A survey of the approach taken when dealing with cases of suspected food poisoning or gastrointestinal infection

Food Safety Authority of Ireland in collaboration with the Public Health Infections Working Group and the Environmental Health Officers Working Group

September 1998
FOREWORD

Foodborne illness is a significant public health problem in Ireland with notifications of food poisoning continuing to rise annually. It is therefore important that cases of foodborne disease are thoroughly investigated so that the sources of infection, the vehicles of transmission and factors contributing to illness are identified. This information is important to ensure appropriate control and preventative measures.

A range of public health professionals is charged with responding to sporadic cases of foodborne illness. This survey outlines that public health specialists, environmental health officers, area medical officers and public health nurses are all involved in case ascertainment. General Practitioners, laboratories and the public play a key role in reporting cases. When a case or an outbreak occurs, all public health professionals must work together to efficiently and effectively minimise the number of illnesses and prevent deaths. A lack of communication or a misunderstanding of each other's role in a particular situation may reduce the effectiveness of the Health Boards' response.

Identification and investigation of foodborne illness often begins at the local community level. However, illnesses extend over county and health board boundaries and many foods or food ingredients are processed or produced in another county or country. As a national body, the Food Safety Authority of Ireland (FSAI) shares with the health boards the responsibility for protecting the health of their residents. To meet its responsibility the FSAI is currently co-ordinating the establishment of communication networks throughout Ireland by developing multidisciplinary teams of public health professionals, particularly through the establishment of zoonoses committees.

In tandem with this initiative on sporadic cases, the FSAI, in collaboration with the health boards and other involved agencies is developing a national code of best practice for the management of outbreaks of foodborne illness. This code will be published later this year and its primary aim is to assist in the effective control and investigation of local outbreaks as well as help improve the quality of data collected nationally.

This survey outlines that various practices are already established for the investigation and exchange of information about day-to-day occurrences of apparently sporadic cases of foodborne illness. Several approaches may be equally effective and what is appropriate in one Health Board or Community Care Area may not be so in another. However, it is important that a thorough approach is agreed so that all sporadic cases that may be the index that uncovers an outbreak are brought to the attention of the public health professionals.

The continuing rise in foodborne illness, new pathogens, new food products, increasing antimicrobial resistance among foodborne pathogens and the diverse range of imported foods oblige us all to work together to improve and expand foodborne disease surveillance as well as develop our communication networks. The favourable response to the development of a standard approach nationally that is indicated by this survey suggests that it is a good idea.

Dr Patrick G. Wall
Chief Executive
Food Safety Authority of Ireland
ACKNOWLEDGEMENTS

I would like to thank all the public health professionals for taking the time to respond to this survey. The survey describes current practice and highlights aspects that the professionals consider priorities for improvement. This survey particularly highlights the need for an expanded team approach amongst public health professionals since they all have the same goal.

A range of public health professionals is involved in reducing the risks of foodborne disease thus enhancing public health. They have all generously responded to the questionnaire outlining their current experiences in investigating human gastrointestinal infections and intoxications in Ireland.

Special thanks to my colleagues in the Food Safety Authority of Ireland, to Dr Cliodhna Foley-Nolan (Public Health Infections Working Group) and Mr Frank Menton (Environmental Health Officers Working Group) for help during this project.

Benvon Cotter
Food Safety Authority of Ireland
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ABSTRACT

National guidelines for the management of apparently sporadic cases of acute foodborne illness do not exist. A number of public health professionals are involved in investigating and reporting sporadic cases and outbreaks of foodborne disease but their roles and responsibilities can differ from region to region. The aim of this study was to document and to evaluate the current practice in the routine investigation and follow-up of foodborne diseases. A questionnaire was designed and a survey conducted which targeted a range of public health professionals. There were fifty respondents from the eight Health Board regions.

The survey results indicate that the key objective of the public health professional, when collecting data on suspected cases of food poisoning, was to prevent secondary spread. Laboratory reports and complaints from the public were the most helpful information sources in the routine detection of food poisoning cases. 75% of respondents do not wait for laboratory confirmation before investigating sporadic cases of suspected food poisoning but 74% reported that they often receive a laboratory report prior to receiving a statutory notification. Unconfirmed cases that are associated with a laboratory-confirmed case are included by 30% of respondents in their returns to the Department of Health and Children.

With regard to data collection, 76% of respondents use a standard form but these forms vary from Health Board to Health Board. 94% of respondents take a food history of cases of suspected food poisoning and 96% of these include details of the food establishments involved. According to 62% of respondents, the number of days included in their food history is three. Home visits and telephone interviews are the two most common methods employed in data collection. Furthermore, 50% of respondents noted that their Department did not have an agreed time scale for contacting cases when investigating sporadic cases of food poisoning. Where an agreed time scale was in operation, the time scale was 1 day in 81% of cases. 59% of cases reported that their Department never provides immunoglobulin to close contacts of Hepatitis A cases. In the vast majority of cases (94% of respondents) there is no policy outlining criteria for GPs on when to take faecal specimens.

It was found that 94% of respondents are in favour of a standard national system for collecting and analysing data on cases of food poisoning and the same number are also interested in piloting a new report form for the collection of data on foodborne disease cases.

Additional comments offered by respondents emphasised the need for more complete and rapid reporting. Particularly important was the need for improved communication and teamwork among the various health professionals within and between Health Boards in case investigation. Efficient collation of a limited data set at Health Board and national level was also seen as important.

As a result of the overwhelming request by all public health professionals for a standard report form and a protocol for the investigation of sporadic cases of food poisoning, the FSAI, along with the relevant public health professionals hope to develop a standard report form for national use. The aim is to provide an optimal approach for use locally and to allow analysis at a national level. National guidelines for outbreak investigation are also being developed and will be disseminated in late 1998.
1. INTRODUCTION

Epidemiological data on foodborne disease is needed to inform authorities about the nature and extent of foodborne illness, for the early detection of foodborne disease outbreaks and for the planning, implementation and evaluation of food safety programmes. At present no standard national approach to gathering and interpreting data exists.

Therefore, a study of the foodborne disease reporting mechanisms in Ireland was undertaken by the Food Safety Authority of Ireland in collaboration with the Public Health Infections Working Group and the Environmental Health Officers Working Group. The principal objective was to document and evaluate current practice in investigation and follow-up of foodborne diseases in Ireland.
2. METHOD

A questionnaire was prepared comprising of 19 questions that requested information on the approach taken when dealing with cases of suspected food poisoning or gastrointestinal infection (Annex 1). The survey questionnaires were administered by post to Public Health Specialists, Environmental Health Officers and Directors of Community Care Area Public Health Doctors working within the eight Health Board regions. The results of the questionnaire were analysed using Epi Info* and are presented here according to the order of the questionnaire.

3. RESULTS AND ANALYSIS

3.1 SECTION A: Administrative Details

This section of the report concerns the collection of administrative details from the respondents. The number of survey responses was 50. This was made up of 26 Principal Environmental Health Officers, 17 Community Care Area Public Health Doctors and 7 Public Health Specialists from the 8 Health Boards. The representations of each Health Board in the survey are illustrated in Figure 1. Responses from Environmental Health Officers represented 52% of survey returns and the remainder was made up of Public Health Specialists and of Community Care Area Public Health Doctors.

Figure 1 illustrates the number of responses from each Health Board.

Figure 1. Representation of each Health Board in survey
3.2. SECTION B: Objectives of investigating cases of food poisoning or gastrointestinal infection

Question 1: *Indicate your Department’s objectives when collecting data on suspected cases of food poisoning or gastrointestinal infection*

It is important to establish the particular objectives of a Department when collecting data on suspected cases of food poisoning or gastrointestinal infection. The objectives suggested in the questionnaire were as follows:

- Good Practice;
- To **detect outbreaks** of food poisoning or gastrointestinal infection;
- To prevent spread of food poisoning by identifying **source** of contaminated food;
- To **monitor trends** in food poisoning notifications;
- **Identify risks** contributing to food poisoning or gastrointestinal infection;
- To better understand the **epidemiology** of foodborne disease/gastrointestinal infection;
- To **evaluate** the **control** measures;
- To **educate** the public;
- To prevent **secondary spread** by advising on safety precautions.

The results are presented in Figure 2.

**Figure 2. Objectives of investigating cases of food poisoning**

![Graph showing objectives]

**Objective**
- secondary spread
- source
- detect outbreaks
- identify risks
- good practice
- educate
- monitor trends
- epidemiology
- evaluate control

**Affirmative Number of Replies**

<table>
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<th>Objective</th>
<th>Affirmative Number of Replies</th>
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<tr>
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<td>30</td>
</tr>
<tr>
<td>good practice</td>
<td>45</td>
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<tr>
<td>educate</td>
<td>35</td>
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<td>monitor trends</td>
<td>30</td>
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<tr>
<td>epidemiology</td>
<td>30</td>
</tr>
<tr>
<td>evaluate control</td>
<td>25</td>
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</tbody>
</table>
The majority of respondents ranked prevention of secondary spread of foodborne illness as the main objective. Many Environmental Health Officers included 'other' objectives such as the education of food handlers, the investigation of breaches of food legislation and the improvement of hygiene standards in general.

3.3 SECTION C: Receipt of reports on cases of food poisoning

Question 2: Indicate if your department receives direct information on sporadic cases of food poisoning or gastrointestinal infection from the following sources

- GPs by post or fax;
- Laboratory by post / phone or fax;
- Hospital clinician;
- Patient / family of case;
- Employer of case;
- Member of the public;
- Other departments;
- Other sources.

The laboratory is described as the most frequent source of direct information on sporadic cases of food poisoning or gastrointestinal infection. Figure 3 and Figure 3a (Annex 2).

Public Health Doctors indicated that laboratory reports were the most frequent source of information on sporadic cases of acute foodborne illness. Statutory notifications from GPs were the next most frequent source. The Environmental Health Officers reported that other departments, GPs and members of the public are important (Figure 4).

Respondents mentioned a variety of other sources. These sources included the following: solicitor, public health nurse, school principal and food proprietor.
Figure 3. Sources always providing information on sporadic cases of food poisoning

![Bar chart showing sources of information.

Figure 4. Frequency of receipt of information sources on sporadic cases of acute foodborne illness to EHOs and Doctors

![Bar chart showing frequency of receipt of information.

Legend:
- □ Never
- □ Sometimes
- ■ Always
Question 3: Does your department wait for laboratory confirmation before investigating sporadic cases of suspected food poisoning/gastrointestinal infection?

75% of respondents stated that their departments would investigate a suspected case of acute foodborne disease before laboratory confirmation was available.

Question 4: In your experience, which of the following information sources have been most helpful in detecting outbreaks of food poisoning?

Those surveyed were asked to rank the following in order of importance:
- Statutory Notifications,
- Laboratory Reports,
- Complaints from members of the public

Laboratory reports and complaints from members of the public were ranked highly (Figure 5) and statutory notifications were much less relied upon.
Figure 5. Sources of information described as "most helpful" in detecting outbreaks

The responses to these questions regarding information sources on sporadic cases indicate that a variety of disparate sources are found helpful while the normal statutory notification system is not heavily relied on as a timely information source. This would indicate that there is an immediate need to improve reporting channels between all those involved.
Question 4a: *Do you often get a laboratory report before a statutory notification?*

In order to determine the current primary reporting channels, those surveyed were asked whether they often receive a laboratory report before a statutory notification and if so, how frequently this happens. Significantly, 74% of respondents often receive laboratory reports before statutory notifications (Figure 6).

*Figure 6. Frequent Receipt of a Laboratory Report Prior to Statutory Notification*
Question 5: Who in your area investigates cases of food poisoning or gastrointestinal infection?

This question relates to where the responsibility lies with respect to the investigation of cases of suspected food poisoning or gastrointestinal infection.

Environmental Health Officers and Area Medical Officers are usually involved in the investigation of cases of suspected food poisoning or gastrointestinal infection whereas the Public Health Specialists and Public Health Nurses are only involved some of the time (Figure 7).

Figure 7. Frequency of involvement of public health professionals in the investigation of food poisoning

[Bar chart showing the frequency of involvement of different categories of health professionals, NURSES, AMOs, EHOS, and PHS, with different shades indicating never, sometimes, and always.]

Category of health professional

Frequency of involvement
There are some differences in perception of the frequency of involvement of Area Medical Officers and Environmental Health Officers in outbreak investigation. The background of the respondents influences these perceptions. (Figure 8).

**Figure 8.** Differing perceptions of the frequency of involvement of EHOs and AMOs in the investigation of foodborne illness, according to respondents' profession (EHO or Doctor)
3.4 SECTION D: Investigation of sporadic cases of food poisoning or gastrointestinal infection

**Question 6:** Indicate if the following cases of sporadic food poisoning or gastrointestinal infection are investigated by your department

This question relates to the types of infection that would be routinely investigated. Investigation of VTEC O157 and Salmonellosis were considered important whereas infections resulting from viruses - Viral Gastroenteritis, SRSV, Rotavirus - were considered less important. (Figure 9 below and Figure 9a Annex 2).

**Figure 9. Numbers reporting that they always investigate sporadic cases of food poisoning according to specific pathogens**

![Bar chart showing the number of responses for different pathogens](image-url)
Question 7: Are ‘presumed’ cases (clinical diagnosis only), when associated with a laboratory confirmed case, included in the returns to the Department of Health?

30% of respondents report that they include unconfirmed or suspected cases (who are associated with a laboratory confirmed case) in their returns to the Department of Health and Children (Figure 10).

Figure 10. Percentage of respondents who stated that they report cases without laboratory confirmation to the Department of Health, if these cases are associated with a laboratory confirmed case.
Question 8 Does your department have a standard data collection form(s) for investigating cases of food poisoning? If yes, indicate the types of data collected on sporadic cases of food poisoning.

76% of respondents have a standard data collection form in their department for investigating sporadic cases of food poisoning but these forms vary with Health Boards. The detail covered in such forms also varies considerably.

The type of data usually collected in relation to sporadic cases of food poisoning is outlined in Figure 11. The following details usually appear on standard forms: Address, Personal Details, Clinical Details, Household Contacts (i.e. health status and occupation), Admission to Hospital, Occupational Details, School/Nursery, Travel Details, Water. Data on contact with animals, defective hygiene, ethnic origin or sports was collected by only some of the respondents.

Regarding food eaten prior to onset of illness, it was asked if details of food establishments are included. 96% of respondents said that they obtain details of the food establishments involved.

Figure 11. Type of data collected on sporadic cases of food poisoning (n=50)

![Bar chart showing the types of data collected on sporadic food poisoning cases.](image)

Question 8a relates to food history and asked whether or not a food history is taken, and if so, how many days are included. 94% indicated that a food history is taken requesting details of all meals and all foods eaten prior to falling ill (Figure 12).
Practices differ among public health professionals with regard to the length of time covered in food histories. Those registering information on more than 3 days amount to 28%, the majority (62%) include a 3 day history while 10% request information on only the previous 1-2 days.
Figure 13. Number of days included in food history when investigating cases of foodborne illness as reported by respondents
3.5 SECTION E: Methods employed in the investigation of *sporadic* cases of food poisoning/gastrointestinal infection

**Question 9:** *Indicate the methods your department employs in the routine collection of data*

The main method used by departments in the routine collection of data for each pathogen is a home visit. Telephone interviews are conducted less frequently while the postal system is rarely used (Figure 14).

**Figure 14. Methods used in data collection for cases of foodborne illness, according to pathogen (n=50)**
Question 10: Does your Department have an agreed time scale for contacting cases when investigating sporadic cases of food poisoning?

Fifty percent report that there was an agreed time scale in place. Among those that have one in place, 81% report that they react within 1 day, 15% in 2 days and 4% report a longer reaction time.

Question 11: Does your department use computer technology to help with the collection, collation and analysis of data on sporadic cases of food poisoning?

Computer technology is under-utilised in the investigation of sporadic cases of food poisoning. 82% of respondents do not use computer technology to assist in the collection, collation or analysis of data. Among the small number (18%) using computer systems, the main computer package used is Epi Info. One respondent uses Co Surv (a surveillance package) and another uses Microsoft Access (a database package). (Figure 15).

Figure 15. Type of Computer System/Type Used

![Graph showing type of computer system used]

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<thead>
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<th>Type of Computer Package Used</th>
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<tbody>
<tr>
<td>Access</td>
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Responses
3.6 SECTION F: Responsibility for routinely investigating cases of food poisoning or gastrointestinal infection

Question 12: In your Health Board who has the responsibility for the investigation and control of food poisoning or gastrointestinal infection?

This question related to where the responsibility lies on a day to day basis in the Health Boards in relation to the investigation and control of food poisoning or gastrointestinal infection. The questionnaire listed four positions: CEO, Director of Public Health, Principal Environmental Health Officer and Director of Community Care (Acting). A variety of responsibilities were identified and shared amongst the Director of Public Health, Principal EHO, DCC (Acting) but the CEO is not directly involved in the day to day investigation of food poisoning (Figure 16).

Figure 16. Responsibility for routine investigation of foodborne illness

Results indicate that perceptions vary greatly among public health professionals about who is responsible for the investigation of acute foodborne illness. Almost all public health doctors report that responsibility lies with the DCC or DPH whereas many EHOs also noted the responsibility of the PEHO (Figure 17).
Figure 17. Differing perceptions of responsibility for investigation of acute foodborne illness

3.7 SECTION G: Actions taken as a result of routine investigation of sporadic food poisoning or gastrointestinal infection

Question 13 Please indicate what action your department takes to prevent transmission.

This question relates to the interventions arising from the investigation of cases. Those surveyed were asked to indicate what actions their department routinely takes in the investigation of cases and in the prevention of transmission of disease. During the investigation of VTEC, Salmonella, Typhoid and Paratyphoid, most respondents included the following: exclusion from school/work, inspection of food premises and submission of food/water samples for investigation in their routine investigations. These were carried out to a lesser extent for other bacterial infections and parasites and to an even lesser extent for cases of viral gastroenteritis.

Education of contacts was reported as high for most bacterial and parasitic disease but to a much lower extent for cases of viral gastroenteritis where person to person spread is particularly important (Figures 18-21).
Figure 19. Examination of food premises was taken as a result of routine investigation.

Figure 18. Examination of food premises was taken as a result of suspected food poisoning.
No. of responses

Figure 2.1. Education of cases/contacts as an action taken in sporadic cases

Figure 2.2. Submission of Food/Water Samples as an action taken in routine
Question 14: Does your department provide human immunoglobulin to close contacts of Hepatitis A cases?

The public health professionals were asked whether the Health Boards provide human immunoglobulin to close contacts of Hepatitis A cases. A lack of consistency in approach is indicated from the results. Only 11% of respondents always provide it to close contacts while 30% provide it on an occasional basis and a high percentage (59%) never provide it to close contacts of Hepatitis A cases (Figure 22).

Figure 22. Percentage of respondents who provide human immunoglobulin to close contacts of Hepatitis A cases
Question 15: Do you have a policy (guideline) for General Practitioners on when to take faecal specimens?

This question relates to GP practice concerning clinical sampling. Almost all respondents (94%) indicated that there was no policy (set of guidelines) for General Practitioners on the submission of clinical specimens for analysis when a person presents with symptoms of foodborne illness.

3.8 SECTION H: Resource Inputs

Question 16: Please estimate the direct resources employed in investigating sporadic cases of food poisoning or gastrointestinal infection.

The responses to this question were varied. The time spent in an Environmental Health Department for the investigation of sporadic cases of food poisoning ranged from 2-57 hours per week of total staff time with a range from 2-30 hours per week of EHO time. Three Environmental Health Officers reported that they spend from 5-8 hours per case with an additional two hours spent by support staff. The Public Health Doctors reported that they spend approximately 2 hours per case.

Question 17: Would your department be in favour of having a national system for collecting and analysing data gathered by you on cases of food poisoning?

An overwhelming response of 94% would welcome a national system. No respondent disagreed with the idea and only 6% were unsure (Figure 23).

Figure 23. Interest in having a national system
Question 18: Would your department be interested in piloting a new data collection form on food poisoning? The information could be analysed centrally to provide improved surveillance of foodborne disease.

94% said that they were interested in piloting a new data collection form on food poisoning.

Question 19: If you have any further comments or ideas on how sporadic or apparently sporadic cases of food poisoning/gastrointestinal disease are, or should be, dealt with, we would be grateful for your contribution.

Several recurring themes emerged in the individual comments offered in response to this open question. The most emphasised were as follows:

1. The need for improved notification / reporting
   This focused on the need to increase the level of notification and taking of specimens by GPs. Guidelines for GPs were suggested as necessary by some respondents. One respondent suggested media publicity campaigns to encourage individuals with possible food poisoning to report their illness.

   More rapid reporting to allow greater success in subsequent investigation was considered essential. The usefulness of laboratories as a source for reporting was evident but several suggested that this should be more formalised and made a statutory obligation.

   Environmental Health Officers mentioned the delays in their receipt of laboratory reports, even when the reporting to the public health doctors within their Health Board was efficient. Environmental Health Officers requested more rapid access to these reports.

2. Defining roles and relationships and improved teamwork
   The need to define roles and responsibilities of the different professionals involved in the investigation of acute foodborne disease was repeated in many questionnaires. Several stated that this should be defined at national level.

   Improved communication and co-operation at local level was also described as a priority. No respondent suggested that the individuals should work more independently of each other.

   Many Environmental Health Officers indicated that they felt under-utilised in the investigation of foodborne disease. They described delays in the communication of information concerning reporting of cases as an important factor in limiting their effectiveness. Some felt that they should be responsible for all aspects of food history rather than duplication of this role with public health physicians.
3. Collation and analysis of data
Most respondents actively supported collation of data at a national level. Some regarded this as an urgent necessity. The need to standardise procedures to improve the efficiency of data collection was described. However, one respondent felt that the focus should be more on collation at a regional level and one indicated that only a limited amount of data collected from individual cases should be collated nationally.

4. Recent progress
Several respondents described recent progress in their regions. Initiatives such as the development of local guidelines and the formation of multi-disciplinary teams and zoonoses committees were mentioned, as well as improved cooperation and enhanced reporting.
5. DISCUSSION

The questionnaire was sent to 29 Environmental Health Officers and 12 Public Health Specialists with extra copies included for Community Care Area Public Health Doctors. Fifty questionnaires were completed and returned to the FSAI and there were representatives among the 50 from each Health Board. It describes current practice and highlights aspects that the respondents consider priorities for improvement. The main findings are as outlined below.

4.1 Objectives
The main objectives in investigation of cases of acute foodborne illness are to detect the source and to allow prevention of further cases.

4.2 Reporting of cases / flow of information
Laboratory reporting and then reporting by General Practitioners are the most frequent sources of information for Public Health Doctors whereas reports from other departments, General Practitioners and the public are important for Environmental Health Officers. This difference presumably reflects the flow of information from laboratories to doctors in the public health departments and from them to Environmental Health Officers.

Direct reporting by members of the public was viewed as more important for detecting outbreaks than for the detection of sporadic cases. This suggests that we should consider ways of improving reporting and investigation of sporadic cases in terms of outbreak detection but clearly not to rely solely on this method. Making maximum use of reports from the public and seeking other possible sources of information on outbreaks should be considered.

4.3 Roles of different professionals
Environmental Health Officers and Area Medical Officers were described as being most often involved in the routine work of investigation of cases while Community Care Area Public Health Doctors are most often described as being responsible for the process. EHO respondents also emphasised the responsibility of the Principal Environmental Health Officer.

4.4 Current practice in case investigation
Most respondents reported that almost all of the listed pathogens would be routinely investigated, although bacterial agents appear to be prioritised over parasitic and viral ones. Investigation occurs promptly following receipt of a report. It usually involves a home visit with telephone contact also being important. The sole use of telephone contact was sometimes preferred in the investigation of viral gastroenteritis. Seventy six percent of respondents work in departments that have a standard data collection form. The collection of a
broad range of demographic and exposure information seems usual (Figure 9) even by those who do not use standard forms. Exposure histories are usually taken to cover the three day period prior to the onset of symptoms.

4.5 Control measures
Education of cases and contacts as well as exclusion of cases from high risk activities are described as routine parts of an infection control strategy by most respondents. Use of immunoglobulin prophylaxis for close contacts of Hepatitis A cases is very low.
6. CONCLUSION

Currently there is a reasonable approach to the investigation of apparently sporadic cases of foodborne disease. There is potential for improvement in certain areas.

Priority areas for development suggested from the results of this survey are:
1. Clarification of the roles and responsibilities of those involved.
2. Development of laboratory reporting on a more formal and standardised basis.
3. Expanded communication and teamwork at a local, regional and national level.
4. Development of optimal and standardised procedures for the investigation of reported cases.
5. Efficient collation and analysis of data at a regional and national level.
6. Studies to clarify the most useful methods for outbreak detection and application of the results.
7. Increased laboratory analysis of selected cases to clarify the importance of viral and parasitic acute foodborne illness in Ireland.
8. Increased sampling and reporting by General Practitioners.
National Disease Surveillance Unit

At the time of the survey, the NDSU had not been established. It will have a pivotal role in the development of effective laboratory reporting and developing the case for making laboratory reporting of certain pathogens a statutory requirement.

Electronic Reporting

The American Public Health Laboratory Information System is being piloted in two Health Boards, the Southern and South Eastern. University College Hospital, Cork and Ardkeen Hospital, Waterford have been effectively linked to the local public health medicine departments and to the FSAI and data is flowing freely. The pilot project is to be evaluated shortly.
Annex 1

Questionnaire Survey

Approach taken when dealing with cases of suspected food poisoning or gastrointestinal infection

This study aims to evaluate the present practices for dealing with routine notifications of food poisoning.

- All information collected is strictly confidential and will be processed on computer in accordance with the Data Protection Act 1988.
- All questions should be answered by ticking the boxes, or by writing in the spaces provided.
- Please feel free to add extra comments to your answers in the margins or the space provided at the end of the questionnaire.
- If any questions are not clear or you have any queries please contact:

Benvon Cotter / Fiona Mac Mahon
Telephone: 01 817 1300
E-mail: info@fsai.ie

Thank You For Your Co-operation
Food Safety Authority of Ireland in Collaboration with the Public Health Infections Working Group and The Environmental Health Officers Working Group
### SECTION A: Administrative Details

- Health Board: 
- Department: 
- Name & Address: 
- Contact Tel. No: 
- Fax No: 
- E-mail address: 

### SECTION B: Objectives of Investigating Cases of Food Poisoning or Gastrointestinal Infection

**Q.1 Please indicate your Department's objectives when collecting data on suspected cases of food poisoning or gastrointestinal infection (Please tick appropriate box)**

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<thead>
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<th>OBJECTIVE</th>
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<tr>
<td>To prevent spread of food poisoning by identifying source of contaminated food.</td>
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<td>To monitor trends in food poisoning notifications.</td>
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<td>To identify risk factors contributing to food poisoning or gastrointestinal infection.</td>
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<tr>
<td>To better understand the epidemiology of foodborne disease / gastrointestinal infection.</td>
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<td>To evaluate the control measures.</td>
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<td>To educate the public.</td>
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<tr>
<td>To prevent secondary spread by advising on safety precautions.</td>
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If **OTHER**, please specify: ________________________________
Q.2 Please indicate if your department receives direct information on *sporadic* cases of food poisoning or gastrointestinal infection from the following sources:

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<th>ALWAYS</th>
<th>SOMETIMES</th>
<th>NEVER</th>
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</tr>
<tr>
<td>Hospital Clinician</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Patient / Family of case</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Employer of Case</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Member of the Public - case directly</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other Department(s)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

If OTHER, please specify:—

Q.3 Does your department wait for laboratory confirmation before investigating sporadic cases of suspected food poisoning/gastrointestinal infection?

Yes ☐ No ☐
Q.4 In your experience, which of the following information sources have been most helpful in detecting *outbreaks* of food poisoning?
(Please rank order of importance from 1 to 4, where 1 = most helpful source.)

- Statutory Notifications
- Laboratory Reports
- Complaints from Members of the Public
- Unsure

If OTHER, please specify: ________________________________

Q4a. Do you often get a laboratory report before a statutory notification?

- Yes ☐
- No ☐

If yes, how frequently? ________________________________

Q5. Who in your area investigates cases of suspected food poisoning or gastrointestinal infection?

<table>
<thead>
<tr>
<th>INVESTIGATOR</th>
<th>ALWAYS</th>
<th>SOMETIMES</th>
<th>NEVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health Nurses</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Environmental Health Officers</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Public Health Doctors</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Area Medical Officers</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Which cases are investigated by whom?

______________________________
Q.6 Please indicate if the following cases of sporadic food poisoning or gastrointestinal infections are investigated by your department.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>ALWAYS</th>
<th>SOMETIMES</th>
<th>NEVER</th>
<th>(Please give reason e.g. lack of resources, no perceived public health benefit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspected food poisoning</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Typhoid and Paratyphoid</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Shigellosis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><em>Campylobacter enteritis</em></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><em>Clostridium perfringens</em></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Cryptosporidiosis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><em>Escherichia coli enteritis</em> EPEC / ETEC / EIEC</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>VTEC O157</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Giardiasis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Listeriosis</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
</tr>
<tr>
<td>Salmonellosis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Staphylococcal food poisoning</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Suspected Viral Gastroenteritis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>SRSVs</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Chemical food poisoning</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Yersiniosis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other (including Scombrotoxin fish poisoning, <em>Bacillus cereus</em>, paralytic shellfish poisoning)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q.7 Are 'presumed' cases (clinical diagnosis only) when associated with a laboratory confirmed case included in the returns to the Department of Health?

Yes ☐ No ☐ Sometimes ☐ Don't Know ☐

Q.8 Does your department have a standard data collection form(s) for investigating sporadic cases of food poisoning?

Yes ☐ No ☐

*If YES, could you please send me a copy of this (these) standard form(s)*

Please indicate the types of data your authority collects on sporadic cases of food poisoning:

<table>
<thead>
<tr>
<th>DATA COLLECTED</th>
<th>STANDARD DATA COLLECTION FORM (i.e. for all food poisoning cases)</th>
<th>ADDITIONAL INFORMATION COLLECTED ON CERTAIN PATHOGENS. (Please specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Details</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Address</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Clinical Details</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Admission to Hospital</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Household Contacts (i.e. health status and occupation)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Hygiene Practices in the Home</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Occupational Details</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Ethnic Origin of Case</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>School / Nursery</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Travel Details</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Contact with Animals</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Water Supply</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Participation in Water Sports</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q8a. Is a food history taken requesting details of all meals and all foods eaten prior to falling ill?

Yes ☐ No ☐ Sometimes ☐

If yes, how many days are included? Please circle 1 2 3 4 5 6 7 8 9 10

Is a food history taken requesting details of only certain foods, or certain meals, e.g. high risk foods, meals from take-away or eaten outside home?

Yes ☐ No ☐ Sometimes ☐

If yes, how many days are included? Please circle 1 2 3 4 5 6 7 8 9 10

8b. Regarding food eaten prior to onset of illness, are details requested of food establishments involved?

Yes ☐ No ☐ Sometimes ☐
Q.9 Please indicate the methods your department employs in the routine collection of data. (Please tick all boxes that apply for each pathogen)

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>TEL INTERVIEW</th>
<th>POSTAL QUESTIONNAIRE</th>
<th>HOME VISIT</th>
<th>NO CASES IDENTIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspected food poisoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typhoid and Paratyphoid</td>
<td></td>
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</tr>
<tr>
<td>Shigellosis</td>
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<tr>
<td>Hepatitis A</td>
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<tr>
<td>Campylobacter enteritis</td>
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<tr>
<td>Clostridium perfringens</td>
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<tr>
<td>Cryptosporidiosis</td>
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<tr>
<td>Escherichia coli enteritis-</td>
<td></td>
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<tr>
<td>EPEC / ETEC / EIEC VTEC 0157</td>
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<tr>
<td>Giardiasis</td>
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<tr>
<td>Listeriosis</td>
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<tr>
<td>Salmonellosis</td>
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</tr>
<tr>
<td>Staphylococcal food poisoning</td>
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</tr>
<tr>
<td>Suspected Viral Gastroenteritis</td>
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<tr>
<td>SRSV</td>
<td></td>
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<tr>
<td>Rotavirus</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Chemical food poisoning</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Yersiniosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (including Scombrotoxin fish poisoning, Bacillus cereus, paralytic shellfish poisoning)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q.10 Does your Department have an agreed time scale for contacting cases when investigating sporadic cases of food poisoning?

Yes ☐ No ☐

If YES, please indicate the timescale in days: ____________________________

Q.11 Does your department use computer technology to help with the collection, collation and analysis of data on sporadic cases of food poisoning?

Yes ☐ No ☐

If YES, please indicate which system / computer type used: ____________________________

SECTION F: Responsibility for routinely investigating cases of food poisoning or gastrointestinal infection

Q.12 In your Health Board who has the responsibility for the investigation and control of food poisoning or gastrointestinal infection?

CEO ☐
Director of Public Health ☐
Principal EHO ☐
DCC (Acting) ☐

If other staff, please specify: ____________________________
SECTION G:  Actions taken as a result of routine investigation of sporadic food poisoning or gastrointestinal infection

Q.13 Please indicate what action your department takes to prevent transmission.

<table>
<thead>
<tr>
<th>ACTION TAKEN / ORGANISM</th>
<th>Exclusion of high risk group from work/school if showing symptoms</th>
<th>Education of Cases/Contacts</th>
<th>Inspection of Food Premises</th>
<th>Submission of Food/Water Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A       S       N</td>
<td>A       S       N</td>
<td>A       S       N</td>
<td>A       S       N</td>
</tr>
<tr>
<td>Suspected food poisoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typhoid and Paratyphoid</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Shigellosis</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Hepatitis A</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campylobacter enteritis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clostridium perfringens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptosporidiosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escherichia coli enteritis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPEC / ETEC / EIEC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VTEC O157</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giardiasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listeriosis</td>
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<tr>
<td>Salmonellosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staphylococcal food poisoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspected Viral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>SRSV</td>
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<tr>
<td>Rotavirus</td>
<td></td>
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<td></td>
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<tr>
<td>Chemical food poisoning</td>
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<td></td>
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</tr>
<tr>
<td>Yersiniosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (including scombrotxin fish poisoning, Bacillus cereus, paralytic shellfish poisoning)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q.14 Does your department provide human immunoglobulin to close contacts of Hepatitis A cases?

Always □ Sometimes □ Never □

Q.15 Do you have a policy (guideline) for General Practitioners on when to take faecal specimens?

Yes □ No □

SECTION H: Resource Inputs

Q.16 Please estimate the direct resources employed in investigating sporadic cases of food poisoning or gastrointestinal infection.

<table>
<thead>
<tr>
<th>RESOURCE INPUT</th>
<th>NUMBER OF STAFF EMPLOYED</th>
<th>AVERAGE NUMBER OF HOURS SPENT DEALING WITH SPORADIC CASES OF FOOD POISONING / GASTROINTESTINAL ILLNESS PER WEEK.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerical Staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EHOs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Support Staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Staff</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q.17 Would your department be in favour of having a national system for collecting and analysing data gathered by you on cases of food poisoning?

Yes □ No □ Unsure □

Q.18 Would your department be interested in piloting a data collection form on food poisoning? The information could be analysed centrally to provide improved surveillance of foodborne disease.

Yes □ No □
Q.19 If you have any further comments or ideas on how sporadic or apparently sporadic cases of food poisoning/gastrointestinal disease are, or should be dealt with, we would be grateful for your contribution.

If the following space is insufficient to include your comments, please include them on additional pages.

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________


Please send the completed form to:-
Benvon Cotter / Fiona Mac Mahon,
Food Safety Authority of Ireland,
Abbey Court, Lower Abbey Street, Dublin 1

Once Again Thank You For Your Co-operation
Annex 2

Figure 3a. Sources of information on sporadic cases of food poisoning

- GP post
- GP fax
- Laboratory post
- Lab phone fax
- Hospital
- Patient
- Employees
- Public
- Other

Source of information

Percentage of replies in each category

- never
- sometimes
- always
Suspected food poisoning

Typhoid/Paratyphoid
Shigella
Hepatitis A
Campylobacter
Closstridium perfringens
Cryptosporidium
E. coli
E. coli 0157
Giardia
Listeria
Salmonella
Staphylococcus aureus
Viral gastroenteritis
Small round structured viruses
Rotavirus
Chemical food poisoning
Yersinia
Other

According to pathogen as reported by those responding to FSAI survey 1997-8

Figure 5a. Frequency of investigation of cases of sporadic food poisoning

Frequency of investigation of infections (%)