

# **Chapter 15**

## **Management of a Food-Borne Disease Outbreak**



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# Management of a Food-Borne Disease Outbreak

## Main Points

**15.1** In the spring of 1998, there was a nation-wide outbreak of a food-borne disease; it was one of the largest outbreaks of food-borne disease in Canadian history and involved the investigation of more than 800 reported cases across Canada. Over 80 percent of the affected were children under 15 years of age. At least 60 were hospitalized.

**15.2** Some important aspects of the response to the outbreak worked well, but others did not. The contaminated product was identified quickly and its removal from points of sale was started immediately after the issuing of a recall. However, there was a lack of timely exchange of information to identify the scope of the outbreak. There was also a lack of full co-operation among the agencies involved in the response to this outbreak. The Canadian Food Inspection Agency (CFIA) did not share certain distribution information when requested by provincial public health officials to assist in the investigation. In addition, the CFIA's abrupt decision not to lead one of the plant inspections resulted in confusion and unnecessary delay.

**15.3** A formal framework is needed that sets out clearly the roles and responsibilities of Health Canada's Laboratory Centre for Disease Control (LCDC) in relation to those of other participants, in order to guide the response to threats to public health. Many individuals could have avoided this illness had the federal and provincial health departments acted more quickly.

## Background and other observations

**15.4** The case described in this chapter illustrates many of the issues discussed in Chapter 14 on National Health Surveillance and the management of outbreaks and threats to public health. The audit looked at how federal and provincial agencies — Health Canada's Laboratory Centre for Disease Control and Food Directorate, the Canadian Food Inspection Agency, and provincial and local public health departments — responded to this nation-wide outbreak of a food-borne disease.

**15.5** Food-borne diseases have important implications because of the wide distribution of food products and the resulting potential for affecting very large numbers of people spread over wide geographic areas.

**15.6** The activities of the Laboratory Centre for Disease Control involve the timely investigation and control of disease outbreaks, often in collaboration with provinces and other federal agencies — in particular, with the Canadian Food Inspection Agency in the event of a disease caused by food. The CFIA is responsible for enforcement actions in food-related emergencies and is to take a lead role in investigations and co-ordination of food safety emergency responses. Health Canada's Food Directorate is responsible for assessing the effectiveness of the CFIA's food safety activities. Provincial and local medical officers of health have a legislative mandate to investigate disease outbreaks, and provincial laboratories provide laboratory services.

**15.7** We found that LCDC was not well prepared to manage disease outbreaks. It had no established operating procedures to respond to food-borne disease outbreaks. In addition, there were no formal protocols between Health Canada, the CFIA and the provinces that clearly defined procedures and the role of LCDC in relation to the roles of other participants in the investigation of disease outbreaks.

**15.8** There was a lack of transparency in the post-outbreak reviews undertaken by LCDC and by the CFIA. In such situations, particularly given that the cause of the contamination was never found, we believe it is in the interest of public health that all participants contribute to, and learn from, such reviews.

**Responses to our recommendations from Health Canada and the Canadian Food Inspection Agency are included in this chapter. Both Health Canada and the Canadian Food Inspection Agency concur with the recommendations and have agreed to take corrective action. In some cases, this action is already under way.**

## Introduction

**15.9** This chapter flows from our audit of National Health Surveillance, including the management of outbreaks and threats to public health (reported in Chapter 14). In this chapter, we examine the management of a recent outbreak of a food-borne disease. The scope of the examination extends beyond health surveillance to address the way Health Canada's Laboratory Centre for Disease Control (LCDC) and the Canadian Food Inspection Agency (CFIA) interacted with other participants in responding to the outbreak.

**15.10** This case was one of the largest food-borne disease outbreaks in Canadian history. It involved many provinces and agencies. Some aspects of the response to the outbreak worked well, particularly the quick identification of the contaminated product. However, other aspects did not work as well. The case illustrates many of the issues discussed in the chapter on National Health Surveillance, including the need for timely sharing of information, better collaboration and co-operation among federal and provincial agencies, and a formal framework that would clearly specify LCDC's role in relation to the roles of other participants in order to guide the response to threats to public health.

### **Many players are involved in the investigation and control of food-borne disease outbreaks**

**15.11** The core activities of the Laboratory Centre for Disease Control within Health Canada's Health Protection Branch (HPB) are national health surveillance, disease prevention and control. These activities involve the timely investigation and control of disease outbreaks, often in collaboration with provinces and other federal agencies — in particular, with the Canadian Food Inspection Agency in the event of a disease caused by food.

**15.12** Created in 1997, the CFIA is responsible for enforcing the *Food and Drugs Act* and other legislation covering all foods sold in Canada (foods as defined in the *Canadian Food Inspection Agency Act*). It is responsible for enforcement actions in food-related emergencies and has a lead role in co-ordination of emergency response and investigation of food-borne illness outbreaks.

**15.13** Health Canada, through its Food Directorate of the Health Protection Branch, establishes policies and standards for the safety and nutritional quality of food sold in Canada. It is also responsible for assessing the effectiveness of the CFIA's food safety activities.

**15.14** Provincial and local medical officers of health have a legislative mandate to investigate disease outbreaks, and provincial laboratories provide laboratory services.

### **Many young children were affected in a nation-wide outbreak of food-borne disease**

**15.15** Food-borne diseases have important implications because of the wide distribution of food products and the resulting potential for affecting very large numbers of people spread over wide geographic areas. Resolving an outbreak requires the timely identification of the disease, finding the cause of the outbreak, recalling and removing the food product, treating the infected, and preventing a recurrence. All the players thus need to work together, share information, act quickly to protect the health of the public and regard safety as a first priority.

**15.16** A nation-wide outbreak of a food-borne disease occurred in March and April 1998; it involved the investigation of more than 800 reported cases across Canada. Most of those affected were young children. LCDC indicated that likely many more were affected, possibly 10 times more. A number suffered severe gastroenteritis, and at least 60 were hospitalized. It was one of the largest

**A 1998 nation-wide outbreak of a food-borne disease involved the investigation of more than 800 reported cases across Canada.**

food-borne disease outbreaks in Canadian history.

#### **Focus of the audit**

**15.17** We examined the way Health Canada and the Canadian Food Inspection Agency managed this outbreak in collaboration with other jurisdictions. The audit focussed on the identification of the outbreak and the communication of its occurrence, the investigation to determine the source and cause of the outbreak, the recall and removal of the contaminated food product, and post-outbreak review procedures. Further details on the audit scope, objectives and criteria are presented at the end of the chapter in **About the Audit**.

#### **Completeness of relevant information**

**15.18** This audit required that we obtain information from a variety of organizations. Health Canada was fully co-operative and provided all of the information that we requested. The provincial and local organizations were also very co-operative in responding to our requests.

**15.19** Throughout much of the audit process, the Canadian Food Inspection Agency displayed a lack of willingness to provide us, on a timely basis, with the information that we required to do our work. However, CFIA officials did become more responsive in their efforts to supply us with information toward the end of the audit process, and confirmed that they had provided all available relevant information. In addition, CFIA officials advised us that they had not kept records of all key meetings and decisions held in the course of their investigation and that other, potentially relevant information had been lost prior to the commencement of the audit. Given these circumstances, we do not have our usual degree of assurance with regard to the completeness of the record of events.

## **Observations**

#### **Lack of timely exchange of information to identify scope of the outbreak**

**15.20** The Laboratory Centre for Disease Control relies largely on the provinces and territories to report cases of communicable diseases. The data it receives include laboratory-confirmed cases, which are normally reported to it weekly by the provinces and territories. In addition, provincial laboratories often send specimens to national reference laboratories at LCDC to have the type of pathogen confirmed.

**15.21** In March 1998, the Province of Ontario's Central Public Health Laboratory in Toronto noted a substantial increase in the number of confirmed cases of *Salmonella* Enteritidis. From 6 March to 18 March 1998, 42 cases were confirmed, compared with an average of 51 confirmed cases in the entire month of March each year from 1993 to 1997. The cases were believed to be widely distributed throughout Ontario.

**15.22** On 18 March, the Central Public Health Laboratory notified the Public Health Branch of the Ontario Ministry of Health about the 42 cases. Given the information it had on 18 March, the Public Health Branch was in a position to inform LCDC that an outbreak was likely under way. Ontario Public Health Branch officials recognized this but elected to conduct further analysis. Their analysis showed that in the five- to nine-year-old age group, the number of cases was five times higher than normal. The results of this analysis were not shared with LCDC until 26 March, when LCDC called the first teleconference. No protocols or guidelines existed that would specify when or under what circumstances to advise LCDC of an outbreak.

**15.23** The confirmed cases were reported to LCDC only through the routine surveillance system, which did not have the capacity to provide an early

**No protocols or guidelines existed that would specify when or under what circumstances to advise the Laboratory Centre for Disease Control (LCDC) of an outbreak.**



signal of a significant increase in the number of cases.

**15.24** While Ontario was experiencing significantly more cases of *Salmonella* Enteritidis, similar cases started to show up in several other provinces. On 20 March, three Newfoundland children with severe gastroenteritis were seen in a St. John's hospital and specimens were sent for examination for *Salmonella* organisms. On the same day, the Newfoundland Public Health Laboratory confirmed a similar case in Gander. The provincial laboratory notified the provincial disease control office to alert other regions in the province to a possible outbreak.

**15.25** On 23 March, six more suspected cases of *Salmonella* Enteritidis were identified, mostly children in three Newfoundland communities. Newfoundland provincial public health officials believed a province-wide outbreak was occurring. The chief medical officer of Newfoundland placed a call on 25 March to LCDC in Ottawa. The Newfoundland provincial laboratory also sent specimens to LCDC's laboratory for confirmation of the type of *Salmonella*.

**15.26** Given the information it had on 18 March, Ontario was in a position to suspect an outbreak and alert LCDC. Ontario's failure to do so resulted in a delay of a full week in the start of the investigation into the outbreak.

#### **LCDC was not well prepared to manage a disease outbreak**

**15.27** The phone call to LCDC by the chief medical officer of Newfoundland did not produce a quick, smooth exchange of information. She did not know whom to call at LCDC. When contacted, LCDC officials were not sure who in their organization was responsible. No one in LCDC was formally tasked with managing food-borne disease outbreaks.

**15.28** After several calls, a LCDC epidemiologist in Guelph took responsibility for co-ordinating the outbreak investigation — on her own initiative, as no one at LCDC was formally tasked with co-ordinating action in outbreaks. There was also confusion in LCDC about who should be the spokesperson for Health Canada.

**15.29** We believe it is essential that all participants know whom to contact at LCDC when there is a disease outbreak and who is responsible for managing it. Not knowing can mean unnecessary delays in moving to protect the health of the public.

#### **Quick identification of contaminated food product**

**15.30** Despite the problems that we have described, it appears that the individuals involved worked well together and moved quickly to identify the contaminated food product.

**15.31** On 26 March, the first teleconference call among officials from LCDC, Ontario and Newfoundland confirmed that there was a similar outbreak in Ontario, with over 114 cases. During the discussion, Newfoundland reported a total of 22 probable cases in that province. After learning of the situation in Newfoundland, Ontario sent isolates to LCDC's laboratory for comparison of the type of *Salmonella*. On the same day, LCDC notified the CFIA in Ottawa of the outbreak.

**15.32** Once the various parties (LCDC, the CFIA, Ontario and Newfoundland public health officials) were brought together in a response team, the contaminated product was identified quickly. Health Canada, in collaboration with provincial public health officials, was responsible for conducting epidemiological investigations to determine the product responsible for the outbreak. The CFIA was responsible for conducting investigations to determine the cause of contamination. In addition, the

**Ontario's failure to alert LCDC resulted in a delay of a full week in the start of the investigation into the outbreak.**

**The individuals involved appeared to work well together and moved quickly to identify the contaminated food product.**

CFIA was responsible for enforcement actions, which included ensuring that food recalls were carried out by the food manufacturer as required and monitoring the effectiveness of the recalls.

**15.33** On 27 March, packaged lunch products were identified as a suspected food. On the same day, Newfoundland received test results from the federal laboratory confirming that the specimens belonged to the same type of *Salmonella*. The first public announcement of the food-borne illness was made in late afternoon that day by the Newfoundland health department. It issued a news release advising that there was an outbreak of *Salmonella* gastroenteritis in the province. The release noted that Ontario was experiencing a similar outbreak.

**15.34** Based on information from patients, provincial health officials and CFIA food inspectors started collecting suspected food samples from food outlets and shops in Newfoundland and Ontario. Testing began on 28 March in four laboratories.

**15.35** On 30 March, the Newfoundland laboratory provided a preliminary result: a likely positive for *Salmonella* in a lunch product. CFIA officials in Ontario relayed this information to the company that manufactured the lunch product. Company officials started to pull together distribution and production records on the product and shared the information with the CFIA.

**15.36** By 31 March, the joint collaborative effort was able to isolate the source of the food product. CFIA laboratories in Ontario and Nova Scotia confirmed that the cheese in the lunch product was contaminated with *Salmonella* Enteritidis. The CFIA considered a food recall to be clearly necessary. Health Canada supported the CFIA's decision.

**15.37** The CFIA could have forced the manufacturer to recall the food product or

allowed the manufacturer to initiate a voluntary recall. In this case, the manufacturer decided to issue a voluntary class I recall of its products containing the implicated cheese, along with a national health hazard alert (a class I recall involves a situation in which the use of a product may cause serious adverse health consequences or death).

**CFIA did not share certain distribution information with provincial public health officials**

**15.38** On 31 March, the company issued a recall of four of its products. The health hazard alert advised the public not to consume four of its lunch products because one of the cheese ingredients might contain the bacteria responsible for *Salmonella* infection. In a voluntary recall, the company is responsible for removing the product at points of sale. The CFIA is responsible for conducting an effectiveness check of the recall process.

**15.39** The CFIA undertook recall effectiveness checks to ensure that retail stores had been informed of the recall and the product removed from food outlets. This comprised telephone calls to consignees and some visits to retail outlets by CFIA staff. Officials told us that the recall effectiveness check was intended to cover 100 percent of the stores selling the product.

**15.40** The Ontario Ministry of Health had two concerns about risks to public health. First, it was concerned that the CFIA's recall effectiveness checks would not be carried out quickly enough. Second, it was concerned that about one third of the *Salmonella* cases being investigated in Ontario had no link to the suspected food product, and therefore an analysis of the distribution of the cheese (supplied by a different company) would help in the investigation.

**15.41** In an effort to address the first concern, the Ontario chief medical officer offered to have local public health officers

visit retail stores and help to ensure that the product was removed from sale immediately following the announcement of the recall.

**15.42** Ontario officials noted that the CFIA did not want the Ontario Ministry of Health to participate in this way. They informed us that they visited retail stores in spite of the CFIA's opposition. The value of the provincial participation was evident from the fact that the inspectors found a number of outlets with the product still on the shelves. For example, 14 of Ontario's 37 public health units reported that on 3 April the recalled product was still on the shelves of 134 stores.

**15.43** To deal with their second concern, Ontario Ministry of Health officials wanted to compare the distribution of reported *Salmonella* cases with the distribution of the cheese in question. Ontario officials informed us that they requested the distribution list of all the cheese made from the suspect source several times in late March and early April. However, the CFIA did not provide the information at that time. Several months later, the CFIA made the information available to Ontario, but by that time it was too late to be of assistance in the investigation.

**15.44** However, CFIA officials have a different recollection as to what occurred. They believe that there was a high degree of co-operation between CFIA staff and Ontario public health officials.

#### **Further recalls were announced**

**15.45** On 9 April, after discussions with the CFIA, the company that manufactured the lunch products issued a second voluntary class I recall, with a public warning, that included additional products. This was due to possible contamination of a different type of cheese contained in one of its lunch products that had not been included in the earlier recall. The recall was issued promptly by the manufacturer.

**15.46** Early in the afternoon of 13 April, the CFIA laboratory identified *Salmonella* in two cheese sticks sampled from one of the 13 lots of cheese at the factory of the company that had supplied the cheese to the lunch product manufacturer. All the cheese sticks made from this lot were on hold in the warehouse of this company. The implicated lot had also been used in one of the recalled lunch products.

**15.47** On 14 April, the CFIA recommended that the company that had produced the cheese take immediate action to recall the product from all levels of trade and issue a public announcement to all consumers. However, the company disagreed with this recommendation.

**15.48** On 15 April, the company finally agreed to issue a class II recall of three brands of its cheddar cheese products as a precautionary measure and to make a public announcement. (A class II recall, with or without a public warning, normally applies to a situation in which the use of a product may cause temporary adverse health consequences or where the probability of serious adverse health consequences is remote). The company issued a public advisory that afternoon.

**15.49** We noted that CFIA inspectors were still checking food outlets until late April. On 29 April, a Health Canada field epidemiologist involved in the investigation found eight packages of the recalled products still in a Mississauga store.

#### **Several plants were inspected in an effort to determine the source of contamination**

**15.50** In the course of the investigation, the CFIA inspected a total of eight food-processing plants. During these inspections, it performed environmental checks, among other things, and took numerous food samples for further testing at CFIA laboratories. Some plants were inspected more than once. On several

**Ontario officials informed us that they visited retail stores in spite of opposition by the Canadian Food Inspection Agency.**

**Concerns remained about the water quality at one of the plants where the cheese had originated.**

**The Canadian Food Inspection Agency decided that it would no longer lead the inspection of the plant.**

occasions, the inspection team consisted of personnel from other agencies.

**15.51** After a number of inspections, nothing had been found that would allow a conclusion to be drawn as to the cause of the contamination. Concerns remained about the water quality at one of the plants where the cheese had originated.

**Disagreement on the need to reinspect a plant**

**15.52** During an interagency conference call on 20 April, a decision was made to follow up at the cheese plant with an interagency team to be led by the CFIA. CFIA officials had previously inspected this plant on 3, 4, 6 and 14 April. The local public health unit also took water samples at this plant on 17 and 20 April.

**15.53** On 22 April, an interagency meeting chaired by the CFIA was held, and plans were drawn up for an interagency inspection of the plant, which was to take place the following day. The CFIA notified the company of the plan orally and by letter. Company officials contacted CFIA management and urged better co-ordination among the federal agencies involved in the ongoing investigation. In addition, they raised questions regarding the nature and purpose of the upcoming inspection of the plant, which was to be led by CFIA officials. However, no objections were raised to the reinspection or to CFIA involvement. The CFIA, following its standard practice, contacted its Minister's office to advise it of the situation.

**15.54** On 22 April, the president of the company wrote to the CFIA, Health Canada and its Minister, complaining about a lack of co-ordination of effort and communication among the federal agencies. He alleged that his company was being treated unfairly, and was experiencing serious and preventable disruption as a result of the lack of co-ordination between the CFIA and Health Canada.

**15.55** The president of the company also called the Minister responsible for the CFIA and followed the call with a letter. CFIA officials told us that the Minister's office had maintained that this file, as all others, would be handled according to normal operating procedures.

**15.56** We were told by CFIA officials that they responded orally to the company's letters to CFIA and their Minister and that there was no formal reply. The Minister of Health later responded that an outbreak of this nature was an extremely serious matter, requiring an intensive and thorough investigation, and that there were valid reasons for focussing on the company's manufacturing processes.

**15.57** CFIA officials told us that senior management decided, upon reviewing the file, that based on their analysis of previous inspections there was no further need for the Agency to inspect the plant. The Agency decided that it would no longer lead the inspection of the plant. In effect, it changed its role to one of assisting Health Canada in determining the cause of contamination, rather than maintaining a lead role in the investigation.

**15.58** Its partners, Health Canada and the provincial and local public health officials, persisted. They felt that there were sufficient reasons to have the plant reinspected.

**15.59** Ontario public health officials and Health Canada decided to go ahead with the inspection. However, leading it was not within Health Canada's jurisdiction. In the absence of CFIA's leadership, the Ontario Ministry of Health had to call upon the local medical officer of health to lead the inspection.

**15.60** One result of this confusion over who would lead the inspection was that it was delayed for one day. The plant had been in operation on 21–22 April. The company closed the plant for renovations beginning on 23 April. Therefore, when

the inspection went ahead on 24 April, the plant was not in operation. Officials from the provincial and local public health departments, the provincial food inspection branch, Health Canada and the CFIA visited the plant. However, the two CFIA representatives indicated to the other participants that they were there as “resource people” and would not write or prepare any CFIA report on the inspection. One of the CFIA representatives advised us that she was told by her manager to offer technical support and answer questions only.

**15.61** The inspection revealed contamination in the plant’s water supply and identified several other opportunities for contamination of cheese. The team concluded that the water at the time of the inspection was not potable. Although the water was mainly used for cleaning, nevertheless the plant was ordered by local public health and CFIA officials to remain closed until a water disinfection system could be installed. However, the investigation could not determine the cause of the contamination of the cheese.

**15.62** Once the inspection was completed, it was the provincial and local officials who prepared the reports. CFIA representatives, however, assisted in a technical review of the inspection report and participated in the briefing of company officials on the results of the inspection.

**15.63** However, officials had differing recollections as to what had occurred and what their respective roles had been. While all of the other participants maintained that CFIA officials had not actively participated in the inspection, CFIA officials claimed that they had.

**15.64** The CFIA’s withdrawal as the lead for the inspection resulted in unnecessary delay and jurisdictional confusion among participants. It also hampered their collaboration. We believe

it is vital that any threat to public health be investigated co-operatively.

**Lack of formal protocols and established procedures to investigate outbreak**

**15.65** At the time of the outbreak, LCDC had no established operating procedures to respond to food-borne disease outbreaks. The action it took was largely ad hoc. A draft emergency response plan existed at LCDC but was not consulted by those directly involved in the investigation.

**15.66** As noted in paragraph 14.38 of Chapter 14, several memoranda of understanding have been established between Health Canada and the CFIA with respect to food safety. At the time of the outbreak, however, there were no formal protocols between Health Canada and the CFIA and the provinces that clearly defined procedures and the role of LCDC in relation to the roles of other participants in the investigation of disease outbreaks.

**15.67** As mentioned in paragraph 14.39 of Chapter 14, a food-borne illness response protocol is currently being developed by Health Canada, the CFIA, and provincial/territorial governments.

**15.68** Officials told us that they expect that the protocol will describe the roles and responsibilities of the organizations and provide a framework for a co-ordinated response to food-borne disease outbreaks. They anticipate that this will result in a more co-operative and rapid response to these outbreaks.

**15.69** Officials also told us that Health Canada and its partners recognize the importance of timely exchange of information and notification of outbreaks of food-borne diseases. Early concrete steps have been taken toward creating a national health surveillance network. A series of pilot projects is being carried out to improve access to existing databases and the linkages among them. For

**The action that LCDC took was largely ad hoc.**

**LCDC organized a post-outbreak review meeting but the Canadian Food Inspection Agency declined to participate.**

example, the Canadian Integrated Public Health System (CIPHS) is designed to provide data communication links between laboratories and public health officials on a “real time” basis. Officials anticipate that this system can help reduce the time it takes to recognize and communicate the existence of potential outbreaks.

**Lack of transparency in post-outbreak reviews**

**15.70** The poor communication and lack of formal arrangements indicate a clear need for the participants to work better as a team. In addition, there were few formal records kept of discussions and decisions made at interagency teleconferences during the investigation. A post-outbreak review was vital to ensure that lessons were learned and that such a situation would not happen again.

**15.71** LCDC organized a post-outbreak review meeting on 11 May 1998 in an effort to learn how the management of an outbreak such as this one could be improved. However, the CFIA declined to participate. It informed us that there were two reasons for that decision. First, it noted that its investigation was still ongoing at that time, and that a post-outbreak review would be premature. Second, it was concerned that anything its officials might say at such a meeting could be used in any potential lawsuit.

**15.72** The post-outbreak review proved to be of limited value. LCDC did not circulate the minutes of the meeting. Nor did it provide any of the participants with a summary of the lessons learned.

**15.73** The CFIA held its own post-investigation review on 10 December. This was strictly an internal meeting, and none of the other agencies was invited. The goal was to examine the investigation and recall of the food product in order to improve investigations and emergency responses within the CFIA. The agenda for this meeting stated

that the participants would discuss, among other things, the recall reality, chronology of events, investigation overview, what went well and areas for improvement, strategy development, and recommendations. However, CFIA officials told us that the meeting was not specifically for the purpose of discussing the outbreak, and there were no minutes of discussion relating to this outbreak. It is not clear how lessons could be learned if they were not documented or communicated.

**15.74** In such situations, particularly given that the cause of the contamination was never found, the value of a lessons-learned review cannot be underestimated. It is in the interest of public health that all participants contribute to, and learn from, such reviews.

## **Conclusion and Recommendations**

**15.75** This nation-wide outbreak was one of the largest and most serious food-borne disease outbreaks in Canadian history. More than 800 cases across the country were investigated; over 80 percent of them involved children under 15 years old. Many suffered severe diarrhea, and at least 60 were hospitalized. Many more might have suffered had the various federal and provincial agencies not identified the contaminated product. However, many individuals could have avoided this illness had the federal and provincial health departments acted more swiftly and co-operatively.

**15.76** This case illustrates the need for formal arrangements that clearly set out the role and responsibilities of LCDC in relation to those of other participants in handling a nation-wide threat to public health.

**15.77** Other areas where improvement is needed include the ability of federal and provincial organizations to work together

co-operatively and to share information in a timely manner. Specifically, there is a need for prompt notification about a possible outbreak and a timely exchange of information to support an investigation into the outbreak.

**15.78 Health Canada should clearly identify, and communicate to other participants, who is to be called in the event of a suspected outbreak of food-borne disease and who is responsible for managing the response.**

*Health Canada's response: Implemented. The Roles and Responsibilities Framework, which establishes the specific accountabilities of Health Canada and the Canadian Food Inspection Agency, was revised in June 1999.*

*In addition, Health Canada has developed a "Food-borne Illness Outbreak Response Protocol" in collaboration with the Canadian Food Inspection Agency and with provincial and territorial governments. The Protocol is a formal arrangement detailing Health Canada's role and responsibilities in relation to its partners and will result in more co-ordinated and rapid responses to food-borne outbreaks.*

*Operational procedures for Health Canada staff, with contact names and numbers and a flow diagram to aid in co-ordinating emergency responses, is being completed and will be available by mid-September 1999.*

**15.79 Health Canada should work with provinces and territories to ensure the timely exchange of information and proper notification about interprovincial outbreaks of food-borne diseases.**

*Health Canada's response: Agreed; implementation is under way. The "Food-borne Illness Outbreak Response Protocol" provides for the rapid exchange and evaluation of information between parties to ensure prompt notification and identification of outbreaks.*

*In addition, in the context of developing the National Health Surveillance Network, federal/provincial/territorial deputy ministers of health have endorsed collaborative ventures such as the Canadian Integrated Public Health System (CIPHS), a project under the National Health Surveillance Infrastructure (NHSI). A pilot phase of this initiative, designed to link laboratories with public health officials, will be implemented in British Columbia by 31 March 2000. When fully operational, this system will significantly reduce the time necessary for the recognition and communication of potential outbreaks.*

**15.80 Health Canada and the Canadian Food Inspection Agency should carry out their respective roles and responsibilities collaboratively with other participants.**

*Health Canada's response: Agreed. As indicated in the response to the recommendation in paragraph 15.78, the implementation of the "Food-borne Illness Outbreak Response Protocol", developed by Health Canada and its partners, will result in more co-ordinated and rapid responses to food-borne outbreaks.*

*Canadian Food Inspection Agency's response: Agreed. In partnership with Health Canada, the Agency updated the agreement on roles and responsibilities addressing food emergency response, in June 1999. In addition, the Agency, Health Canada and all provinces and territories have set out working procedures in the "Food-borne Illness Outbreak Response Protocol", which enhances the response of the partnership to food emergencies. The Agency is also an active participant in the Canadian Food Inspection System Implementation Group, which seeks to harmonize federal, provincial and territorial food inspection systems.*

**15.81 Health Canada and the Canadian Food Inspection Agency should ensure that they maintain**

**appropriate records of key meetings and decisions.**

**Health Canada's response:** Implemented. Health Canada now routinely records minutes of all food-borne outbreak operational meetings as well as "lessons learned" from post-outbreak review meetings.

**Canadian Food Inspection Agency's response:** Agreed. The Agency has recently realigned responsibilities for food safety emergency response within the Office of Food Safety and Recall. One of the primary responsibilities of this Office is to maintain records of operational meetings and decision-making processes pertaining to food emergencies.

**15.82 Health Canada and the Canadian Food Inspection Agency should ensure that an appropriate review is conducted following an outbreak of food-borne disease. Such a review should include all participants involved in the handling of the outbreak, and lessons learned should be documented and communicated to all participants in a timely manner.**

**Health Canada's response:** Agreed and implemented. The "Food-borne Illness Outbreak Response Protocol" provides that a post-outbreak review be conducted following national and international outbreaks or outbreaks that are unusual in nature involving a rare or unusual infectious agent.

**Canadian Food Inspection Agency's response:** Agreed. A framework is provided, within the Protocol, for the review of food-borne disease outbreaks in a collaborative manner. The review process described encourages the development of specific recommendations that will allow all participants and organizations to benefit through their

application as appropriate. In instances where other partners are not involved in recalls, the Office of Food Safety and Recall undertakes internal reviews, with a view to improving Agency management of food emergencies, and thus reducing risk for Canadians.

**Health Canada's overall comments:** Health Canada's review of this incident helped to identify areas for further improvement in the management of food-borne disease outbreaks, and the lessons learned are being applied. The experience of the episode has also contributed to the development of a national surveillance strategy, and the government has since announced, in the 1999 Budget, a significant investment in food safety.

**Canadian Food Inspection Agency's overall comments:** The Canadian Food Inspection Agency is committed to enhancing the effectiveness of Canada's food safety system and improving on the progress made in recent years to consolidate the various inspection systems into a single agency. This includes management of food-borne disease outbreaks. As noted in its responses to the preceding recommendations, the Agency has implemented changes to its management and operating procedures to address the concerns raised in this chapter.

The Agency successfully managed 257 food recalls in 1998-99, compared with 165 the previous year. Many of these recalls involved a number of federal, provincial and municipal agencies. This multi-jurisdictional process plays a significant role in protecting the health of Canadians. The Canadian Food Inspection Agency is committed to working with its partners to contribute to safe food and to protect Canadian consumers.





## About the Audit

### Objectives

The objective of the audit was to assess the adequacy of the management of a food-borne disease outbreak by Health Canada and the Canadian Food Inspection Agency, in collaboration with other jurisdictions.

### Scope

The audit examined a 1998 nation-wide outbreak of food-borne disease and how it was managed by Health Canada and the Canadian Food Inspection Agency, in collaboration with provincial and local health authorities. Specifically, we examined the activities related to the identification and communication of the outbreak, the investigation to determine its source and cause, the recall and removal of the contaminated food product, and the post-outbreak review. We had extensive discussions with departmental staff at Health Canada and officials at the Canadian Food Inspection Agency as well as selected provincial health officials directly involved in the investigation and control of the outbreak.

### Criteria

We expected that:

- all participants would clearly understand the roles and responsibilities of Health Canada and the Canadian Food Inspection Agency in the event of a food-borne disease outbreak;
- documented protocols and procedures would exist that indicate clearly what each participant should do when a national or interprovincial outbreak of food-borne disease occurs;
- Health Canada's surveillance systems for monitoring diseases would enable it to collect, analyze and disseminate all information necessary to help anticipate, prevent and respond to food-borne disease outbreaks;
- all participants involved in managing and investigating an outbreak would work together, share information, and act quickly to protect the health of the public; and
- all participants would contribute to, and learn from, post-outbreak reviews.

### Audit Team

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