Assessment of recall notifications for food products

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Given the sheer diversity, complexity and number of food products on our shelves, the food industry's global record on product contamination and recall is encouraging. However, when a company is caught up in an incident requiring a recall, it can represent a major challenge for the manufacturer, not to mention a potential health risk for consumers. From a commercial perspective, the expense, inconvenience and the loss of public confidence is damaging enough. But of course, there is also the issue of solving the problem that led to the recall being necessary.

A survey of recalls reported in the USA and Europe during the first six months of 2012 reveals some interesting, if none-too-surprising statistics.

Reading Scientific Services Ltd (RSSL) reports many of these regularly in its fortnightly free email newsletter, Food e-News, and more importantly, provides support to food manufacturers in order to investigate, explain, and prevent the kind of incidents that often lead to recall.

This investigative work is frequently carried out on a priority basis, through membership of RSSL's Emergency Response Service, and companies often use the results of RSSL's investigative analyses as the basis for deciding what course of action to take when faced with a product crisis.

Sources for this survey

The data for this survey was gathered from the publicly accessible database provided by the EU Rapid Alert System for Food and Feed, the website of the UK Food Standards Agency, and from the USFDA website. To that extent, the data sources are not directly comparable. The USFDA website lists recalls that the FDA has garnered from press releases and other public notices and therefore may not detail every recall.

Moreover, for the purposes of this article, only the recall notifications for food products have been taken from the EU Rapid Alert system. Withdrawal notices, (of which there were 256 in the same time period) have not been considered. 'Food contact materials' have also been ignored.

Undeclared allergens account for the vast majority of recalls in the UK.

It is also worth noting that it is not always easy to identify when separate incidents are indeed different events that have different but similar root causes, and when 'separate' incidents are multiple examples of one event. Hence, in assessing the recalls for this article, where it is clear that a recall is a follow-up/extension of an earlier recall, the data has not been included twice.

On the other hand, some recalls are initiated for more than one reason. Where the reasons appear related (for example microbial spoilage and foul smell) the primary cause (in this case, microbial spoilage) is recorded. Where the reasons are different (for example undeclared allergen and high levels of a heavy metal) both reasons are recorded.

Similarly, judgements have been made about how to categorise the causes. For example, foreign body incidents are categorised together even though their actual source might be very different. For example, a case of glass fragments found in a bottle could easily be packaging related (but could be malicious addition), whereas cases of animal body parts are clearly not packaging related (but could also be malicious addition).

Similarly, with chemical incidents, some events (for example aflatoxins) are clearly related to microbial contamination and therefore recorded as such, whereas others (for example tin levels) are not obvious and are therefore categorised as chemical contaminants. In the latter case, no attempt has been made to distinguish between environmental contaminants and contamination via migration from packaging/process equipment.

Classifying products is also an uncertain practice! Any given food item may lie across categories or sit between them. Also, in some incidents, the product affected by a recall is clearly defined to one batch of production. In others, absolutely everything produced in a particular factory has been recalled. Generally, in the latter case, the recall has been recorded as one incident rather than several, even though multiple products are involved.

Reasons for recall

Given therefore that any analysis of the data inevitably contains some assumptions and potential errors, it is nonetheless clear that the vast majority of food recalls around the world are caused by preventable problems.

Poor allergen control, inappropriate use of ingredients (both legal and illegal) and the failure of the pre-requisite systems required for HACCP appear to account for a huge proportion of recalls. There are also cases of obvious fraud and illegal trading, and mistakes in production that lead to products being mislabelled or wrongly packaged. In all these cases there is usually an element of human malpractice, error or neglect.

In Europe (excluding UK) the big causes of recall are microbial contamination (43%) and chemical contaminants (20%). This bias contrasts quite sharply with the UK alone, where undeclared allergens account for the vast majority of recalls (55%).

In the UK, a further 15% of recalls are due to items being packaged in the wrong containers or with the wrong label applied. In these cases, allergen risk is also identified as a reason for recall, but these are not cases where allergens have been simply omitted

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from a label. Outside of the UK, undeclared allergens make up approximately 12% of recalls.

In the USA, undeclared allergens (42%) and microbial contamination (39%) are again the big contributors to the recall figures. Incorrect packaging adds just 3% to the total.

One big point of difference between the USA and Europe is that the FDA records a few cases of uneviscerated fish (5%), whereas Europe has none. Europe on the other hand has 20% of recalls due to chemical contamination, whereas in the USA the percentage is below 2%.

Given the international supply chain, it is likely that these differences reflect a different emphasis from the enforcement authorities rather than differences in working practice.

There are differences too in the types of product that illicit recall. In Europe, bakery products (cakes, biscuits, pastry) account for 4% of recalls, whereas in the USA, the figure is close to 20%. In the UK, the figure is 10%. In the USA, dairy products contribute only 5% of recalls, whereas in Europe the figure is 11%. The data set is relatively small, so perhaps another six month period would see these values reversed?

Indeed, a similar study conducted in 2006, showed that the EU Alert list had a heavy bias towards meat and fish (44%), compared with a worldwide (mainly USA) recall list (taken from Food e-News (19%)). At that time, the USA figures again showed a significant proportion of baked goods (cakes, bread, biscuits, and puddings) 16% compared with just 1.4% for the same goods on the EU Alert list. Also, in the USA, undeclared allergens (including sulphites and wheat) prompted close to 40% of all recalls. In contrast, according to the EU Alert data, undeclared allergens prompted about 10% of recalls.

At the time of the original study, in an article also written for International Food Hygiene I observed, "The US trend for allergen-led recalls is something we should be watching closely in Europe. It's by no means certain that Europe's relatively low recalls for undeclared allergens is due to companies getting their labelling right. It may be that the mistakes are not being spotted."

The shift in bias within the UK at least seems to support the idea that the UK's labelling mistakes are being spotted now. However, it also appears that the rest of Europe is perhaps still lagging behind the UK and USA in allergen awareness.

Not just allergens

Whilst the allergen issue is clearly of greatest concern to allergic individuals, the presence of pathogenic bacteria in any product is a problem for virtually everyone.

The usual suspects of salmonella, E. coli, listeria and clostridium species continue to present problems for the food industry right around the world.

Prevention better than cure

It would be naïve to suggest that all of the incidents that led to the recalls could have been avoided. It is also likely that some of the near 250 recalls included in this study were precautionary rather than strictly necessary, although no-one undertakes a recall on a whim! It is undoubtedly true that all of the companies concerned would not wish to pose a risk to customer health, and would have preferred not to incur the inconvenience, expense and loss of customer confidence that accompany a recall incident.

There is also little doubt that the number of problems could have been reduced by improved specifications, stricter application of HACCP and allergen management programmes, better staff training, and more frequent routine testing of ingredients as part of 'due diligence'. For those companies involved in recalls during the first six months of 2012, that message might come too late. For others, a little sensible investment in training or testing now could have save a whole lot of trouble in the future. ■

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