White Paper

Data and intelligence in regulatory services –

a practical solution for food hygiene inspections

Encentre | Agility

Data and Intelligence in Regulatory Services

Evidence is increasingly required to justify and inform intervention strategies and service planning. The need becomes more important when managers are faced with providing greater efficiencies and shared services. This paper provides feedback on research we undertook recently to examine the situation in local authority regulatory services. It concentrates primarily on food hygiene inspection activity.

FORWARD

Working within local authorities we were aware that there were areas where work was being carried out within an 'evidence void'. In relation to compliance data, for example, we suspected that many authorities had limited time and resources with which to collate contravention data. We also knew that many food authorities were failing to collate user-friendly information.

For many the problem has been a cyclical one; without sufficient information the authority are unable to back-up (or change) their intervention strategies; nor do they have the ability to measure the effectiveness of their output. We set out to examine the extent of the situation and explore opportunities for improvement in, what is becoming, an increasingly mobile and technology driven environment.

INTELLIGENCE AT FOOD AUTHORITY LEVEL

The following diagram outlines the various steers involved in service planning and management:
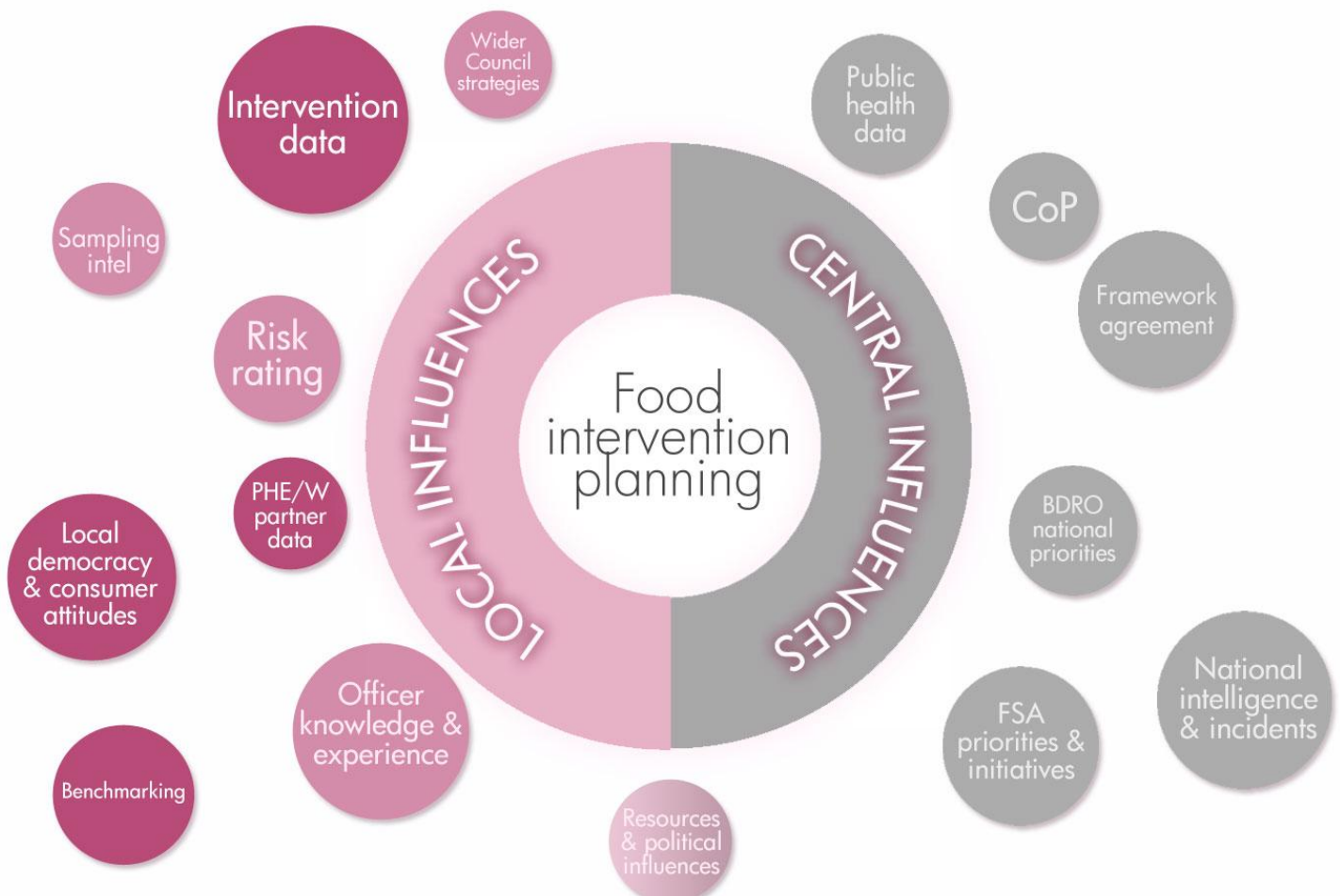
Output (the work that is carried out by food authorities) may be influenced by a number of factors. Some fall within the remit of the food authority (local influences) and, as well as helping to shape local policy, are also fed back in order to help influence the national strategy. Currently food authorities take most of their direction from national steers; those principally under the control of the Food Standards Agency. However, other than general measures like risk ratings, they lack the ability for services to identify the problems that exist in their areas or provide the ability for detailed comparison ('benchmarking'). In order to do this there would be a need for good quality local data; in particular intervention data.

FOOD AUTHORITY SURVEY

Whilst we already had some working knowledge of the issues we needed to explore the subject of data capture in more detail. At first we looked at how a number of colleagues based in food authorities worked which presented opportunities for feedback and comparison. Environmental health practitioners across the UK also took part in a web-based survey which questioned existing practices.

FINDINGS

Many expressed negative views over record forms, their worth and over the time they took to complete. They were happy with the way they approached and undertook their inspections although many stated that there was a need to spend more time on-site examining the food business operation and assisting businesses than completing 'paperwork' and 'administrative tasks'.

Respondents estimated the average time spent on each element of the inspection process:

Average time (estimate)	0-15 mins	16-30 mins	31-60 mins	60+ mins
Pre-inspection preparation	60%	35%	4%	0%
Travel to inspections	23%	63%	13%	2%
Carrying out inspections	0%	2%	29%	69%
Completing file records	17%	31%	31%	21%
Completing FBO reports	10%	35%	29%	25%
Entering data	67%	23%	6%	4%
Other administrative tasks	60%	29%	8%	2%

Asked where they thought they wasted most of their time respondents answered as follows:
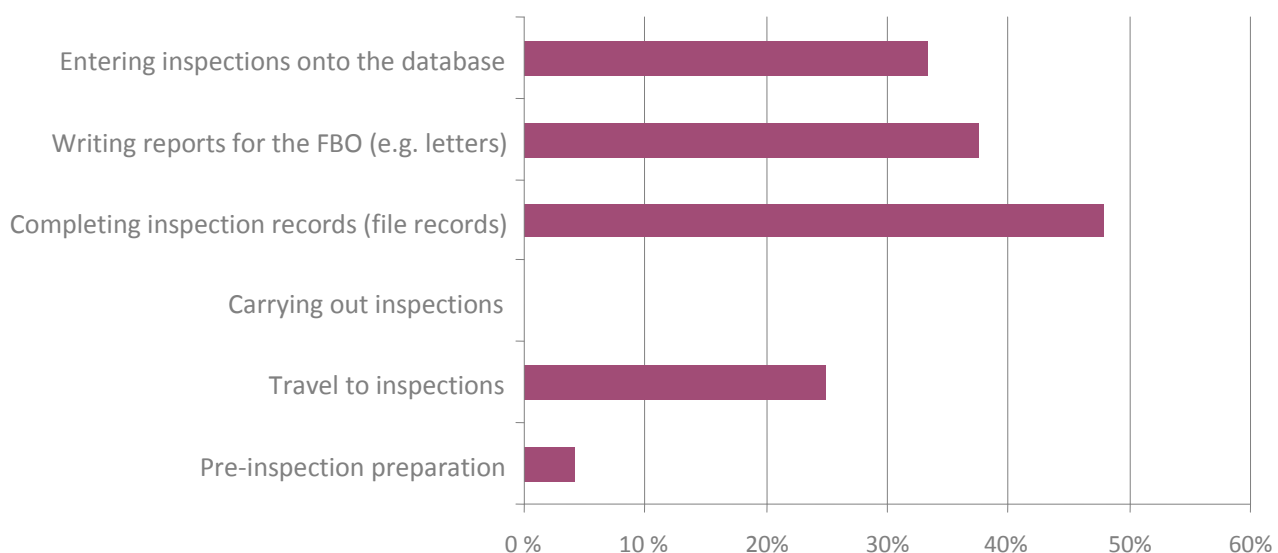
Whilst data-entry did not take up a large proportion of their total time it was an element of the inspection process that officers found frustrating. Some officers remarked on a loss of, or need for more, administrative support. Others stated that they would like a more seamless approach to record collection and data-entry onto back-office systems; difficult to achieve for the majority of respondents who stated that they were operating paper-based systems.

85%   Over eighty-five percent of respondents to the survey complete paper record forms at or following each inspection

After collecting data on paper, in the majority of cases that information was not collated or examined further (except in relation to that particular business). However, an examination of a small sample of inspection records indicated that (even if it were captured) a high percentage that information (much of which is 'free-text') was not recorded in a format that could not be used for performance purposes.

Many expressed interests in using tablets and electronic forms out 'in the field'. Some viewed technology as a possible solution to the 'paperwork problem'.

52%   Over fifty-two percent share a desk   # 58%   Over fifty-eight percent work from home

Over half of the respondents replying to the survey worked from home and desk-shared ('flexibly') and, as such, are suited to some degree of mobile working. Most were not engaged in mobile working although, it is fair to say that, the term *itself* was ambiguous and open to far too much interpretation for this result to be of value. However, the survey results do suggest that few had the capacity to complete electronic based work or interact with back-office systems outside the home or office environment.
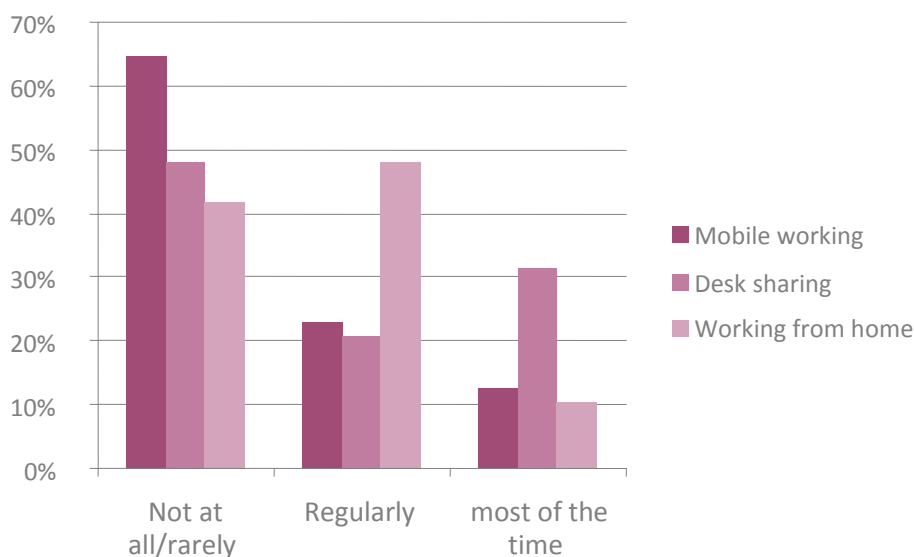
DEVELOPING A SOLUTION

Our findings indicated that officers required a solution that could deliver value to the food authority that enabled them to be more effective and focus on performance. Food authority officers had indicated that they were already flexible, mobile and were ready to embrace innovation. In response to the problems identified by our respondents we therefore set out to design an agile solution.

Our main objectives were therefore to:

1. Enable local authorities to collect compliance data without any additional burden;
2. Minimise existing administrative burdens experienced in the 'paperwork' stages;
3. Provide an agile (flexible and mobile) solution to inspection activities; and
4. As far as possible comply with any regulatory responsibilities placed on the food authority.

After an analysis and identification of the systems involved we explored how food authorities could get the best out of their resources through the use of technology.

APPLICATION DESIGN

The application had to incorporate several tenets by which it's success would ultimately be measured against. In designing the application we needed to apply thoughts as to how competing systems would interact. Examples of our considerations included:

- The potential for reporting and recording processes to be able to take place off-site, and on-site at the same time as the inspection. This would enable officers to provide the Food Business Operator (FBO) with their paperwork electronically on demand.

- We wanted the generation of written schedules attached to FBO letters to be as intuitive as possible yet allow letters to be tailored to individual needs.

- File records and reports for the FBO would be Code of Practice (CoP) compliant, and the application would allow for compliance with the National Food Hygiene Rating brand (NFHRS) standard.

After a period of planning and design we were able to construct a mobile application that would enable services to implement a paperless approach to food hygiene inspections of catering and retail premises. The application was built to be user-friendly and run from a small touch-screen tablet that would allow editing at the business premises.

Inspections were completed successfully using a mobile application

THE TRIAL

After we had completed the design and build stages of the project we needed to trial the application in the field in order to assess its performance. A number of local authorities volunteered to trial the solution. We opted to conduct a more robust trial of the application in one single authority in order to measure its effectiveness over a larger sample (greater number of inspections). It was conducted over a period of three months.

FINDINGS

The officer's approach to their inspection did not change. The application even allowed for flexibility of individual approaches. The amount of time spent carrying out inspections on-site was unaffected.

The mobile application reduced the amount of time on the overall inspection process significantly and by an average of at least an hour at each inspection. This was predominantly through efficiencies at the 'paperwork' stages.

1 HOUR
Use of the mobile application reduced the inspection process by one hour per inspection

Usually, when collecting data there is a tipping point where the administrative burden involved in data collection outweighs the productivity gain released through greater knowledge. In this case we were able to reduce the overall time spent carrying out administrative activities by redesigning how they were carried out.

ROI
Based on the time savings on year one alone the application provides a significant return on investment

The true value of the application was in the ability to identify and cross reference non-compliance data. Here is a small example of the type of information we were able to quantify in relation to the inspection sample:

- What proportion of businesses apply SFBB effectively
- Which businesses have issues with personal hygiene
- What type of food businesses have a poor understanding of HACCP
- How many businesses have pest control issues

The application allowed overall data to be collated seamlessly at the end of the trial. Local authorities may request a selection of that data from Encentre in order to demonstrate capability.

The worth of the intelligence provided by the change in approach can be realised by users from year two onwards. Once collected the data will allow service managers to target strategies for the reduction of risk and implement evidence based intervention and education strategies. Targeted intervention strategies provide further opportunities for service efficiency whilst improving health protection outcomes.

Encentre | Agility

Many local authorities can say that they work flexibly but few work with agility.
If you would like to find out more about Agility please register your interest through **Encentre**.

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