

Approaches to Food Safety Hazard Control and Risk Management: A Case Study of Preston City Council's Food Safety Compliance Strategy

Richard Bradford-Knox

RBK Consultants, Food Safety, Hazard Analysis and Risk Management Research, United Kingdom

Kevin Kane

Salford Business School, University of Salford, United Kingdom

Simon Neighbour

Environmental Health Manager, Preston City Council, United Kingdom

Abstract:

This case study aims to demonstrate that an approach based on cooperation and collaboration can improve the rapport and trust between food businesses and enforcement officers leading to improvement in levels of compliance and reduce costs. The study integrates a desk research literature review with a qualitative case study approach supported by quantitative data. Case interviews with food industry professionals were performed to identify opinions and barriers to successful legal compliance plus in depth interviews with the Preston City Council whose approach is the focus of this case study. The barriers and challenges facing all parties involved implementing risk based food safety management systems and achieving an acceptable level of compliance with the various public regulations and industry regulations have been the subject of much research. These include factors of motivation, commerce, training, hazard control, analysis and management. This case study shows that the cooperative approach, and techniques used by Preston City Council demonstrates a trend towards improvement in the levels of food hygiene compliance among food businesses as well as economic benefits in the use of resources.

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1. Introduction

Food businesses of all kinds are subject to regulation that includes the implementation of and compliance with risk based or hazard based management systems (EU Regulation EC 852 & 853 of 29 April 2004). A number of national and local public agencies have a role in regulating various aspects of food safety law and include: The Food Standards Agency (FSA) a non-ministerial public body responsible for protecting public health in relation to food in England, Wales and Northern Ireland , the Department of Environment, Food and Rural Affairs (DEFRA) a national government department responsible for the environment , supporting the food and farming industries and the rural economy, the local authority departments of Environmental Health and Trading Standards.

At a national level the majority of the responsibility for the direct control and public regulation of food businesses and their inspection is overseen and supported by the FSA and, with some exceptions in regard to food of animal origin, is directly carried out by the Environmental Health Departments and Trading Standards Departments of local authorities.

As part of their law enforcement activities the local authority EHOs use risk based ratings systems to identify and measure levels of compliance among food businesses. The compliance ratings used are established in accordance with FSA's Code of Practice –Annex 5 (FSA Food Law Code of Practice of April 2012) and the Local Authority Enforcement Data Monitoring System – LAEMS that requires the LAs to submit their data to the Food Standards Agency annually (FSA, n.d.).

The assessment method is risk based on the four main elements as set out in the FSA Food Law Code of Practice of April 2015). Inspection frequency is further influenced by four additional factors (see below) which take account of the type of food and method of handling; the method of processing; the number of consumers at risk; and where more than 20 consumers are not a vulnerable risk group.

1. The food hygiene and safety procedures (including food handling practices and procedures, and temperature control).
2. The structure of the establishment (including cleanliness, layout, condition of structure, lighting, ventilation, facilities etc.).
3. The Confidence in Management score is assessed as to whether a business' food safety management/control procedures are appropriate, with the identification of the correct hazards and controls, whilst the assessment of the level of current compliance achieved as a result of practices being carried are considered as part of the compliance with food hygiene and safety procedures element in 2 above.
4. Where management has an effective food safety management system in place which is well understood by the workforce, would achieve a good standard in item 2 above, and consequently a low score for that risk factor. Confidence in management is not to reconsider this aspect. It is to elicit a judgement on the likelihood of satisfactory compliance being maintained in the future.

The total score ranges from 5 to 177. 5 being No Risk and over 90 being high risk with businesses being subject to more frequent inspections and the likelihood of some form of prohibition action against the business. The businesses are categorized according to level of risk from A to E, with A being high risk and E very low or no risk.

This risk assessment should not be confused with the Food Hygiene Rating Scheme (FHRS) that only applies to food business serving or supplying food directly to consumers rather than through another party. Fundamentally the approach is the same in that it sets out to measure the potential hazards and level of risk presented by a food business to consumers. The FHRS rates businesses from 0 to 5 with 0 being very poor to 5 being very good. This more simplified risk rating scheme is also designed to give an incentive to food businesses to improve and inform consumers of the hygiene standards they can expect (FSA, 2016).

The decision to perform this case study was initially driven by research findings from interviews with food business owners (FBOs), Environmental Health Officers (EHOs) and other professional in the food industry but primarily by the emergence of the Preston City Council approach to improving compliance levels.

The success of Preston City Council's cooperative approach is achieved by changing perceptions of the role of enforcement officers and gaining trust between all parties, gaining a better understanding of each other's roles, mutual aims and objectives, with the aim of improving broad compliance

2. Background to Risk Based Management Systems

The introduction of the requirement for HACCP risk based systems in food industry required a different approach to compliance to one based on risk assessment and more self-regulation by food businesses. This principle of risk based management systems was introduced into UK Law in the Health and Safety at Work Act, 1974 and placed primary responsibility for regulation with businesses. This element of self-regulation required business owners to identify health and safety hazards and carry out their own risk assessments and manage them by eliminating them or reducing them to as low or safe a level as possible.

In the context of the Health and Safety laws and HACCP regulation is regarded as the everyday concern of everyone at work; attempts to constitute structures, routines and procedures for regulation which will be incorporated into organizational routines and become part of everyday individual activity. Businesses are effectively required to make hazard analysis and risk management a constitutive part of their everyday operations and life and are described as being 'enforced self-regulation'. The term 'enforced self-regulation' implies a cooperative approach to achieve compliance. It is the businesses 'responsibility to self-regulate and implement the risk based controls and legal requirements and the various government authorities and agencies role to assist them and check that they have done so (Health and Safety Act 1974; Hutter and Amodu 2008).

These approaches of cooperative and self-enforcement are not new. For example, in the United States the Clinton administration experimented with 'non adversarial approaches' in the enforcement of environmental law including more reliance on self-enforcement that included forgiveness for minor violations in exchange for compliance. This included the passing of a new law 1996 named the Small Business Enforcement Fairness Act. They have also adopted a 'compliance first strategy that emphasizes working cooperatively with violators to obtaining compliance and eschewing penalties in favour of persuasion (Rechtschaffen, 1998).

A research conducted by Food Standards Agency in 2012 found that there are different viewpoints in the meaning and objectives of compliance and the roles played by the different parties, businesses and regulators, involved. They can fundamentally differ in defining and viewing compliance. This view is supported in the course of our research where we have found that interviewees drew strong distinctions between two related but distinct aspects of compliance – 'regulatory compliance' by meeting legislative and auditing requirements, including paperwork-level compliance and 'effective compliance' being defined as the active governance of food safety and the production of safe food for consumption and helping to sustain it on a long term basis.

The alternative to a cooperative approach is a coercive one. Earnheart and Glicksman (2015) describe a coercive approach in relation to environmental issues as one that emphasises the deterrence on noncompliance through inflexibly imposed sanctions and the cooperative approach as one that emphasizes the inducement of compliance through flexibility and assistance. Under a cooperative model, enforcement focuses more on compliance than deterrence based on the premise that regulated facilities face incentives to comply rather than enforcement threats. These approaches are applicable to many areas of enforcement that includes food safety, the environment, consumer product safety. Earheart and Glicksman (2015) further describe a cooperative approach in the context of compliance as one that emphasizes the inducement of compliance assistance to induce facilities to address noncompliance pro-actively. They conclude that a more cooperative relationship induces better environmental management and a coercive approach may even be counterproductive.

However, it may not be possible to rely on a cooperative approach completely. Particularly when rational economic actors act to maximise profits rather than spend money on environmental matters. Rechtschaffen (1998) proposes that enforcement should move towards a system of environmental enforcement that is grounded in deterrence theory but integrates the most constructive features of a cooperative model. He does not propose abandoning forms of deterrence all together but suggests that the use of deterrents can lead to cooperation.

Whatever approach is used all parties concerned need to rely on collaborative processes and outcomes at all levels within and across teams, organizations and industries to reach their organizational goals (Bedwell et al., 2012). In reference to the EU Regulation (EC) 852/2004 on the hygiene of foodstuff, this approach is considered fundamental for the successful implementation of the principles of Hazard Analysis Critical Control Point (HACCP). The need to have a team of people, who have the correct blend of technical application, expertise, practical experience, team-

working and leadership skills to carry out all of the required steps of planning and implementation is a necessary requirement (Wallace et al., 2005). This forms part of the first principle of HACCP. At a national and organizational level, there is also a requirement for collaboration between local authorities and the FSA itself through regional groups and 'stakeholders' is to be effected between the regulators (FSA 2013).

An example of effective cooperation at an individual and organizational level is Safe and Local Supplier Approval (SALSA), a third party food safety approval scheme for micro and small businesses that is described by Bradford-Knox and Kane (2014) to be an effective model of cooperation and support which might usefully be applied to other third-party auditing standards particularly for compliance with risk-based management systems requiring specific rather than general guidance on risks and hazards. The SALSA model allows for a greater degree of direct support and advice for businesses firstly in terms of guidance and secondly during the audit procedure itself.

Hawkes and Buse (2011) express the view that any partnership to perform particular tasks, for example third party auditing, the implementation of regulations and private standards have to be based on clear rules that do not permit one party taking advantage of the other but act together in the common or public interests of protecting the consumers. Establishing trust between the parties is required and has been considered, implicitly or explicitly as an important component in inter-organizational co-operation by many social scientists and is needed to reduce uncertainty, produce co-operation, solve problems, and uncover innovative solutions in a collaborative relationship (Haque, 2004).

In the context of the relationships between regulators and food businesses Yapp and Fairman (2006) in assessing factors that affect compliance with food safety legislation in general found that 83% of SMEs surveyed demonstrated an 'active' lack of trust in the EHP (Enforcement Officer). They did not see the relevance or importance of some legislative requirements and that this 'active' lack of trust led to actual behavioural changes in the SME businesses whereby SMEs made a conscious decision not to comply with food safety legislation.

Yapp and Fairman (2005) also stress the importance of gaining trust and achieving what they describe as 'effective compliance'. That is by doing more than just meeting the minimum acceptable standards of food hygiene but to improve them by encouraging and supporting the businesses to achieve the highest possible standards they are capable of.

3. Methodology and Methods

The research is qualitative and is exploratory and descriptive in nature (Yin 2003) using a phenomenological approach to gain insight and understanding of the phenomenon involved (Cresswell, 2014). It is also supported by quantitative data that shows the trend towards improved levels of compliance supplied by the Environmental Health Department of Preston City Council.

The primary aim of all interviews was to obtain the personal viewpoints and experiences of all the cases achieving compliance with a particular focus on cooperation between regulators and the regulated. The cases interviewed are confined to people that are considered as being representative of the different actors involved in food safety compliance, have considerable experience of the food industry and represent a cross section of the different perspectives of meeting food hygiene regulations and standards of compliance. The respondents include the following: owners of food businesses, enforcement officers, technical managers and the director of a national food industry safety approval scheme (see Table 1).

Table 1: Summary of Respondents

Case No.	Sector or Profession	Number of Initial Interviews	Follow Up Interviews for this case Study
1	Supplier 1 Small Meat Processor	1	
2	Supplier 2 Small Meat Cutting plant & Retail	1	
3	Supplier 4 Supplies Ready Meals for supermarkets	1	
4	Supplier 3 Food Safety Manager for in House meat processing plant of supermarket	1	
5	Technical Manager Retail Supermarkets	1	
6	Scheme Director SALSA Standard	1	
7	EHO South Ribble Council	1	
8	EHM Preston City Council	1	2
Total		8	2

The questions were semi structured in order to allow for as yet unidentified ideas and themes to emerge. As priori ideas already existed of the central research themes of cooperation and collaboration it was not started from a blank sheet (King, 2016). Consequently, in the follow up interviews the respondents were asked the following questions with objective of exploring the factors that emerged from the initial interviews in more depth:

1. What they understood by the terms effective and regulatory compliance and if they differentiated between the two.
2. What they understood by cooperation, collaboration and partnership and whether they differentiated between them.
3. To describe their experience and level of cooperation and collaboration in their dealings with and between the regulatory authorities.

4. Results

4.1. Initial Interviews – All Cases

The initial interviews were general in nature and part of our wider research into the barriers to successful or effective risk management with a particular focus of food

safety management and relationships between public and private enforcement bodies and food businesses. Two key factors were identified from the initial interviews:

1. A lack of continuity, differences in the interpretation of regulations and perceptions of risk by the national and local public regulators.
2. Food businesses also reported a lack of continuity and cooperation in their relationships with individuals and between the various national and local public regulators in the requirements to comply with the risk based food safety management standards of EC852 and EC853 of 29 April 2004. That is between the FSA, DEFRA and the Local Authorities.

4.1.1. Summary of responses

Asked to describe their perception of cooperation, collaboration and partnership views varied but in general they were perceived as forms of working together towards a mutual interest with partnership being regarded as being a more formal arrangement applicable to organisations rather than individuals or teams.

One respondent regarded collaboration as being brought together voluntarily or by force to work together suggesting that collaboration can have a coercive connotation as well as a cooperative one. Reluctance to cooperate and comply by the businesses was also attributed to their commercial interests by the EHOs interviewed. In their experience and opinions businesses, quite naturally, are very focused on expansion and cost and therefore some are inclined to argue from a commercial point of view rather than from a hygiene point of view.

The Director of SALSA had a similar viewpoint with particular regard to new businesses that often failed to include the costs of food safety in their business plans when starting up and are therefore reluctant to spend more money. He regarded the legal regulations as being fair and did not make any distinction between them and effective compliance. In his view there is enforcement of public regulations and what he termed self-regulation or self-enforcement. By self-regulation he was referring to regulation of food safety by the food businesses themselves as described by Hutter Amodou (2008) and the ways the food industry regulates itself through commercial relationships, e.g. supplier to retailers. He considered public regulation on its own to be inadequate and that if the regulation of food safety, particularly in food manufacturing, was only subject to public regulation '*we would be in a sorry state*'. He didn't use the term effective but considered that there is more going on to ensure compliance by industry self-regulation than public regulation. This does not include or apply to all food establishments. For example, the many fast food, independent shops and restaurants that directly supply consumers, unless they are part of large self-regulating group of companies, are only subject to public regulation.

All the food suppliers interviewed had experienced different demands, and interpretations of legal requirements between the agencies or bodies, public and private, that inspected or audited them. In all cases, businesses and enforcing bodies, these differences were attributed to a lack of cooperation between the various actors.

In her experience the supermarket Retail Technical Manager found that many EHOs have a very inflexible black and white approach, do not offer advice, are very fixed on their own opinions and not open to suggestions or compromise. She also found some anomalies between public regulations and private or food industry requirements. For example, in traceability of raw materials: *'Why is traceability required for beef but not lamb whereas the principle food industry body the British Retail Consortium (BRC) requires traceability for all products and raw materials?'*

She also recognised that food manufacturing businesses, the meat industry in her personal experience, has a culture that has difficulty in adapting to change and understanding risk based approaches. The resulting attitude is *'We have always done it this way without a problem. Why change now?'* She considers that effectiveness or effective compliance comes from working with a body whether it is the local authority or the FSA and how they make it user friendly. In her view it must be practical and applicable to your business to get the right result. To achieve effectiveness in her view is to have somebody who works with you with the objectives being the same for both parties. That is to produce safe food and in the case of food businesses do this cost effectively and allow for growth.

The Food Safety Manager of the supermarket's in house supplier attributed the cause of different interpretations of the regulations to the legislation being very vague particularly in regard to the risk based food safety system HACCP. The EHO at South Ribble Council considered the cause of this to be because many people found it difficult to quantify risk and therefore interpretations of levels of risk can differ. The EHM of Preston CC. was in agreement with this lack of understanding risk and suggested that if all parties concerned understood HACCP and the processing of food there should not be any issues. For the same reason as the regulations are based on the principles of HACCP he did not differentiate between regulatory and effective compliance. Application of HACCP has to be appropriate and is down to professional judgement.

The Environmental Health Manager at Preston City Council considered that many of the difficulties in engaging with business are more a matter of the perception of the role of enforcement officers by the businesses and the approach the EHOs use themselves. He has come to realize that to be successful in improving levels of compliance he and his colleagues need to work harder at making themselves more approachable, helpful and supportive.

4.2. Follow-Up Interviews Preston City Council

In the follow up interviews the EHM of Preston City Council that focused on their experiences and describing their ethos and strategy in more detail. They have, over the period of this research, directly contributed to this research to include supplying data that plots the progress of their approach and its impact on improving compliance.

They are more directly concerned with improving the efficacy of inspection and enforcement through more direct engagement with the businesses in the expectation that this will lead to an increase to food safety among consumers. Since 2008, they

have taken positive steps to improve levels of compliance by adopting a more cooperative approach through strategies of more direct engagement between their Environmental Health Officers and the businesses they regulate.

This approach has met with some success. According to their records in 2008, 75% of the food businesses in Preston were broadly compliant in that they met the minimum standard of food hygiene required by law and by October 2013, it was 92% and by January 2016 it has risen to 95.0%. The measure of being broadly compliant is achieving a rating of 3 or over under the FHRS assessment procedure (FSA, 2016). Note that these figures are verified by LAEMS and are a mean average measure across all food businesses from low to high risk. See Table 2.

To give some perspective to these statistics the number of food businesses in the Preston City Council area, of all kinds, has varied from 1,325 and 1,450 between year 2008 and 2015; 1,338 in April 2015 and 1,384 by the end of year 2015.

Apart from a general change in attitude the EHM attributes the improvement and increase in the number of businesses meeting an acceptable level of compliance to a number of factors. These include the introduction of the approach or strategy described in this case study to improve standards of compliance among the majority of the food businesses that are subject to the Food Hygiene Rating Scheme (FHRS).

4.3. Technique

The methodology used by the Preston Environmental Health Manager (EHM) and his department is based on the techniques of Neuro Linguistic Programming (NLP). The EHM is a practitioner and coach practitioner having undergone training sponsored and supported by the Preston City Council. NLP is a personal development programme that includes understanding peoples' thinking, language and behaviour and the EHM has found the NLP methodology successful in achieving rapport building with others in many different situations including food hygiene enforcement. It is also a methodology that is not without controversy and not fully recognized by all.

The NLP University (2011) describes NLP as a pragmatic school of thought - an 'epistemology' - that addresses the many levels involved in being human. NLP is described as a multi-dimensional process that involves the development of behavioural competence and flexibility, but also involves strategic thinking and an understanding of the mental and cognitive processes behind behaviour. NLP provides tools and skills for the development of states of individual excellence, but it also establishes a system of empowering beliefs and presuppositions about what human beings are, what communication is and what the process of change is all about. At another level, NLP is about self-discovery, exploring identity and mission. It also provides a framework for understanding and relating to the 'spiritual' part of human experience that reaches beyond us as individuals to our family, community and global systems (NLP University, 2011).

By many it is also considered to be scientifically controversial practice with many critics including Witkowski (2010), Sharpley (1984), Sharpley (1987). Witkowski

(2010) asserts that it has become hugely popular for over 25 years and has been used by Hewlett-Packard, IBM, McDonald's, NASA, the U.S. Army, and U.S. Olympic teams, and in countless public school systems (Singer and Lalich, 1996). It has been suggested that NLP is being applied widely, if often informally in UK education. Nevertheless, the results of a meta-analysis research of 63 scientific articles indicate that it does not have an empirical base and has been described by some as a pseudo-science (Witkowski, 2010).

According to American Statistical Association (1999) and Geiselman and Fisher (2014), NLP appears to share similar interviewing techniques as the scientifically recognized Cognitive Interviewing (CI). CI is a research methodology used by universities, US Federal statistical agencies and enforcement officers that aims to clarify and ensure that respondents, usually victims and witnesses to crime, understand the question intent and meaning of the terms used during questioning. The technique also attempts to determine whether the respondent is responding accurately, thoughtfully and truthfully or saying something that just makes them look good.

4.4. Strategic Approach

For the strategy to succeed the EHM and his team recognised the first step was the need to improve trust between themselves and the businesses. This commences with a letter being sent inviting the businesses with an unsatisfactory or poor score, and a need to improve, to a 'chat' and discuss their situation with the Environmental Health Office. The use of the word 'chat' is deliberate rather than calling it an interview emphasises the informality of the event. Keeping in the same spirit, and more importantly the meetings are not mandatory to attend. Making them mandatory being considered to have a potentially negative effect. It could potentially make the meetings more confrontational, and thereby make it more difficult to establish the desired rapport, gain mutual understanding of each other's situation, and above all their trust.

The format and wording of the letter is also considered to be very important in trying to elicit the desired response and has been developed using techniques originally developed by the Behavioural Insight Team (2015).

The first letter was sent out to 29 businesses with an FHRs score of 2 or less. 5 is the maximum Food Hygiene Rating Scheme (FHRS) and a rating below 3 is being regarded as less than satisfactory. The letter was a standard straight forward invitation to attend and resulted in a response of 12%. In order to improve it was decided that changing and improving the wording and approach in the letter would lead to better results.

The second batch of letters consisting of three different kinds were sent to a total of 51 (3 x 17) businesses with a Food Hygiene Rating Score of less than 3 used techniques inspired by 'Nudge Theory' (Behavioural Insight Team, 2015) to elicit a better response by getting the FBOs to think more about their situation. The letters included a statement: 93% of businesses in Preston have a rating of 3 or above (Maximum Food Hygiene Rating Score is 5). We are wondering how being in the 7%

is useful to you? The result was encouraging by yielding an improved response of 34%.

The third letter used a technique also devised by the Behavioural Insight Team (2015) and similar to one used by the DVLA in addressing the problem of people registering their cars as being off road when they were not. The DVLA send out photos of their car on the road to the registered owners prompting them to obey the law.

Preston City Council took photos of the businesses they wanted to approach on 'wet miserable days' that gave an appearance of a not very attractive premises. These photos were attached to similarly worded letters to the second letters and sent out. This produced a response of 42% from businesses wanting to talk to the council.

All the letters sent out have been to businesses of a similar composition composed of cafes, takeaways, and restaurants rather than food manufacturing businesses and large retailers. From the past experience of the first 2 letters Preston City Council confidently expect 20% of the businesses to improve their standards of food hygiene and sustain them in the future. Follow up letters have been sent out to 21 businesses identified in January 2015 with a 0, 1 and 2 rating that did not respond previously. From these only one responded. The EHM suggests that this perhaps shows that businesses which didn't engage the first time around are very unlikely to respond to a follow up letter or that the EHM hasn't yet found the 'correct form of words' to engage with the especially hard to reach businesses.

The EHM describes a typical meeting as follows: The meeting is started by using 'ice breaking' questions to establish a relaxed atmosphere. The meeting moves on to asking the Food Business Operator (FBO) what is a good inspection for them. This usually gets a response of not having an inspection at all, or that the EHO finds nothing wrong and are gone within half an hour.

The EHO then asks what the FBO thinks is a good result for the Local Authority. The response usually is that they believe the EHOs want to find something wrong and ultimately close the business down. The EHO then prompts and confirms that in fact the LA really wants the same things as the business. An improved level of compliance with a better FHRS score in line with the FSA Code of Practice (2012 and 2015) that results in fewer inspections and potentially saves time and money for both parties.

It is pointed out to the FBO that closing a business helps nobody. The council loses income from rates and a successful business with a good reputation for its food and standards of food hygiene can only be beneficial to the city's economy as well as the business. In other words, they want the business to succeed rather than fail. If the business takes this on board it can produce a change in attitude and an improved working relationship.

Their data also shows an improvement in businesses that received letters but did not attend a meeting and this indicates the probability that the letters have the effect of at least increasing awareness. However, it is their contention that businesses achieving

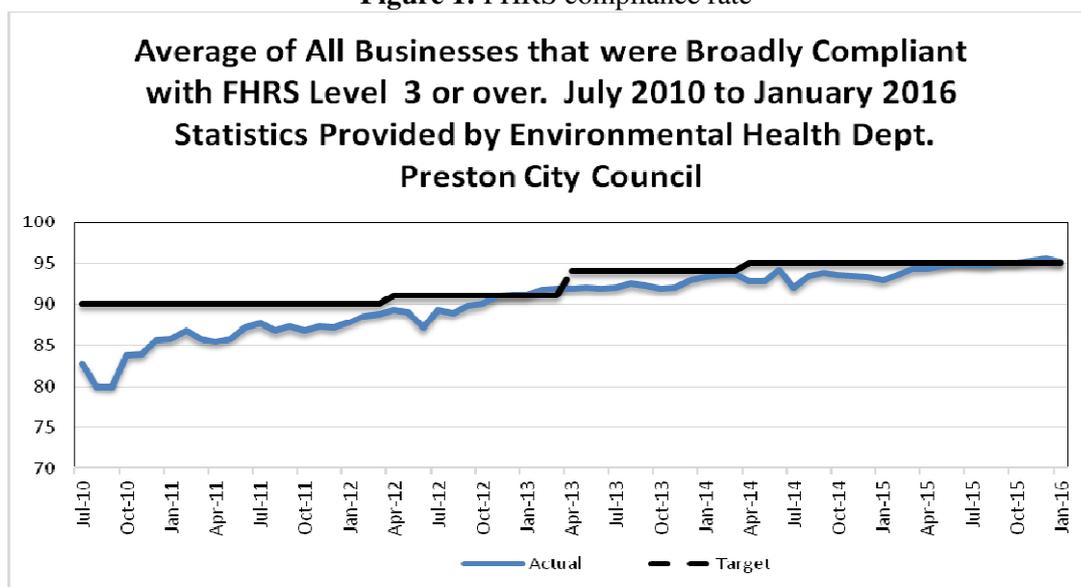
compliance voluntarily without using coercive means of deterrence will sustain and improve their level of compliance.

The EHM at Preston City Council has considered using more coercive strategies for cases for businesses that have refused to cooperate and voluntarily comply with even the minimum requirements in spite of having 'a chat' or informal discussion about their situation. Based on the principle described by the EHM, that if a business cannot be motivated towards success then it may be motivated away from prosecution. The approach would involve formally interviewing the businesses to make sure that they clearly understand their situation and the outcomes of not complying. The emphasis would still remain focussed on the advantages of following a cooperative approach and the disadvantages of a confrontational or coercive one.

Preston City Council Environmental Health Office claim that by purposefully engaging and striking a rapport with businesses they have succeeded in breaking down barriers and improve attitudes that lead to improvements in the standards of compliance with the law and therefore the risk based systems that are required.

By the end of September 2015 the overall broadly compliant rate had risen to 95% (see Figure 1). As well as potentially improved standards of food hygiene this has led to a reduction in the number inspections required with a saving of 400 inspection hours over the duration of their inspection programme. The whole inspection programme takes 3 years to complete (The lowest frequency of inspection is 3 yearly) although in this time the highest risk category (Category A) premises will be inspected 6 times category B premises 3 times, and category C premises twice. The lowest risk premises – Category D are inspected every 24 months, so all will have been inspected once, and half of them twice in 3 years.

Figure 1: FHRS compliance rate



Apart from a potential improvement in food safety standards there are also potential and proven economic benefits by reducing the number of inspections and a reduction

in the number of prosecutions. The average cost of a prosecution is £ 1, 500.00. This compares very favourably with the cost of an EHO's time of approximately £50 to £ 60 per hour directly spent assisting businesses achieve compliance.

As a result of the project to PCC have also been able to reduce their 'inspection burden' and providing the trend continues they forecast making a cost saving of £ 20,000.00 or 10% of their budget over the next 6 years. Maintaining this trend will enable them to complete their inspection programme within the limits of their current financial resources. That is if the 'burden' (number of food businesses) remains approximately the same and there is no major increase in the number of new businesses.

5. Discussion

This case study demonstrates that in order to achieve successful levels of compliance it is preferable to have a positive strategy of engagement with the businesses to establish working relationships together with a policy of continuous improvement. That is as one that is mainly cooperative in itself and sets out to obtain the cooperation to achieve the aims of being compliant and raising levels of compliance. It can also be argued and as proposed by Earnhart and Glicksman (2015) and Rechtschaffen (1998) that the strategy and techniques use elements of coercion and deterrence. The outcomes of not cooperating are always present as suggested by the second and third letters sent to the businesses, but this is acceptable as long as the advantages of compliance are given precedence.

The results of this study indicate that the approach of the Preston City Council improves and sustains standards of compliance that have the potential to reduce costs of enforcement and more importantly reduce the risks of harm to consumers. They recognise that the population sample used for the initiative so far is relatively small and that the approach used is probably not the only factor contributing to increase levels of broad compliance. For example, peer pressure, competition from other businesses, and consumer expectations driven by their awareness of the Food Hygiene Rating Scheme itself.

The Preston City Council's scheme over time will need to be verified and reviewed and measured with a view to further improvement. Whether the use of and training in NLP is really germane to its effectiveness is subjective and difficult to measure but its aim of improving communication and understanding appears to be potentially beneficial.

This case research is also limited in that it is confined to one local authority and largely confined to small food businesses engaged in catering services that directly serve the public. In order to be able to generalise on the success and robustness of this strategy and its potential effectiveness further research and practical application is required. We suggest this should include a larger and more focused population sample across a wide spectrum to include the many different types of food businesses. That is food manufacturing, retail, food sectors, size of businesses and the levels of risk presented.

We also propose that the effectiveness of the approach could be improved by engaging with food businesses at an earlier stage by directly having an informal discussion to engender mutual cooperation at an earlier stage, prior to first inspections, rather than wait for poor or unsatisfactory results.

6. Conclusion

Cooperative approaches and incentives to engaging with the businesses appear to be potentially more successful than coercive ones using deterrents. However as shown where there are cases of outright refusal a more coercive approach may be necessary with the objective of turning the relationship around into a more cooperative one and gaining mutual trust between all parties. The benefits of the strategy described are firstly potentially safer food for the consumer and secondly cost savings in inspection that allows for more time in providing support and working with food businesses more closely to achieve higher standards of food hygiene.

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