

Acute Gastroenteritis in Ireland, North and South: Summary Document



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A message from the Chairperson and Project Director, Dr Margaret Fitzgerald

I am very pleased to present this summary document which was commissioned by **safefood**, the Food Safety Promotion Board. This document is the result of the collaboration of general practice, surveillance, public health, food safety and academic public health organisations in Ireland, North and South. It follows the population study of gastroenteritis, which was published in 2003.

Many infections of importance to public health are seen almost exclusively in primary care (e.g. childhood infections, respiratory and diarrhoeal illness). Acute gastroenteritis is a common illness in the community affecting several thousand patients every day with significant morbidity and economic loss, in both Northern Ireland and the Republic of Ireland. However, routine information sources from primary care do not measure the true burden of disease. While clinical notifications from GPs and laboratory reports give some indication of the frequency of the disease, these are known to greatly underestimate the condition. Also, under-reporting of infectious diseases in general practice has been documented.

There are other factors in the GP management of patients with acute gastroenteritis, which were not well understood. These include exposure history, stool checks, treatment and advice, health education, high-risk groups, notification and reporting to public health.

GPs have an important role to play in the management of this condition, and this report highlights the need for further work in developing professional guidance, curriculum support and patient information.

I would like to thank all the members of the Steering Committee, who provided expert guidance for this study, and Dr Elaine Scallan, the Project Co-ordinator, whose tireless efforts ensured that this study was carried out efficiently and smoothly. I also wish to thank **safefood** for their generous support of this work and in particular Dr Thomas Quigley, Director Science and Technical for his insight and advice in relation to the study.

Dr Margaret Fitzgerald
Chairperson and Project Director

Acute Gastroenteritis in Ireland, North and South: Summary Document

Acute gastroenteritis is a common but frequently preventable illness. Infectious acute gastroenteritis can be acquired and spread in a number of ways: through close contact with other infected persons, through direct and indirect contact with infected farm animals or pets, or through consuming contaminated food or water.

safefood's initiative consists of a number of interrelated and complementary studies that together will provide comprehensive information on acute gastrointestinal illness that is needed to inform health policy and preventative measures. In particular, these studies will describe and quantify the magnitude of the problems associated with foodborne-related acute gastrointestinal illness. The initiative involves a number of key stakeholders from Northern Ireland and Republic of Ireland.

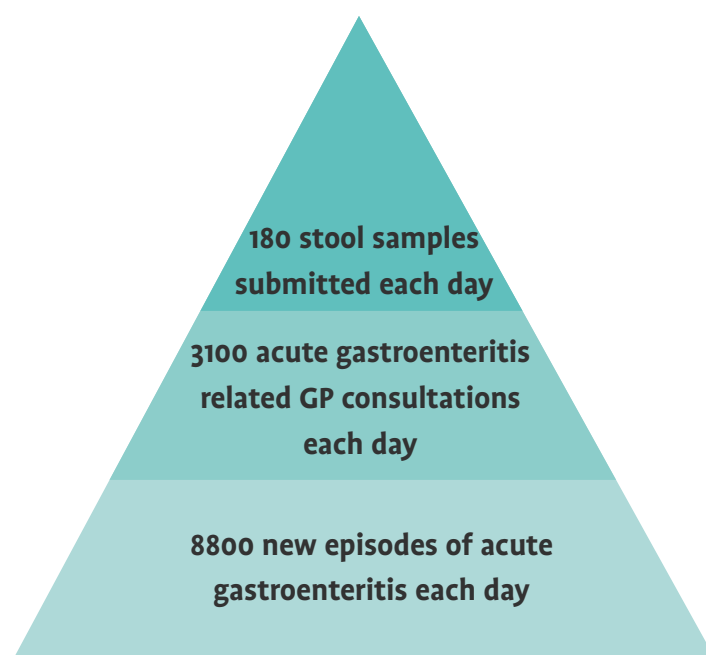
In Ireland, North and South, there are three main sources of information on acute gastroenteritis: routine notifications made by medical practitioners, laboratory reporting, and outbreak surveillance. While these provide useful information, they do not provide a complete picture of the burden of this condition.

Here we will outline the results of two recent studies:

The first of the studies to be undertaken was **Acute Gastroenteritis in Ireland, North and South: A Telephone Survey**. The aim of this study was to estimate the frequency and characteristics of acute gastroenteritis in the community, North and South. The study looked at the health-seeking behaviour of those affected and the impact on work and school attendance.

Method

A random selection of households, North and South, were contacted by telephone and one member of each household was selected to complete the interview. Eighty-four per cent (84.1%) of households contacted participated in the study and almost 10,000 people were interviewed over the 12-month period from December 2000 to November 2001.



Estimated burden per day of acute gastroenteritis in Ireland, North and South.

Key Findings

Out of a total of 9,903 respondents, 394 people reported suffering from acute gastroenteritis in the four weeks prior to interview. This corresponds to 4.5% of the population of Ireland, North and South, or a frequency of 0.60 episodes per person per year. If extrapolated to the entire population on the island, this suggests that there are 3.2 million episodes of acute gastroenteritis each year or 8,800 new episodes per day in Ireland, North and South.

Twenty-nine percent (29.2%) of those with acute gastroenteritis sought medical care, and 98.8% of these made contact with their General Practitioner (GP). Nine percent (9.1%) of those consulting a GP were asked to submit a stool sample for testing and 75% did. Translated into numbers, these findings suggest that in Ireland, North and South, for every 100 persons in the community with acute gastroenteritis, 29 persons consult their GP, and two stool samples are submitted from the community for laboratory testing.

It was estimated that for 17.4% of those with acute gastroenteritis, they or a member of their family had to take time off work due to their illness; 19% had taken time off school or college.

For those who took time off work, the average number of days taken was estimated at 2.7. This amounts to approximately 1.5 million working days lost each year in Ireland, North and South; with €173.5 million or Stg£114 million in lost earnings alone.

This study did not examine in detail the causes of acute gastroenteritis. However, when asked what they thought caused their illness, over half did not know, while 23.3% suspected their illness was due to consuming contaminated food or water, and 17.1% said they had been in contact with an infected person.

Summary of Key Findings	Measure (precision*)
Frequency of acute gastroenteritis in any four-week period	4.5% (4.1–4.9)
Episodes of acute gastroenteritis per person per year	0.60 (0.55–0.66)
Percentage with acute gastroenteritis who:	
• consulted a GP	29.2% (25.2–33.6)
• attended Accident & Emergency	1.3% (0.6–2.9)
• were admitted to hospital	1.8% (0.9–3.5)
• submitted a stool sample	2.0% (1.1–3.8)
• reported taking medication	47.0% (42.4–51.6)
• reported taking antibiotics	7.4% (5.3–10.1)
• reported taking anti-diarrhoeals	17.6% (14.4–21.4)
• took time off work	17.4% (14.2–21.2)
• took time off school/college	19.0% (15.6–22.9)
Average duration of illness for those with acute gastroenteritis	4.0 days (3.5–4.5)

Estimates extrapolated to the population of Ireland, North and South	Number (precision*)
Episodes of acute gastroenteritis	
• new episodes per day	8,800 (8,000–9,500)
• new episodes per year	3.2 million (2.9–3.5)
Days of illness due to acute gastroenteritis per year	12.6 million (10.8–14.5)
Acute gastroenteritis-related GP consultations	
• consultations per day	3,100 (2,600–3,500)
• consultations per year	1.1 million (0.9–1.3)
Acute gastroenteritis-related stool samples submitted	
• submitted per day (from the community)	180 (60–290)
• submitted per year (from the community)	64,000 (21,500–106,500)
Working days lost due to acute gastroenteritis per year	1.5 million (1.1–2.0)
Loss of earnings due to acute gastroenteritis per year	€173.5 million (124.4–222.7)/ £114.0 million (81.7–146.3)
School/college days lost due to acute gastroenteritis per year	1.3 million (1.0–1.7)

*There is a 95% confidence interval for each of the estimates.

The second study undertaken was **Acute Gastroenteritis in Ireland, North and South: A Study of General Practitioners**. The principal aim of this study was to describe general practitioners' management of patients with acute infectious gastroenteritis and to make recommendations for best clinical and public health practice. As the GP is the main health provider and first point of contact for patients, we decided to examine in more detail the burden of disease presenting to GPs and how GPs managed their patients with symptoms of acute gastroenteritis. As in other countries information regarding GP management of this essentially self-limiting illness in Ireland has been limited. From the population study we know that only a fraction of those with acute gastroenteritis are reported through the statutory notification system or through laboratory-based surveillance systems. We also wished to ascertain the outcome of patients who visit their doctor with acute gastroenteritis and their subsequent management. In particular, we wanted to understand what prompts general practitioners to request stool samples and to notify public health.

The specific objectives of the study were to:

- Better understand the burden of acute gastroenteritis in general practice
- Describe GPs' attitudes and practices relating to the clinical management of patients with acute gastroenteritis
- Describe GPs' attitudes toward their role in providing advice to patients with acute gastroenteritis, particularly to those working in high-risk occupations
- Describe GPs' views on the surveillance and notification of certain cases of acute gastroenteritis
- Describes GPs' views on the role of public health in acute gastroenteritis.

Methods

This study employed both quantitative and qualitative research methods, and comprised three phases. In the first phase focus groups and semi-structured interviews were conducted with GPs. In phase two a postal survey of GPs was performed. In the third phase semi-structured interviews with GPs were conducted. The study duration was 18 months. A total of 1,024 GPs in both jurisdictions were surveyed using self-administered postal questionnaires with an overall response rate of 57%.

GPs were asked about the number of consultations of gastroenteritis they conducted in the previous seven days, how often they requested stool samples, how relevant the samples were to patient care, and how transport of clinical specimens was arranged. We also asked how often they reported or notified cases to public health authorities, their treatment practices, and what advice on prevention they gave, especially to high-risk groups.

The postal survey was conducted in the Autumn of 2002. Ethical approval was granted by the Research Ethics Committee of Queen's University, Belfast.

Key findings

The practice profile of GPs North and South differed, with 90% of those in the North in a group practice compared with 63.5% in the South. GPs in the North were more likely to be computerised than their colleagues in the South.

We found that GPs had on average seven consultations for acute gastroenteritis per week accounting for 4.5% of all consultations. This means that a GP could have one or two gastroenteritis related consultations each day, making acute gastroenteritis one of the commonest conditions seen in general practice. Patient telephone consultations were, however, more frequent in the North, accounting for over one-third of all acute gastroenteritis consultations.

GPs observed that children and younger adults are most commonly affected, with toddlers requiring consultation more frequently than infants. GPs considered parental experience as an important factor in determining whether or not children with acute gastroenteritis consulted them. Work, employer requirements and family support were also seen as important reasons for adults seeking medical care.

GPs were almost unanimous in their approach to treatment, with 93% saying they would advise patients to take extra fluids along with continued feeding. GPs said that educating parents about fluid intake was central to the consultation.

There was no consensus about the use of anti-diarrhoeal agents. GPs said that some patients put pressure on them to prescribe them. GPs in the North were less likely to prescribe anti-diarrhoeals than their colleagues in the South. Doctors aged less than 45 years were significantly less likely to use them (28%) compared with older colleagues (44%), and young female doctors (20%) were less likely to use them than young male doctors (46%).

General practitioners rarely use antibiotics in the treatment of patients with acute gastroenteritis. Over 90% of doctors prescribe antibiotics for about one-tenth of all patients presenting with acute gastroenteritis (mostly after consulting with the consultant microbiologist). In view of the high prevalence of gastroenteritis, this still means that significant amounts of antibiotics are being prescribed for what remains a self-limiting illness.

In relation to potential exposures, GPs asked about unsafe foods, recent foreign travel, and contact with other ill persons but were unlikely to ask whether the patient/carer was a food handler or healthcare worker. GPs felt that many patient reports of food poisoning or illness as a result of contaminated food were unfounded.

GPs were selective about when they requested a stool sample and patient history was crucial in informing their decision. Being able to rule out serious conditions was also a factor. Criteria used by GPs when requesting patients to submit a stool sample were similar to those reported in other studies and recommended in practice guidelines. These criteria included the duration of illness, the severity of illness, a suspicion of food poisoning, and recent foreign travel. Only a small number of GPs said they would request a stool sample if the patient was working in a high-risk area, such as in the catering or food manufacturing/processing industry. Most GPs said that patient information on how to provide a stool sample was hard to find, and as a result, specimen containers used by patients were not always appropriate.

In general, GPs agreed that microbiological investigation was unnecessary for most patients presenting with acute gastroenteritis and did not rely on routine stool testing as a rule. GPs did not feel that laboratory results from stool samples greatly affected their clinical management and this was especially so among GPs based in the South. One reason for this was the relatively few positive results. Another was that the patient had usually recovered by the time the result was back. However, if the symptoms were prolonged, having the diagnosis confirmed was a benefit.

Overall, however, when stool samples were taken 51% of GPs in the North agreed that stool results made a difference to their management compared to 65% in the South.

Lack of a clinical specimen collection service resulted in significant difficulties for doctors in getting stool samples to the laboratory. This was a problem confined to the South, as there were dedicated laboratory collection services in the North. Transport was the biggest factor, with two in five (40%) GPs in the South significantly more likely to face difficulty compared with one in six (16.7%) GPs in the North. Rural doctors were especially affected. These doctors were significantly more likely to deliver samples to the laboratory themselves or by means of their patient or practice nurse. In the South, 14% of GPs reported sending stool samples to the laboratory by post compared to 0.03% in the North.

A large proportion of potentially foodborne infections are not notified by GPs to their local public health department. This was more obvious in the South where 16.9% of GPs said they rarely or never notified *Salmonella* compared to 11.3% of those in the North, and 40% of GPs in the South rarely or never notified *Campylobacter* compared to 19.6% of their colleagues in the North. Doctors were reluctant to notify food poisoning without a laboratory diagnosis. The fact that food poisoning was not clearly defined, and that it is hard to determine the mode of transmission means that GPs are more likely to leave these notifications to the laboratories. Doctors were also not clear about the pathways of notification to the Medical Officer of Health or local public health departments.

GPs were uncertain about the benefits of notification overall either to themselves, their patients or the wider community.

GPs were concerned about the impact of notification on patient confidentiality. The majority said they would prefer to be informed first if there was follow up of a case or action by public health doctors.

The importance of GP notifications and how their purpose differs from laboratory reports needs to be properly communicated to GPs if they are to be encouraged to notify.

GPs valued receiving feedback from public health doctors on notified cases or outbreaks in their area and also valued regular printed or email bulletins from public health departments. Overall GPs looked for more feedback.

Summary of Recommendations

A number of recommendations were made in relation to clinical guidelines, laboratory issues and stools check, education and training.

Public Health/Clinical Fellow

The committee recommended that a public health/clinical fellow supported by **safefood**, the Food Safety Promotion Board should be recruited for a 1 - 2 year period as a resource person to work with ICGP/RCGP and public health bodies to develop and implement the recommendations in this report.

Clinical Guidelines

There is a need for a working group facilitated by **safefood** to establish clear guidelines for the use of anti-diarrhoeal agents and antibiotics in the management of acute gastroenteritis in Ireland, North and South.

Better stool and clinical samples transport

Collection services for stool samples and other clinical specimens need to be established in the South as a matter of priority.

Enhanced interface between laboratory and general practitioner

Laboratories should be encouraged to ensure that GPs are aware of the range of diagnostic services they provide for suspected gastrointestinal infection and how to access these services.

Patient information

Patient information leaflets on 'what to do when asked to provide a stool specimen' should be developed. This could be an initiative between **safefood** and Irish College of General Practitioners (ICGP)/ Public Health.

Interface between public health and general practice

There is a need for improved two-way communication between local public health authorities and GPs in order to discuss reporting channels, confidentiality and public health action for infectious diseases.

Public health feedback to GPs on notifications and laboratory reports should be encouraged and should highlight local public health initiatives.

As part of the local feedback, public health authorities should address GP information needs and concerns about the process of notification, and their concerns about patient confidentiality.

Education and training

Medical undergraduates

As undergraduate training evolves, there is a danger that specific areas such as infectious disease are covered less intensively. This can be overcome, and standards even improved, by good co-ordination between modules in clinical areas (primary and secondary care), laboratory sciences, and public health. Apart from the established skills of history taking and examination, knowledge of patient risk profiles, occupations, and exposures to relevant factors should enhance appropriate investigation and optimum management.

Post graduate GP and continuous medical education

A postgraduate GP training module on the clinical management of acute gastroenteritis should be developed. This module could be used in the Vocational Training Scheme (a three-year rotation for GP training) and Continued Medical Education for trained GPs.

The GP/clinical fellow should develop a suitable curriculum for training for Ireland North and South. Appropriate training material should be developed. Centres for Disease Control and Prevention (CDC) primer for physicians may serve as one model for the development of training materials.

Suggested topics for postgraduate training could include updates on infectious intestinal disease in general practice, food safety and foodborne disease, appropriate use of antibiotics in the treatment of acute gastroenteritis infections, prevention of acute gastroenteritis, evidence-based advice on hygiene, hand washing and safe food preparation.

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