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PAPER

Challenges for the enforcement of food safety in Britain

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The goal of absolute food safety is impossible to achieve, for there is virtually no component of our food supply that is without risk to some part of the population. However, the majority of illnesses caused by food can be controlled and enforcement officers have a role to play in this. The aim of this paper is, therefore, to consider the challenges that are presented to British Enviromental Health Officers (EHOs) in their goal of assisting food businesses to achieve safe food. Whilst countries have differing systems of food safety enforcement, many of the challenges presented in this paper are similar. The main conclusions are that whilst trends in foodborne illness continue to rise, it is imperative that food safety enforcement is altered to incorporate hazard analysis. Enforcement officers need to communicate effectively with food businesses, in particular small and medium sized outlets (SMEs), who are reliant on their advice. © 1998 Elsevier Science Ltd. All rights reserved

INTRODUCTION

Over the past ten years Britain, along with many other countries, has seen a dramatic increase in the incidence of reported foodborne illnesses. Food scares in Britain related to *Salmonella enteritides* phage type 4 and concerns about Bovine Spongiform Encephalopathy have highlighted public awareness of food issues and placed them high on the political agenda. Whilst food issues have been seen as very important to the public, Environmental Health Officers (EHOs) have in the past, however, been criticized by the media for overzealous and inconsistent enforcement.

Changes in the structure of societies have resulted in a greater diversity of food consumption and the industry has made tremendous technologically advances in order to meet these needs. These factors coupled with an increasing incidence of foodborne illnesses have resulted in enforcement officers being presented with many challenges.

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TRENDS AND COSTS OF FOODBORNE ILLNESS

Foodborne illness is one of the most widespread health problems of the modern world, and continues to afflict many thousands of people annually. In Britain the number of recorded cases of foodborne illness has escalated considerably in recent years and is now considered to be at an all time high (Enlichman, 1993). It is, however, important to realize that foodborne illness reporting is only the tip of the iceberg, with gross underestimation of the levels of illness.

The estimated cost of foodborne illness is high. There is obviously a health price to be paid by the individual suffering from the illness, but increasingly the wider economic costs are being recognized. Sockett (1993) estimates the annual national cost to be between £500 million to £1 billion, with an approximate loss of 8 million working days (Aston and Tiffney, 1993, p. 53). The cost to the health

service over a 3-year period has been calculated at £83,139,685, for inpatient treatment of infectious intestinal diseases (Djuretic *et al.*, 1996b).

As microbiological research advances, it is becoming increasingly apparent that previously little known microorganisms are emerging at a rapid rate, most notably *Escherichia coli* VTEC 0157 (*Figure 1*). Concerns related to the low infective dose of this organism and the high mortality rate have contributed to this increasing public health problems. Epidemiological investigations have tended to concentrate on traditional symptoms of foodborne illness. However, as the symptoms of *E. coli* 0157 vary, this has resulted in such investigations being of limited value in the protection of public health. The largest outbreak in Britain occurred in Lanarkshire, Scotland in November 1996, the outbreak was suspected to be linked to a local butcher who dealt in the production and distribution of a wide range of both raw and cooked products (Pennington, 1997). As a result of this outbreak there have been 18 deaths with 127 people admitted to hospital (Pennington, 1997).

Information regarding foodborne illness outbreaks clearly indicates that the catering industry is an area of concern, this is perhaps not surprising considering the wide spectrum of food outlets and foods produced. Reviews of 1280 general outbreaks of foodborne ilness between January 1992 and December 1994, revealed that 27% of outbreaks were associated with food being mishandled at commercial catering premises (cafes, restaurants, hotels, public houses and canteens) compared with only 9% of outbreaks occurring in private dwellings (Djuretic *et al.*, 1996a).

THE CHALLENGES TO ENVIRONMENTAL HEALTH OFFICERS

The role of the EHO was developed during the eighteenth century, when a comprehensive approach to public health was considered to be of paramount importance. Consequently EHOs are responsible for a wide range of legislative enforcement, including: food, pollution, housing and health and safety. Training at undergraduate level reflects the need for an holistic base. The benefit of this education enables EHOs to fully consider the broad range of issues affecting public health.

The enforcement of food safety in Britain has traditionally been based at a local authority level with EHOs being responsible for the hygienic production of food stuffs and the investigation of outbreaks of foodborne illness. Their role is enhanced by Trading Standards Officers' work on food standards.

Food safety problems were highlighted in the late 1980s with many highly publicized food scares including: *Salmonella* in eggs, *Listeria* in soft cheeses and BSE in beef. As a result the Microbiological Safety of Foods Committee, more commonly referred to as the Richmond Committee, was set up to address specific areas relating to the increasing incidence of microbiological illness of foodborne origin. One of many wide ranging recommendations of the Richmond Committee was the strengthening of enforcement officials powers (Committee on the Microbiological Safety of Foods, 1990). Through the provisions of the Food Safety Act 1990, new powers were given to issue notices requiring improvement and in the more severe cases to prohibit food handling operations.

At a similar time the Audit Commission, an independent body which helps local authorities to bring out improvements in efficiency through auditing, published a report which revealed that of 5000 food premises surveyed by enforcement officers in England and Wales, one in eight were judged to be a significant or imminent health risk and one-third of these should be prosecuted or closed down (Audit Commission, 1990).

As a result of these two reports along with the public outcry in relation to food scares, the initial application of the Food Safety Act 1990 was enforce-

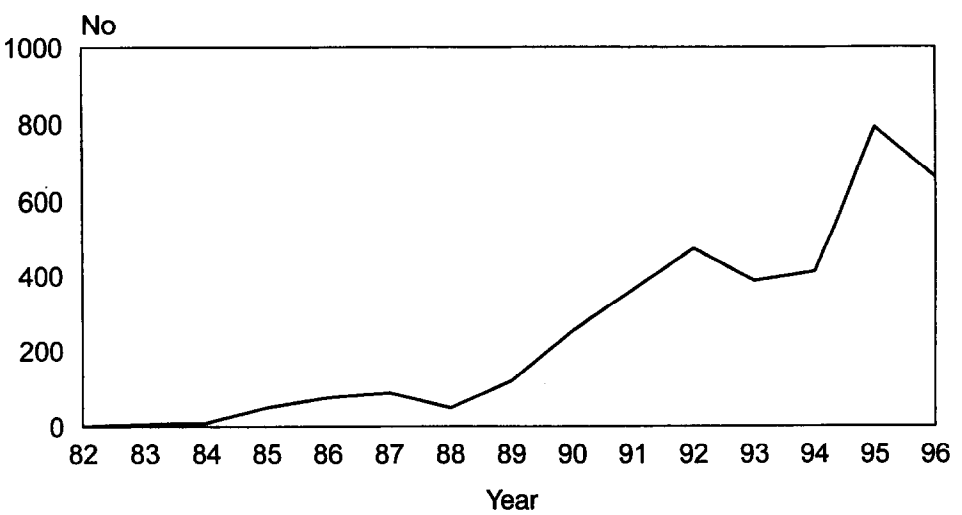

Figure 1 Laboratory confirmed cases of 0157 VTEC in England and Wales 1982–96 (Communicable Disease Surveillance Centre, 1997)

ment dominated. Interestingly this enforcement orientated approach, as required by national codes of practice, was followed by an intense period of criticism of enforcement officials for being overzealous and inconsistent. In an attempt to deflect these allegations a national body in the form of the Local Authority Coordinating Body on Trading Standards (LACOTS) was expanded in 1993 to include consistency of food law enforcement. Since this time LACOTS have been key players in the drive towards consistency.

Inspection of food premises by enforcement officers has long been considered to be a mechanism to achieve food safety. Certainly, in the past, legislation has focused inspectors on the consideration of structural issues within the premises in preference to the processes and practices undertaken. This approach has been of limited effectiveness in the fight against the rise of foodborne illness. In line with this, studies have confirmed that increasing the frequency of inspection does not necessarily result in the improvement of the sanitary conditions in these premises (Corber *et al.*, in Rennie *et al.*, 1994).

Increasingly countries are recognizing the limitations of this type of method. In the USA for example, enforcement by the Food and Drugs Administration is based on inspection and end product testing, yet there is now a move to alter this approach, recognizing that it is labour intensive and does not address the risks involved in food safety (Kvenberg *et al.*, in FAO, 1995).

An alternative approach to food safety is Hazard Analysis Critical Control Point Technique (HACCP). It is a systematic way of identifying the hazards at any stage of the food operation, assessing the related risks and determining the areas where control is needed (Bryan, 1992). This is a move away from the notion of end product testing, generally associated with Quality Control towards a Quality Assurance approach, ensuring that the product is safe. It consists of seven stages and these are outlined in *Table 1*.

Recent enforcement changes in Europe with the adoption of Hygiene of Foodstuffs Directive (Official Journal of European Communities, 1993) have adopted a HACCP type of approach, which has made proprietors of food businesses responsible for considering the hazards and control points associated with their operation. The principle differences between HACCP shown in *Table 1* and the legislative controls, is the absence of stages 6 and 7. It was considered that verification and record-keeping would prove too onerous on SME businesses. It is now becoming apparent that without these requirements enforcement officers may find difficulty in proving non-compliance. Larger food businesses generally have the expertise, time and financial resources to effectively carry out hazard analysis. However, many small and medium sized food outlets (SMEs) lack these resources, whilst presenting the greatest risk of foodborne illness (Audit Commission, 1990) and yet the new legal duties place responsibility at the proprietors' door.

Table 1 Seven stages of HACCP (Codex Alimentarius Commission, 1993)

Stage 1	Identification of potential hazards
Stage 2	Determine points critical to food safety (critical control points CCP)
Stage 3	Establish critical limits for each CCP
Stage 4	Implementation of monitoring systems
Stage 5	Corrective action procedures
Stage 6	Verification
Stage 7	Record keeping

For EHOs the new approach to enforcement requires a fundamental change in the inspection method utilizing a risk based approach. It is also imperative that food businesses understand and apply hazard analysis, this will require an enormous time commitment from enforcement officers, as for many small food outlets, their sole source of information about food safety issues and legislation comes from food safety enforcers (Rennie, 1994). Therefore enforcement officers will have to focus on those outlets and foods with the greatest risk of causing foodborne illness and play an important educative role.

Another major step forward for food safety is the inclusion of food hygiene training within the regulations. Food handlers now engaged in a food business have to be trained in food hygiene matters commensurate with their work activities.

It is an encouraging sign that enforcers are now working together with the industry to develop industry guides. These have been written by specific food groups in order to achieve consistency in the interpretation and application of legislation. Although they have no legal force, enforcing officers are required to give them due consideration. To date the Joint Hospitality Industries Congress, which represents all sectors of the catering industry, has produced the Catering Guide (JHIC, 1995).

The future of food safety enforcement in Britain appears to hinge on the findings of the Pennington Report and the proposed establishment of a central Food Standards Agency. The Pennington group was set up in the wake of the *E. coli* 0157 outbreak in Lanarkshire previously mentioned, key recommendations include: the adoption of the complete 7 stages HACCP into the legislation relating to slaughterhouses, meat production premises and butchers shops, the selective licensing of certain high risk premises which include the requirement for physical separation of raw and cooked products and HACCP training has been advocated for food handlers and EHOs. The questioning of EHOs competencies in HACCP (Pennington, 1997) are worrying and therefore continuing professional development is of paramount importance. Calls have also been made for the improvement of expertise in food poisoning investigations (North *et al.*, 1996), this has also been reflected

in the Pennington report who has called for refinement of the handling and control of foodborne outbreaks.

The current consultation document on the establishment of a Food Standards Agency (James, 1997) is an attempt to have a centralized system of control for food safety, which has traditionally been divided between the Ministry of Agriculture, Fisheries and Food (MAFF) and the Department of Health. It has long been argued that MAFF has acted as both poacher and gamekeeper, being responsible for both producers and consumer needs. It is anticipated that the agency will ensure the coordination and monitoring of food safety enforcement at a local level. The consequence of this change in structure could lead to tighter control over local authorities, resulting in budgetary constraints and auditing of enforcement activities. This change presents the opportunity for improved consistency of enforcement.

CONCLUSION

Foodborne illness continues to increase world wide and the economic implications of outbreaks are immense. The discovery of new types of food poisoning organisms requires a fundamental change to the focus of investigations and highlights the need for enforcers who are competent to deal with both food safety issues and outbreak control.

The control of food safety needs to be re-orientated to focus on hazards and their controls. The success of this has already been recognized by larger food manufacturers, however, it has only recently been included as a legislative requirement. The resultant effect is that SME food businesses, who produce a large variety of products, are proving to be the greatest challenge for the implementation of this method of control. The Pennington Report has reiterated the need for the implementation of full HACCP in certain premises and therefore this requires a fundamental alteration in legislative control.

Ensuring staff are regularly updated on food safety developments will benefit both food handlers and EHOs. Food enforcement work now requires a greater degree of liaison and cooperation between officers and food businesses, encouraging an educative approach to food safety. The adoption of this strategy in a consistent manner should direct resources to the points in the food chain, which are critical to ensuring public health.

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