suggests that consumers lack understanding on how

to interpret different ratings/ inspection results and about the rationale for the frequency of food hygiene inspections.

Consumer engagement with the schemes was found to be more complex than anticipated as the importance of food hygiene information depended on the circumstances of each individual purchasing decision. Generally, people were more likely to refer to hygiene information when taking care to deliberate over eating decisions, such as for special occasions and unfamiliar places (on holiday or newly opened premises) or when choosing food for vulnerable people. On the other hand, food hygiene information might be disregarded when consumers have a positive attachment to a particular business or type of food.

Given these findings, it was evident that consumer awareness and understanding do not necessarily lead to the use of food hygiene information. Even when consumers were made aware of food hygiene standards through the FHRS/FHIS, they weighed them alongside other factors when making food choices.

5 Effect of FHRS/FHIS on food-borne illnesses

This chapter summarises findings from the impact study which used econometric analysis techniques to test for the effects of the schemes on food-borne illnesses.³⁸ A reduction in food-borne illness is a longer-term outcome of the FHRS/FHIS.

5.1 Trends in food-borne illnesses

UK Trend data (2000-2010) on laboratory confirmed reported cases of food-borne illnesses³⁹ show a mixed picture, depending on the pathogen.⁴⁰ For example, since 2004 the number of Salmonella cases has gradually reduced while Campylobacter cases have increased. Campylobacter is the most common food-borne pathogen in the UK while Salmonella is associated with the highest number of hospital admissions.⁴¹ Increases in reported food-borne diseases have been attributed to changes in consumer demand and eating lifestyle, increases in consumer travel, increases in the size of vulnerable populations and changes in food technologies, among other factors.⁴²

Although it is difficult to estimate the proportion of cases contracted outside private homes (the focus of the FHRS/FHIS), the role of food businesses in exposing consumers to food-borne pathogens is considered to be substantial.⁴³ An American study of food-borne disease outbreaks and sporadic (non-outbreak-associated) gastrointestinal disease concluded that eating food prepared in restaurants is an 'important source of infection'.⁴⁴ Similarly, trend data (1998-2008) from the Centers

³⁸ Refer to the FHRS/FHIS impact evaluation report for more details (Salis et al, 2015 chapter 5).

³⁹ National surveillance systems exist for each UK country: Health Protection Agency (England and Wales), Public Health Agency (Northern Ireland) and Health Protection Scotland. Data include Campylobacter, Listeria monocytogenes, E. coli O157, Salmonella and Norovirus (since 2004). Statistics on foodborne diseases tend to underestimate rates because many cases go unreported.

⁴⁰ FSA (2011) *Foodborne disease strategy 2010-15: An FSA programme for the reduction of foodborne disease in the UK*, page 21.

⁴¹ Tam, C., Larose, T., O'Brien, S. (2014) *Costed extension to the Second Study of Infectious Intestinal Disease in the Community: Identifying the proportion of foodborne disease in the UK and attributing foodborne disease by food commodity*. London: FSA.

⁴² Rocourt, J., Roy, G., Vierk, K. and Schlundt, J. (2003) *The present state of foodborne disease in OECD countries*. Geneva: WHO.

⁴³ Munro, D., La Vallee, J. and Stuckey, J. (2012) *Improving food safety in Canada: Toward a more risk-responsive system*. Ottawa: The Conference Board of Canada.

⁴⁴ Angulo, F. and Jones, T. (2006) Eating in Restaurants: A Risk Factor for Foodborne Disease? *Clinical Infectious Diseases*. 43 (10): 1324-1328.

for Disease Control and Prevention in America traced the majority (68%) of reported food-borne disease to restaurants and delis, while 9% were traced to the home, 7% were associated with a banqueting facility and the remainder were from another location (e.g., institution, retail commercial setting).⁴⁵ The association with home preparation was highest for Salmonella, at 20%. An analysis of in-home and outside-home sources of food-borne pathogens is not available for the UK population but it can be argued that similar trends would apply.

5.2 Findings from the impact study

The impact study tested the question: Did the schemes contribute to a reduction in food-borne disease? To do so, statistical techniques were used to assess the incidence of food-borne illness in local authorities that were operating the FHRS compared to local authorities that were not operating the scheme. Three measures of food-borne illness were used for compiling data at the English and Welsh local authority level:⁴⁶

- The number of food poisoning (formally notified) reports, sourced from the Notifications of Infectious Diseases (NOIDS) database.
- The number of Salmonella confirmed laboratory reports, sourced from Public Health England.
- The number of Campylobacter confirmed laboratory reports, sourced from the Health Protection Agency.

Table 5.1 displays average outcome measures for the three food-borne illness data sources in FHRS English and Welsh local authorities. Figures are shown in units per million population (with impact estimates in parentheses). Findings to note are those with acceptable levels of statistical confidence, identified with an asterisk.

As shown in Table 5.1, a significant impact was found for only one of the data sets following the first year of FHRS operations: as a result of the FHRS in England and Wales, the number of formally reported food poisoning cases was reduced by 267 units per million people. This means that the incidence was 349 cases instead of 616 cases per million population had the FHRS had not been introduced. This impact did not persist beyond the first year of operations. A similar impact result was found for England alone.

⁴⁵ CDC (2013) Surveillance for foodborne disease outbreaks – United States, 1998-2008. *Morbidity and Mortality Weekly Report*, Vol. 62 (2). Available at: <http://www.cdc.gov/foodborneburden/attribution-1998-2008.html>

⁴⁶ Because the data were not available at the local authority level in Northern Ireland and Scotland, it was only possible to derive impact estimates for England and Wales. When not explicit in the dataset, English and Welsh local authorities were identified through GP or patient postcodes.

There was no evidence to suggest that the FHRS reduced the incidence of Salmonella or Campylobacter in England and Wales (together) or in England (alone).

Table 5.1: FHRS impacts on food-borne illnesses in England and Wales[^]

	Prior to national schemes	One year outcome (2011/12)	Two year outcome (2012/13)
FHRS LAs			
Food poisoning (reports per million population) (impact)	467	349 (-267)**	322 (89)
Salmonella (reports per million population) (impact)	39	48 (2)	45 (2)
Campylobacter (reports per million population) (impact)	310	416 (-99)	431 (82)

[^] Adapted from Tables 4.3 and 6.1 in Salis et al (2015)

Asterisks indicate significant impacts: ** 5% level

These impact findings need to be treated with caution. As emphasised in the evaluation impact study report (Salis et al, 2015), the interpretation of the results needs to take into account data limitations (both in terms of under-reporting of illnesses and missing data) and lack of precision about the source of the disease (food or non-food) and the exact location where contact was made with the pathogen (inside or outside the home). Additionally, it cannot be assumed that these issues were distributed equally across FHRS and non-FHRS local authorities. Together, these concerns compromise the validity of the impact results regarding food-borne illnesses.

5.3 Conclusion

Various issues pertaining to the reporting of diseases and the location of cause, along with data limitations, suggest that impact estimates for food-borne illnesses should be treated with caution.

Impact analyses were performed for England and Wales only as data were not available at the local authority level within Northern Ireland and Scotland.

The study found a significant impact for one of the three sets of data that were investigated. One year after implementation, the FHRS significantly reduced the incidence of formally reported food poisoning cases in the English and Welsh populations (jointly considered) and in England (alone). This result did not persist in the second year of FHRS operations. The analysis found no significant impacts on the incidence of either Salmonella or Campylobacter.

6 Revised theories of change

New empirical evidence on an intervention or service can provide insights for modifying a theory of change.⁴⁷ In consultation with the FSA, the FHRS/FHIS theories of change were revised to incorporate findings from the evaluation. The revised theories of change are presented in Figure 6.1. Expected behaviour changes for the three stakeholder groups are depicted in columns, reading bottom to top. Compared to the original theories of change, which provided separate models for each stakeholder group, an integrated model was considered to be less cumbersome for the user.

6.1 Chain of events

The model is organised into:

- Activities – planned inputs and interventions
- Assumptions – the steps leading to the outcomes
- Outcomes (intermediate and final)

Together, the chain of events and resulting behaviour changes are expected to improve the hygiene of food premises and ultimately lead to a reduction in food-borne illnesses. The intended behaviour changes are precipitated through interactions between the stakeholder groups, as shown by the flow of arrows in Figure 6.1.

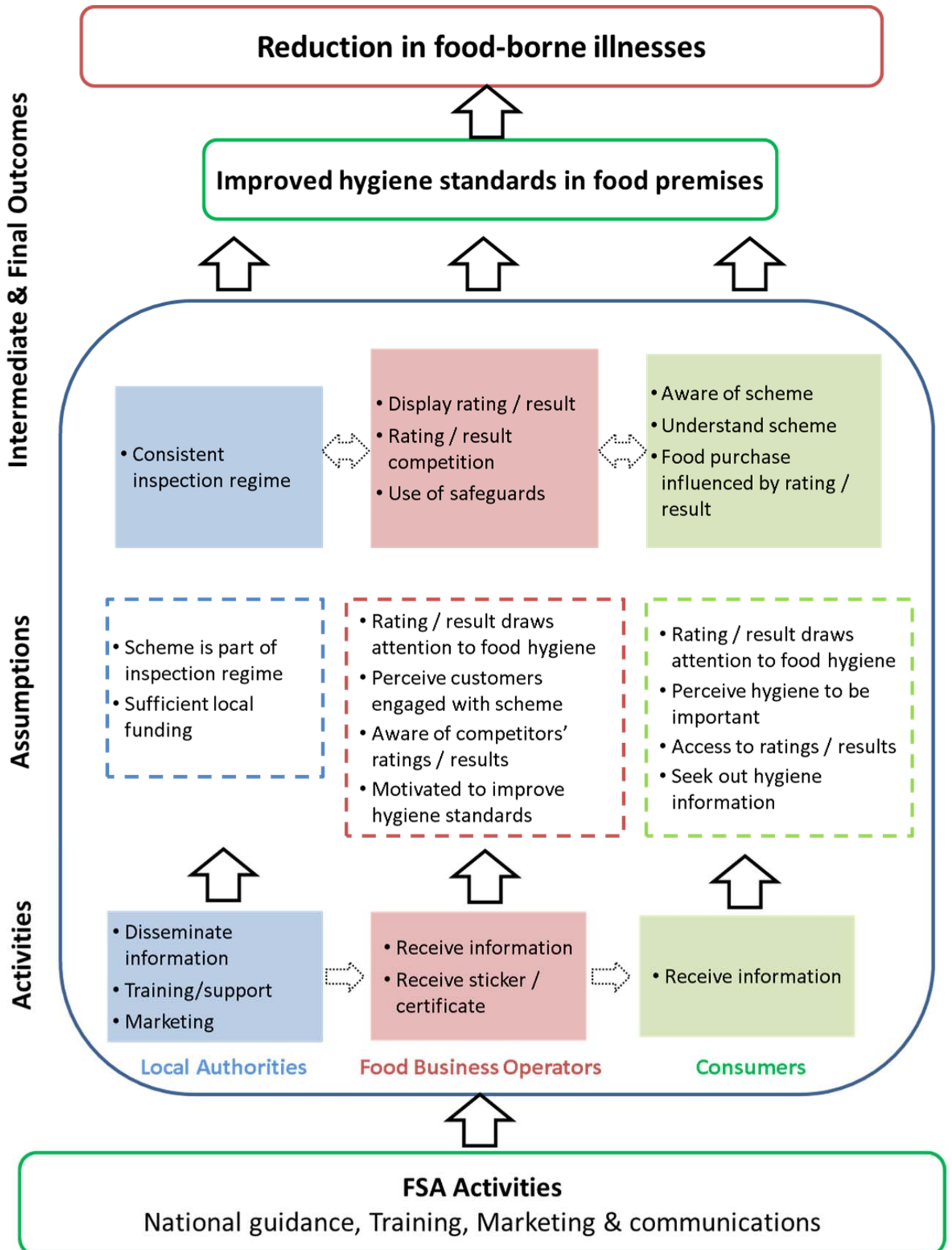
The assumptions for each stakeholder group are displayed in dashed lines to indicate that these events, while affecting how well the outcomes are achieved, are not necessarily within the control of the FHRS/FHIS.

6.2 Expected changes by stakeholder group

This section outlines the expected behaviour outcomes for each stakeholder group, following from the activities and assumptions. Revisions to the original theories of change are highlighted.

⁴⁷ For further information see: Funnel and Rogers (2011) *Purposeful program theory: Effective use of theories of change and logic models* and Mayne (2008) *Contribution analysis: An approach to exploring cause and effect*.

Figure 6.1: Revised FHRS/FHIS theories of change



6.2.1 Local authorities

The evaluation found that, for the most part, behaviour changes among local authority food safety teams had gone according to plan. For this reason the theory of change for local authorities has had minor revision: Given that all but one of the areas have committed to the FHRS/FHIS, it is now assumed that the scheme will remain a part of the inspection regime.

An important outcome for local authorities continues to be that food safety teams apply the FHRS/FHIS in a consistent manner. Consistency means that the same rating/result would be assigned to a single food premises by all food safety officers, whether they are from the same team or from a different local authority.

To achieve the expected FHRS/FHIS outcomes (for all stakeholder groups), the theory of change identifies that local authorities will:

- Disseminate FSA guidance on the schemes
- Provide information about the scheme to food business operators; upload food premise ratings/results to the FSA website
- Supply ongoing training and support for scheme operations
- Promote the scheme through FSA marketing materials or their own local activities

It is assumed that the FHRS/FHIS will be maintained within the inspection regime and that the food safety teams will receive sufficient funding and resources to run the scheme.

6.2.2 Food business operators

The evaluation identified additional factors in the chain of events which seem to influence food business behaviour change. These are added to the assumptions for this stakeholder group: i) the ratings/ results draw attention to the importance of good food hygiene; ii) food business operators are aware of their competitors' ratings/ results (necessary for raising competition over ratings/results) and; iii) food business operators are motivated to improve their hygiene standards.

Important intermediate behaviour outcomes among food business operators are:

- If not mandatory, operators will voluntarily display a higher FHRS rating / FHIS Pass sticker or certificate because they believe it will attract customers. In contrast, those with low ratings / Improvement Required results may not display but worry that their rating/ result will deter customers.
- Competition over ratings/ results will occur among food premises in close proximity and those with a similar customer base.

- Scheme safeguard measures (i.e. 'right to reply', appeals and requests for a re-inspection) will be used so that changes in hygiene standards are reflected in the rating/ result.

The theory of change identifies the following activities and assumptions in the chain of events:

- Food business operators will receive information about the FHRS/FHIS via the local authority food safety team, and can access information via the FSA website and mobile apps.
- They will receive a sticker/certificate showing their rating/ inspection result and will be encouraged to display it on their premise.

It is assumed that the receipt of a sticker/ certificate showing the rating/ result will draw attention to food hygiene; food business operators will believe that their customers are using the scheme; and they will be aware of the ratings/ results of their competitors.

It is also assumed that food business operators will be motivated to improve their hygiene to achieve a '5' rating or Pass result. Their motives to improve may be intrinsically driven (e.g., personal pride, business reputation, avoiding the shame of a poor rating) or a reaction to external influences (e.g., avoiding the negative media attention of a poor rating/result, seeking to attract/retain customers, obedience to inspection authorities).

6.2.3 Consumers

Evaluation data on consumer engagement with the FHRS/FHIS was limited. Therefore, the revised theory of change for consumers may need to be modified when more empirical evidence is available. In particular, the steps leading to scheme use – that consumers will compare ratings/results and select food premises with higher ratings / Pass results – will likely require further refinement. In the new model, three more assumptions have been added: i) the ratings/results draw attention to food hygiene; ii) consumers perceive food hygiene as important and; iii) consumers have access to the hygiene information.

In order to increase the likelihood that consumers will be aware, understand and use the FHRS/FHIS (expected behaviour outcomes), the theory of change identifies the following:

- Consumers will receive information about the FHRS/FHIS via local or national communication activities.
- They will access hygiene information about specific food premises via FHRS/FHIS stickers and certificates, the FSA website and the mobile app.

It is assumed that the ratings/ results will draw public attention to food hygiene and that consumers will perceive hygiene information to be important. It is also assumed that ratings/ results will be readily available (or consumers will know where to access the information). It is assumed consumers will be motivated to seek out this information.

7 Evaluation conclusions and recommendations

Based on the synthesis of findings, this concluding chapter highlights strengths of the FHRs/FHIS and areas for improvement. It also examines the assumptions linking behaviour changes within the stakeholder groups with the outcomes that were predicted by the theories of change. The evaluation recommendations address issues in scheme operations where improvements may strengthen its potential and gaps in knowledge about the dynamics of behaviour change.

7.1 Evaluation timeframe

The study timeframe and certain data limitations have implications for the interpretation of the evaluation results. The evaluation took place at a relatively early stage in the life of the FHRs/FHIS – the process study fieldwork began in Autumn 2011, approximately one year after the first local authorities adopted the scheme and ran to Spring 2013; while the impact study focused on outcomes during the first two years of operations. The timeframe of the evaluation studies is depicted in Table 6.1.

Table 6.1: FHRs/FHIS evaluation timeline

Activity	Earlier	2010	2011	2012	2013	2014
Local food hygiene rating schemes	█					
Schemes launched in early adopter LAs		█				
Stage 1 process study			█	█		
Stage 2 process study					█	
Impact study		█	█	█	█	
Compilation of findings				█	█	█

The study period was intentionally selected to provide feedback and learning for future improvements to the FHRs/FHIS. Stage 1 process study fieldwork focused on the early adopters (local authorities that launched the scheme in 2010) and provided formative feedback on scheme implementation. The identified issues related to scheme consistency, local authority resourcing and engagement of food businesses and consumers. Data for the second stage of the process study focused on early adopters and local authorities that started the national scheme by Spring 2012. It identified similar operational and implementation issues and provided insights into the experiences and reactions of poorer performing food businesses (a hard to reach group).

The impact study measured outcomes one and two years after the schemes first started on a select group of local authorities – the early adopters. Whereas the impacts relate to a specific sample of local authorities, it is plausible to assume that those local authorities that introduced the schemes later in time would benefit from a similar positive impact.

The lack of precision associated with the food-borne illness data suggests that alternative outcome measures may be warranted when testing the effectiveness of future food safety initiatives. International studies which tested the link between health outcomes and food hygiene information have investigated hospitalisations related to food-borne illnesses,⁴⁸ health help-line data and google search trends on food poisoning.⁴⁹

7.2 Outcomes and behaviour change

A key, positive finding is the contribution of the FHRS to improving food hygiene standards of individual food premises, net of other influences. This means it can be stated with confidence that the FHRS has accelerated the rise in levels of compliance across England, Wales and Northern Ireland. These results also align with international evidence on the effectiveness of food hygiene rating schemes.

Survey and process evaluation evidence can provide some insights into why no statistically significant impacts were found for the FHIS. In Scotland, there appeared to be lower levels of engagement with the scheme, compared to the other countries. Both food business operators and consumers in Scotland had relatively lower awareness of the scheme; Scottish food business operators reported fewer enquiries about the FHIS from their customers; fewer Scottish food business operators were aware of their competitor's inspection results, and; fewer were aware of or had used the food inspection safeguard measures. Therefore, in Scotland changes in these intermediary behaviours that were considered necessary for driving up food hygiene standards lagged behind the other countries.

The evaluation researched activities and behaviours of three stakeholder groups – local authorities, food businesses, consumers – in order to explain the outcome results.

There was strong evidence to support the role of local authorities in scheme success. By March 2014, all but one UK local authority was either operating or had committed to the national scheme. This outcome was crucial for wider dissemination of food hygiene information to the public. Likewise, experiences of FHRS/FHIS

⁴⁸ Jin and Leslie (2003) Ibid.

⁴⁹ Ho, D. (2012) Fudging the nudge: Information disclosure and restaurant grading. *Yale Law Review*, 122(3), 574-688.

training and guidance were generally positive in all countries, indicating that food safety officers were receiving the intended support to deliver the schemes.

Although food business operators exhibited behaviour change in the anticipated direction, as measured by the outcomes on compliance, it was not clear from the evaluation how this occurred. The limited degree to which there was voluntary display of ratings/results and completion over ratings/results indicates that there may have been other influences to help drive up standards. Results from the process study suggest that other factors, like the FHRS/FHIS drawing attention to food hygiene, reputational pride and fear of local authority officers, may have had a role in establishing or maintaining good standards of hygiene. Moreover, research with poor performing food businesses revealed financial and structural barriers, alongside the requirement to document management systems, that discouraged aspirations to become compliant. Together, these findings suggest that food business operators' engagement with the FHRS/FHIS was far more complex than anticipated.

To date, the extent to which consumers changed their attitudes and behaviours as anticipated by the theory of change is not known. Consumer engagement with the FHRS and FHIS was perceived to be low by food safety officers and, more crucially, food business operators. Although survey results indicate that awareness of the FHRS/FHIS and awareness of stickers/certificates is rising, it is not known what degree of consumer awareness is sufficient to create a critical mass of potential users. Furthermore, the evaluation strongly suggests that the connection between consumer knowledge and consumer use, without an intervening intervention, is a tenuous assumption.

The evaluation found little evidence that consumers were proactively seeking out food hygiene information. The consumer research highlighted gaps in consumer understanding of the schemes as well as limited or selected use, depending on the circumstances of the food purchase. Together, the findings suggest that more work is necessary to inspire behaviour change among consumers.

7.3 Conclusions

The evaluation found the FHRS added value to FSA and local authority efforts to improve compliance with food hygiene regulations. This was an important outcome for the scheme and indicates that the FHRS influenced positive changes in the attitudes and practices of food business operators.

Compared to the other countries, lower levels of scheme engagement among Scottish food business operators and consumers can help to explain the lack of FHIS statistically significant impacts in Scotland, to date.

It was not clear from the evaluation what were the important motivators for behaviour change, for different types of food business operators and particularly those with

poor hygiene standards. The food hygiene stickers and certificates may have helped to focus attention on hygiene standards, rewarding food establishments with high standards and shaming those with poor standards. This may have incentivised some food business operators to improve their hygiene out of concern for their integrity (personal or business) or financial viability.

Evidence from the evaluation suggests that, to date, consumer influence on improving food hygiene standards has not been borne out as envisaged in the theory of change. Consumer awareness and usage of food hygiene information was lower than expected. This was partly due to the fact that evaluation fieldwork took place during the first two years of scheme operations as the FHRs/FHIS were gradually rolled out across the UK.

The evaluation exposed gaps in the FHRs/FHIS theories of change. These were revised to highlight additional assumptions in the chain of events leading to the anticipated behaviour outcomes for each stakeholder group.

7.4 Evaluation recommendations

The recommendations address issues in the operation of the FHRs/FHIS where improvements may strengthen its potential and gaps in knowledge about the dynamics of the schemes. For additional recommendations that stem from specific findings in the process and impact studies, the reader should refer to the separate reports available on the FSA website.⁵⁰

Encouraging change among food business operators

Further work is required to understand the motivations of food business operators in order to enhance their engagement with the schemes and encourage a culture of use:

- Monitoring changes in compliance levels over time will add to understanding trends in compliance rates. Tracking individual food premises over time will help identify the characteristics of food businesses associated with changes (in either direction) or stability. Interventions can then be better targeted.
- There is a need to develop interventions and support to address barriers (e.g. attitudinal, financial) that are keeping the minority of poor performing food businesses below the compliance threshold.
- In order to raise the importance of food hygiene information to business trade, local authority communications to food businesses should highlight the growing awareness of FHRs/FHIS ratings/ inspection results among consumers.

⁵⁰ http://www.foodbase.org.uk/results.php?f_report_id=757

- In order to encourage competition, local authorities should consider more proactively sharing the ratings/ inspection results of local food premises with food business operators.

Encouraging change among consumers

More work is required to understand consumer engagement and to encourage a culture of food hygiene information use:

- Consumer segmentation research would improve knowledge about where food hygiene information is sourced, who uses it and when.
- What is known about the use of food hygiene information should be incorporated into future marketing activities to demonstrate how the information can be applied, for example, when deciding where to eat for a special occasion. Small steps may be needed to develop a culture of use.
- To protect the integrity of the FHRS/FHIS, the FSA and local authorities need to be mindful of consumer expectations for annual (or more frequent) food hygiene inspections.

Enhancing operations

- To improve transparency and public accessibility, mandatory display of food hygiene information at point-of-choice should be considered more widely across the UK. The Welsh experience can be used as a test case to gauge its effectiveness on stakeholder engagement and scheme outcomes.
- To ensure that changes made at a food establishment are reflected in the rating/ inspection result, the FSA and local authorities should consider ways to encourage food business operators to use the safeguard measures for requesting revisits in order to achieve a new rating and the 'right to reply' on the FSA website.

Future evaluations

- Because the reduction of food-borne illness is a prime objective in the FSA's strategy to improve food safety, it is recommended that the Agency continue to work closely with the relevant surveillance agencies to maximise the use of available data.

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Appendix 1: About the FHRs and FHIS

Food Hygiene Rating Scheme (FHRs)

The scheme

- The FHRs, which is for England, Wales and Northern Ireland, is a local authority/FSA partnership initiative.
- It provides consumers with information about hygiene standards in food premises at the time they are inspected to check compliance with legal requirements – the rating given reflects the inspection findings.
- It allows consumers to make informed choices about where to eat out or shop for food and, through the power of these choices, encourages businesses to improve hygiene standards.
- The overarching aim is to reduce the incidence of foodborne illness (1 million cases annually with 20,000 hospitalisations and 500 deaths) and the associated costs to the economy (£1.5 billion annually).
- Restaurants, takeaways, cafés, sandwich shops, pubs, hotels, hospitals, schools and other places people eat away from home, as well as supermarkets and other retail outlets, are given hygiene ratings as part of the scheme.
- The FHRs is based around the local authority's planned food hygiene intervention programme so does not require additional inspections.
- There are six hygiene ratings on a simple numerical scale ranging from '0' (urgent improvement necessary) at the bottom to '5' (very good) at the top.
- Consumers can access ratings at food.gov.uk/ratings and businesses will be encouraged to display stickers and certificates showing their rating at their premises.






The inspection

- At inspection, the food safety officer checks how well the business is meeting the law on food hygiene. Three areas are assessed. These are:
 - how hygienically the food is handled – how it is prepared, cooked, cooled, stored, and what measures are taken to prevent food being contaminated with bacteria
 - the condition of the structure of the premises including cleanliness, layout, lighting, ventilation, equipment and other facilities
 - how the business manages and records what it does to make sure food is safe using a system like Safer food, better business
- A numerical value is assigned for each area – see below. Food safety officers use guidance to determine how to score each of these areas.

Criteria	Score					
How hygienically the food is handled	0	5	10	15	20	25
Condition of structure	0	5	10	15	20	25
How the business manages and documents food safety	0	5	10		20	30
Total score	0	—————▶				80
Level of compliance	High	—————▶				Low

The food hygiene rating

- The rating given depends on how well the business does overall – the total score.
- It also depends on the area(s) that need improving the most - the business may do better in some areas and less well in others.
- To get the top rating, the business must score no more than 5 in each of the three areas.
- All businesses should be able to get the top rating.
- A new rating is given at each planned inspection.

Total score	0 – 15	20	25 – 30	35 – 40	45 – 50	> 50
Highest permitted individual score	5	10	10	15	20	-
Rating						

Food Hygiene Information Scheme (FHIS)



The scheme

The Food Hygiene Information Scheme (FHIS) is run in Scotland. The FHIS has similar aims to the Food Hygiene Ratings Scheme (FHRS) run in other parts of the UK. Like the FHRS the FHIS is a means of providing information to consumers about the standards of hygiene in food businesses at point of sale and on the web. The demand for such a scheme was first recognised in Scotland by Consumer Focus Scotland in its paper 'Food Law Enforcement – A Study of the Views of Environmental Health and Food Safety Officers in Scotland' (February 2004) and seen as an important mechanism for informing consumer choice.

FHIS was established as a pilot project which ran from November 2006 to November 2008, in partnership with five volunteer Local Authorities. In December 2008 the Food Standards Agency Board recommended continuation of the FHIS as the appropriate format for a national scheme in Scotland. This recommendation acknowledged the prevailing views of stakeholders in Scotland received during the public consultation process.

The scheme was overseen during the pilot by a Steering Group that incorporated consumer, industry and enforcement representation. The Steering Group still oversee the scheme today.

Assessment

The FHIS assessment is also based on compliance with the European Community Regulations on food hygiene. In this case, the scoring system is not wholly dependent on the *Food Law Codes of Practice*. The general direction and guidance given to local authorities is followed in assessing compliance against the requirements of the Regulations on food hygiene but there is no direct dependency on the 'food hygiene interventions-rating scheme' set out in the *Codes*.

Assessment is made against all aspects of the Regulations including hygiene practices, the structure of the establishment, equipment and implementation of food safety management systems - i.e. current compliance level. The initial score may be given only following a full inspection (as defined in the *Food Law Codes of Practice*).

The scheme is designed around the definition of a 'Pass' and this represents 'satisfactory compliance' with the Regulations on food hygiene, with any non-compliances being minor in nature only, not recurring and not critical to food safety. Any business that does not meet the 'Pass' standard falls into the 'Improvement Required' category - the local authority will (in line with the *Food Law Codes of Practice*) communicate in writing, the nature of each non-compliance and the necessary remedial action. In this way, every business that does not meet the 'Pass' standard will be clear about the steps required to achieve this.

Minor non-compliances that are not critical to food safety are differentiated from more significant non-compliances. Such minor non-compliances should not affect consumer safety but are legal requirements and notified to the business with the normal expectation that they will be rectified as a matter of course without the need for a re-inspection. However, if such minor non-compliances are found to have not been rectified as expected, at a subsequent inspection then the business will not be assessed as a 'pass'.

Appendix 2: Evaluation Framework: Theories of Change

During 2009-2010 a feasibility study set out programme theories of change for food hygiene rating schemes.⁵¹ This study identified an overarching theory of change as well as underlying theories of change for the key target groups: local authorities; food businesses and consumers. These are reproduced in Figures A2.1 through A2.4 below.

⁵¹ Husain, F. and Morris, S. (2011) *An evaluation design for Food Hygiene Rating Schemes*, London: Food Standards Agency. Available at: http://www.foodbase.org.uk/results.php?f_report_id=658

Figure A2.1: The overarching programme Theory of Change

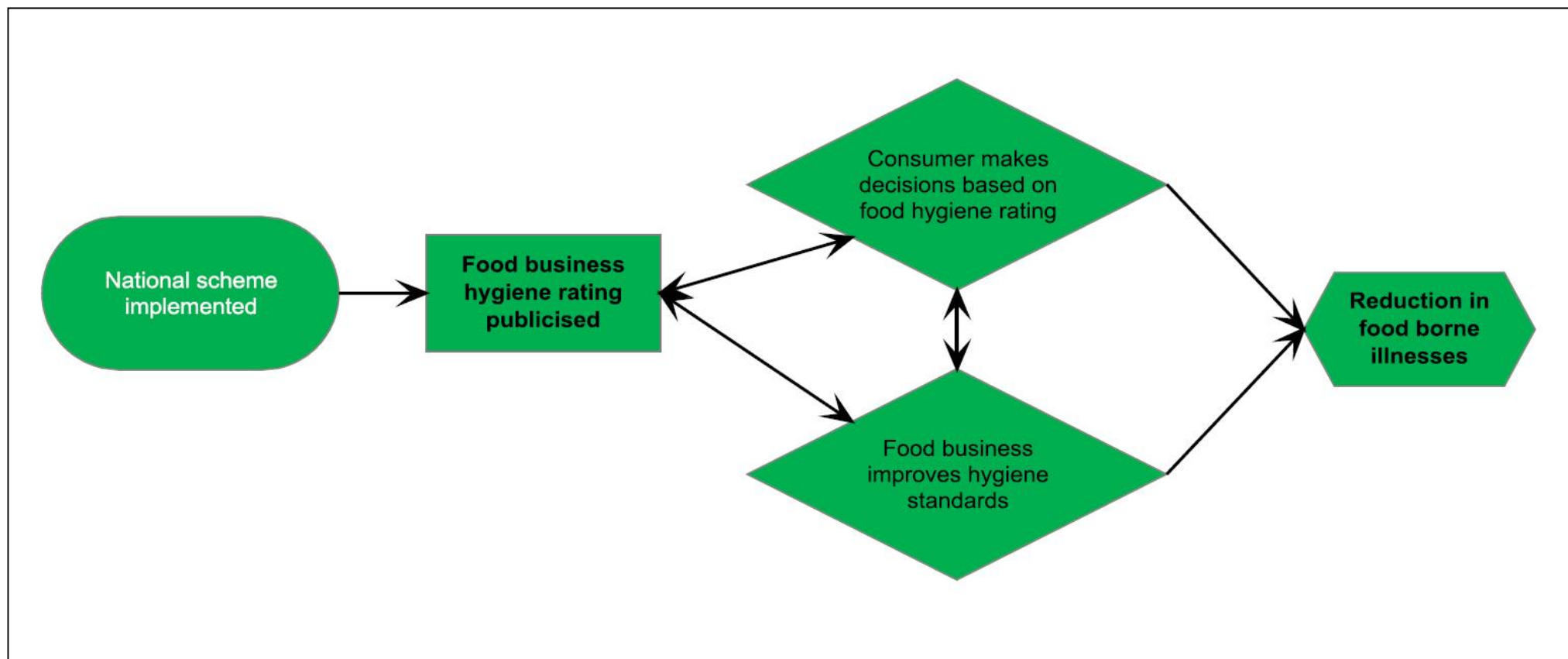


Figure A2.2: The Theory of Change - Local Authorities

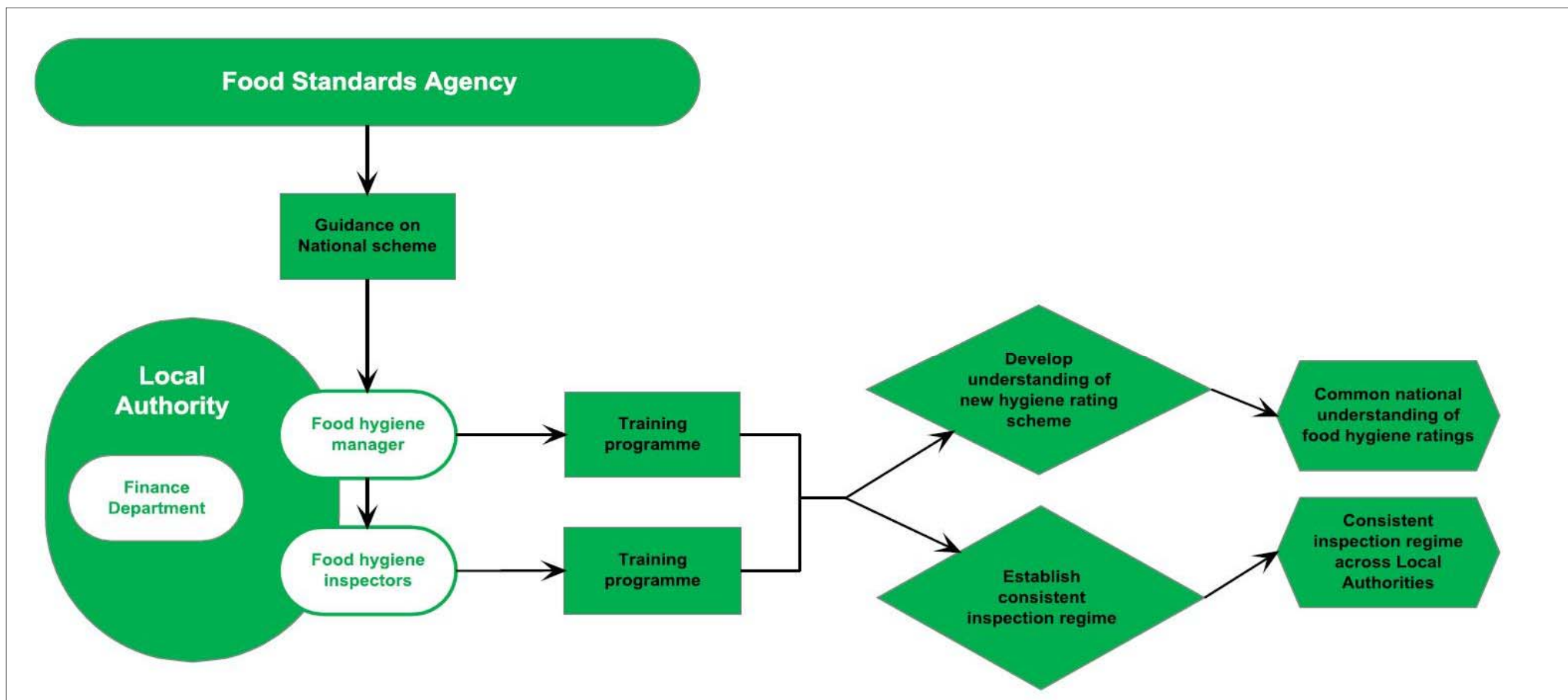


Figure A2.3: The Theory of Change – Food Businesses

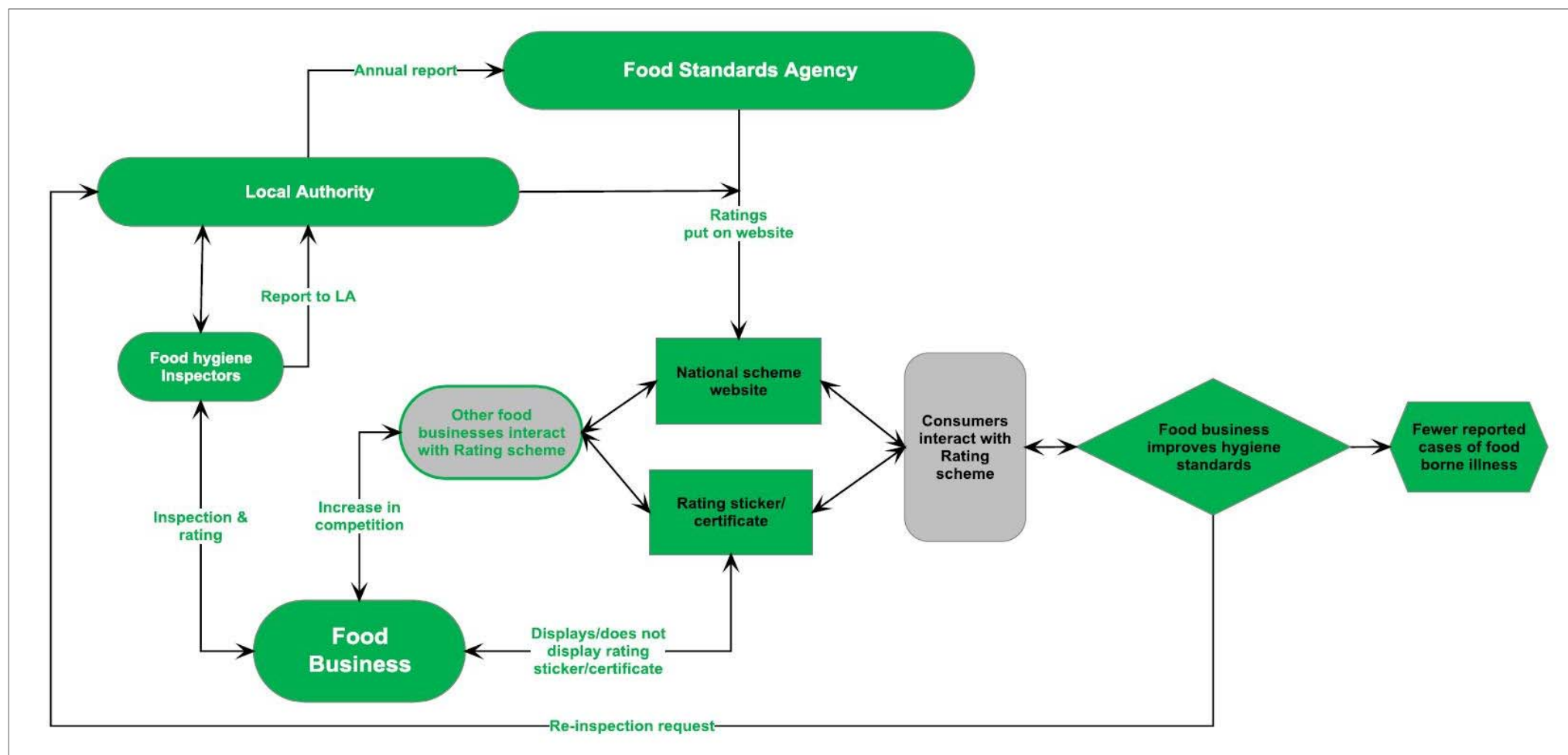


Figure A2.4: The Theory of Change - Consumers

