

## Foodborne outbreaks: managing the risks

The deadly outbreak of *Escherichia coli* (*E. coli*) infection in Germany raised fears and questions about food safety in well-regulated countries. Maged Younes talks to Fiona Fleck.

*Q: What have we learnt about communicating the risk of a health threat to the public following the E. coli infection outbreak in Germany? Was it necessary to issue a warning on certain types of food before the source of the outbreak was confirmed?*

A: It will take time to fully assess all of the lessons to be gleaned from the events in Germany, but a few points can be highlighted. Outbreaks of foodborne disease are particularly likely to have economic implications as they often involve commercially produced products. Consumers will often react to concerns about a particular food by avoiding consumption of similar products, even if there is no evidence to warrant it. To manage the risk of harming the public, governments must assess the evidence and make decisions to protect people's health, even if there may be economic consequences. What was unusual about this event was the broad recommendation to avoid eating three entire groups of foods. There are many varieties of lettuce, tomatoes and cucumbers and it would be very unlikely that all types of all three groups of foods would be the source of the outbreak. While such broad warnings can be justified, having them in place for an extended period of time can inflict economic damage and destroy livelihoods, even outside the affected country, as seen in this case. However, it must be stressed that public health authorities must always balance the health risk to the population against other undesirable consequences. What is also important is that the German authorities have shared all the information they had with the appropriate WHO channels.

*Q: Following the E. coli infection outbreak in Germany, the Russian Federation banned the import of European Union food products and Spanish farmers had to give away their produce. How can governments communicate the risks that people face during food poisoning outbreaks, while avoiding unnecessary economic damage?*

A: The priority must always be on protecting public health and thus economic considerations should never

compromise public safety. The solution is to be implemented at a national level. On an international



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tions to minimizing economic damage and protecting public health are the same. Both require a rapid coordinated response involving epidemiologists, microbiologists and food safety authorities to assemble the evidence, pinpoint the source of the outbreak and remove it from the marketplace as quickly as possible. The faster and the more accurately the source can be narrowed down, the more precise the advice for consumers can be and the more targeted the action to remove the offending food.

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*Q: Are there mechanisms for coordinating communications surrounding such outbreaks to avoid mixed messages?*

A: Each country will be organized a little differently in terms of the way it coordinates these communications

level, there are very clear mechanisms for sharing information. One is through the International Health Regulations (IHR) and the other is through a technical network of food safety authorities called the International Food Safety Authorities Network (INFOSAN). These two mechanisms often work in a complementary way. For example in December of 2009, iodine toxicity was identified in Australia linked to high levels of iodine in a soy milk product produced in Japan. The same product had been exported to several other countries. Australia notified WHO of the problem, under the IHR, and this information was shared with other governments to ensure that they were aware of the potential impact on people's health in their countries. Information was also sent out to INFOSAN members to ensure that appropriate and timely action was taken to remove the offending food product.

*Q: What is the role of INFOSAN?*

A: INFOSAN is a voluntary technical network managed by the Food and Agriculture Organization (FAO) and WHO that brings together national authorities playing a role in food safety. Food safety is a shared responsibility in most countries: there is no single agency that does it all. For that reason INFOSAN has members from the health, agriculture

and trade ministries as well as from food safety authorities and consumer protection agencies. INFOSAN is there to ensure the rapid sharing of information between these national authorities and to promote the sharing of best practices for dealing with food safety issues including emergencies.

*Q: Critics have accused WHO of responding slowly to the E. coli outbreak in Germany, arguing that it took days before WHO issued a statement or provided information. Is this criticism justified? What is WHO's role in such an incident?*

A: It is important to stress that WHO reacted promptly within the re-mits of its mandate and responsibilities. WHO was notified of this event on 22 May as required by the IHR and began sharing information on this outbreak with its Member States through the IHR closed web site and the International Food Safety Authorities Network. At the same time, WHO issued information on its public web site. Although there have been cases of enterohaemorrhagic *E. coli* identified among travellers to Germany, this particular outbreak was centred in the northern part of Germany and therefore was being investigated by the national authorities. WHO's role is to ensure that its Member States report cases that might be linked to this outbreak, to keep up to date on developments and recommendations that might affect other countries and to be aware of any implications for food products that are being traded internationally.

*Q: So when should countries report a foodborne disease outbreak to WHO in accordance with the IHR?*

A: It depends on the context. Countries (and other parties to the IHR) are required to assess whether an outbreak or other public health event occurring within their territories should be reported to WHO. They must consider four questions: is the potential public health impact of the event serious? Is the event unusual or unexpected? Is there a significant risk of international spread?

And finally, is there a significant risk of international trade or travel restrictions by other countries? If the answer to two or more of these questions is "yes," then the country concerned is required to notify WHO of the event within 24 hours of assessing it.

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*Q: Developed countries such as Germany have many regulations and laws in place concerning food safety. Why do we continue to see major outbreaks of foodborne disease in such countries?*

A: The rapid globalization of the food trade has increased the risk of international incidents involving contaminated food. Contamination can be introduced at many points along the food-chain. Since the production of food products is often centralized and these products are widely distributed around the world, a breach of proper manufacturing practices can have a major impact on the safety of food sold to a large number of people. Good manufacturing practices from farm to table are essential to ensure that food is safe for consumption. Consumers also need to do their part to ensure food safety in the home, by following the five keys to food safety. While there are many international standards and regulations in place – most of these are enshrined in the Joint FAO/WHO Food Standards Programme (Codex Alimentarius) – problems can still arise. There are several reasons for this, such as a breach in hygiene practices, a breakdown

in processing equipment, an extreme weather event or deliberate tampering, to name a few. This is why food safety authorities need to remain vigilant and have enough resources to carry out the necessary inspections to enforce regulations and ensure safe practices in food production and distribution.

*Q: Is there a major difference between foodborne disease outbreaks in wealthy, developed countries and developing countries?*

A: The main difference is that developed countries may have more elaborate surveillance mechanisms to detect such outbreaks and stronger food safety systems in terms of inspections. But even with these mechanisms in place, problems can still arise. It may seem that there are more outbreaks in developed countries but perhaps that is because outbreaks in less developed countries are not reported as often. In either situation, these outbreaks need to be approached in a similar way with all sectors involved and working together to find the source as swiftly as possibly in a coordinated manner.

*Q: We have often heard about foodborne disease outbreaks in recent years. Is the problem on the increase or do the media simply report more about it?*

A: Our ability to detect foodborne illness outbreaks and link cases that are widely distributed has greatly improved over the past 20 years. In addition, mechanisms such as the IHR and INFOSAN have been put in place to ensure that information is shared in a timely manner and acted upon. That could increase the number of international outbreaks that are actually reported and presented in the media. As mentioned, the globalization of the food trade increases the risk of international incidents involving contaminated food. At the same time, however, food safety systems continue to improve and countries are becoming increasingly aware of the need to cooperate and share best practices to ensure food safety globally. ■