



Acute Gastroenteritis in Ireland, North and South: A Telephone Survey

It is recognised that information on gastroenteritis derived from notifications of infectious disease and laboratory reports significantly underestimates the burden of illness in the community as many will not seek medical attention. This survey, the first of its kind to be undertaken on an all island basis, describes the frequency and characteristics of acute gastroenteritis in the community, the health-seeking behaviour of those with acute gastroenteritis and the impact acute gastroenteritis has on absence from school/work. The survey was undertaken over a 12 month period during 2000/2001 and involved random digit telephone dialling of approximately 10,000 households by a team of four interviewers. The survey was co-ordinated by a steering group consisting of surveillance, public health, food safety and academic public health organisations in Ireland, North and South.

Four-and-a-half percent of people were estimated to have suffered from acute gastroenteritis at least once in a four-week period. It is further estimated that there are an average of 0.6 separate episodes of acute gastroenteritis per person per year. This corresponds to approximately 3.2 million episodes of acute gastroenteritis on the island of Ireland each year (8,800 episodes daily). Age was significantly associated with acute gastroenteritis with the estimated frequency in children under five years five times greater than those aged 65 years and over. The average duration of illness was four days.

The majority (70.6%) of those with acute gastroenteritis did not seek medical care for their symptoms. Twenty-nine per cent consulted a GP (89% on only one occasion). Only nine per cent of those with acute gastroenteritis seeking medical care were asked to submit a stool sample and 75% complied with this request. Forty-seven percent of those with acute gastroenteritis were estimated to have taken medication for their symptoms with approximately half purchasing their medication over the counter at a pharmacy. Thirty-seven percent were prescribed medication with seven percent reporting taking antibiotics.

These results suggest for every 100 individuals in the community with acute gastroenteritis, 29 consult

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their GP and 2 stool samples are submitted for laboratory analysis.

This survey has provided valuable information and has already led to further North/South research among GPs regarding their role in the management of acute gastroenteritis and exploration of the interface between GPs and public health departments. The report highlights that spread of gastroenteritis can be limited by proper hand-washing and attention to food hygiene and the challenge is to find new and innovative ways of getting these simple messages across and challenging people's behaviour.

The report can be obtained from the collaborators and is available to download from the CDSC (NI) website (www.cdscni.org.uk).

AMR Issues: Mandatory *S aureus* Bacteraemia Surveillance

The second year of surveillance of *S aureus* bacteraemia in Northern Ireland acute hospital Trusts has now been published and is available in full at the CDSC (NI) website.

Following the Department of Health (London)'s mandatory requirement for MRSA bacteraemia rates in English acute Trusts to be reported from 1 April 2001, the Department of Health, Social Services and Public Safety (DHSSPS) in Northern Ireland recommended that a similar strategy be introduced in Northern Ireland from April 2002. A preliminary report on the surveillance of MRSA in Northern Ireland from 1 April 2001 – 31 March 2002 was prepared for circulation to all stakeholders, including Consultant Microbiologists, Trust Chief Executives, Infection Control staff and DHSSPS¹. The scheme was therefore in place for one year prior to its formal commencement on 1 April 2002. Data collected on a quarterly basis from twelve Northern Ireland 'acute Trusts' have been collated and analysed by CDSC (NI). The new report relates to the one-year period April 2002-March 2003.

Between April 2002 and March 2003 (Year 2), Trust rates of MRSA patient episodes per 1000 occupied bed days varied from 0.051 to 0.218 for the 1-year period, with an overall Northern Ireland rate of 0.119. This compares with a range of 0.023 to 0.255 and an overall rate of 0.125 during the previous year (Year 1). The range is narrower than those recorded in England² and Scotland³ for the same time period.

Rates of *S aureus* patient episodes changed little between Year 1 and Year 2 of the surveillance programme. Trust rates ranged from 0.153 to 0.443 episodes per 1,000 occupied bed days with an

overall rate of 0.304. This compares with a wider range of 0.07 to 0.625 and an overall rate of 0.308 during the previous year.

Analysis of these rates should be carried out with caution for the following reasons:

- It cannot be assumed that every isolate is responsible for infection of a patient.
- Data collected on 'patient episodes' should ensure that only one MRSA positive blood culture set from one patient is counted within a 14-day period (this period is arbitrarily considered to represent one episode of disease). **These data are likely to provide a more accurate reflection of the rates of *S aureus* and MRSA bacteraemias.** However, it remains the case that not all cases recorded can be assumed to be true bacteraemias.
- The figure may also include isolates which were acquired before admission to the hospital, either in the community, or in another healthcare institution prior to transfer.
- Patients whose infections were acquired in one hospital, and were subsequently transferred to another hospital, either within the same Trust or to another Trust, may also have been counted more than once.
- Many compounding factors will influence rates within Trusts. For instance, Trusts with different clinical mixes and specialties will have differing proportions of patients at high risk of MRSA infection. For example, a hospital with a specialised renal unit would treat high numbers of patients who are at increased risk of infection and re-infection.

- Episodes of bacteraemia relating to patients resident in non-acute Trusts, eg., in long-stay facilities in community Trusts, may have been omitted from these analyses in some cases. In most cases, such patients would have been transferred to acute Trusts and therefore were counted.

Rates of patient episodes of MRSA bacteraemia decreased in five of the twelve Trusts when compared to Year 1 figures. A similar number showed reductions in rate of *S aureus* patient episodes.

There has been no significant change in the rates of either *S aureus* or MRSA bacteraemia rates at Trust or Northern Ireland level. Changes in rates in individual Trusts may be explained more effectively at a local level.

These results, and definitions of terms, are presented in more detail in the annual report which can be found by following the link from the CDSC (NI) homepage (<http://www.cdscni.org.uk>). Any queries regarding the report should be directed to Dr Julie McCarroll (julie.mccarroll@hpa.org.uk) at 028 9026 3765.

References

1. Communicable Disease Surveillance Centre (NI). First Report on MRSA Blood Cultures in Northern Ireland. 2002. CDSC (NI). Available at <http://www.cdscni.org.uk/publications/Annual%20reports/pdf1st%20MRSA%20Blood%20Cultures%20NI.pdf>
2. Public Health Laboratory Service. The second year of the Department of Health's mandatory MRSA bacteraemia surveillance scheme in acute NHS trusts in England: April 2002-March 2003. 2003. London, Public Health Laboratory Service. Available at <http://www.phls.org.uk/publications/cdr/archive03/bacteraemia.html#secondmrsa>
3. Scottish Centre for Infection and Environmental Health. Report on Methicillin-Resistant *Staphylococcus aureus* bacteraemia in Scotland, April 2002-March 2003. 2003. SCIEH Weekly Report 2002 **36 (26)**. Available at http://www.show.scot.nhs.uk/scieh/infectious/hai/MRSA_quarter_reports/MRSA_July03/MRSA_Scot_Jul_2003.pdf

Foodborne and gastro-intestinal outbreaks: January – June 2003

Outbreak surveillance is primarily based on reports received from Consultants in Communicable Disease Control. During the first six months of 2003 CDSC (NI) was made aware of one foodborne outbreak affecting 17 people and 38 other gastro-intestinal outbreaks affecting at least 449 people. This compares with one foodborne outbreak and 21 gastrointestinal outbreaks for the same period in 2002.

There have been no salmonella outbreaks reported during 2003 or 2002, contributing to the marked decrease in cases of salmonella

reported since 2000.

Viral or suspect viral infections were thought to be the cause of 34

non-foodborne outbreaks of gastroenteritis and in 4 instances, the outbreak was due to an unknown organism. These infections can spread rapidly in facilities such as hospitals and residential/nursing care facilities. There were 22 hospital outbreaks and 16 in residential/nursing homes reported from January to June, 2003. Twenty-seven of the confirmed viral outbreaks were secondary to Small Round Structured Viruses (SRSV) (Noroviruses) and were thought to be caused by person to person spread.

Table 1: General Outbreaks¹ of foodborne and other gastro-intestinal illness reported to CDSC (NI), January - June, 2003

Foodborne outbreaks						
Month	Board	Location	Organism	Suspect vehicle ²	No. ill ³	No +ve
Jan	N	Residential Home	Viral	Foodborne followed by person/person	12 residents, 5 staff	0
Other gastro-intestinal outbreaks						
Month	Board	Location	Organism	Suspect vehicle ²	No. ill ³	No +ve
Jan	N	Hospital	?Viral	Person to person	7	0
Jan	N	Nursing Home	SRSV		13 residents, 4 staff	1
Jan	N	Hospital	SRSV			1
Jan	N	Hospital	SRSV			2
Jan	N	Hospital	SRSV	Person to person	26	2
Jan	N	Nursing Home	Viral	Person to person	10 residents, 5 staff	0
Jan	N	Nursing Home	Viral	Person to person	20 residents, 10 staff	0
Jan	N	Hospital	SRSV	Person to person	78	5
Jan	E	Hospital	SRSV			3
Jan	E	Hospital	SRSV			2
Jan	E	Hospital	SRSV			2
Jan	W	Hospital	SRSV			2
Jan	W	Hospital	SRSV			3
Feb	N	Nursing Home	SRSV	Person to person	10 residents, 5 staff	2
Feb	N	Hospital	SRSV			8
Feb	N	Residential Home	SRSV	Person to person	16 residents, 2 staff	0
Feb	E	Hospital	SRSV			2
Feb	E	Hospital	SRSV			3
Feb	E	Hospital	SRSV			1
Feb	E	Hospital	SRSV			5
Feb	E	Hospital	SRSV			1
Feb	E	Hospital	SRSV			1
Feb	E	Hospital	SRSV			2
Feb	S	Nursing Home	Unknown	Person to person	22 residents, 27 staff	0
Mar	N	Hospital	SRSV			5
Mar	N	Nursing Home	Viral	Person to person	17 residents, 5 staff	0
Mar	N	Hospital	SRSV	Person to person	5	2
Mar	N	Nursing Home	Viral	Person to person	19 residents, 9 staff	0
Mar	E	Hospital	SRSV			3
Mar	S	Nursing Home	SRSV	Person to person	44	0
Apr	N	Hospital	SRSV			1
Apr	N	Nursing Home	Viral	Person to person	10 residents, 4 staff	0
May	N	Nursing Home	Unknown	Person to person	10 residents, 3 staff	0
May	N	Nursing Home	Viral	Person to person	26 residents, 15 staff	0
May	S	Nursing Home	Unknown	Person to person	4	0
May	W	Nursing Home	SRSV			1
May	W	?Nursing Home	SRSV	Person to person		1
Jun	S	Nursing Home	Unknown	Person to person	23	0

¹ General outbreaks involve members of more than one household;

² Local investigations may not provide conclusive evidence of vehicles of infection. Vehicles are therefore designated 'suspect';

³ The number known to be ill.

N.B. Data Provisional

Imported Infections

Salmonella

There have been 105 laboratory reports of individuals with Salmonella infection reported to CDSC (NI) to week 32, 2003. In contrast to the data collected for isolates for the same period last

year where 38 (15%) were believed to have been acquired abroad, 22 isolates (21%) had a history of foreign travel.

Almost half were thought to have acquired their infection in Spain (including Canary Islands and Balearic islands) - these three areas

are the most popular holiday destinations for British holidaymakers¹. The remainder acquired infection in Greece, Turkey, Portugal, USA, United Arab Emirates (UAE), Cuba, and Thailand. Nine cases were male aged between eight years and sixty-two years. Twelve cases were female aged between one year and seventy-one years. Table 2 shows the serotypes reported to CDSC (NI) to week 32 of this year.

Table 2: Laboratory Reports of Salmonella, Weeks 1 - 32, 2003, Northern Ireland

Serotype	Number of reports received to week 32, 2003	Number thought to have been acquired abroad and country
S. braenderup	1	
S. bredeney	2	
S. enteritidis (PT4)	36 (6)	Spain (9), Turkey (1), Greece (1), Portugal (1)
S. dublin	2	
S. hadar	1	
S. infantis	2	
S. johannesburg	1	UAE (1)
S. mikawasima	1	
S. montevideo	1	
S. spp	26	Spain (2), USA (1), Cuba (1), Thailand (1)
S. tambacounda	1	
S. typhimurium (DT 104)	28 (6)	Spain (3)
S. virchow	2	Spain (1)
S. wenham	1	
Total	105	22

Other Infections

Other infections with a history of having travelled abroad during weeks 1-32 this year were as follows:

Table 3: Other Infections Acquired Abroad, weeks 1 - 32, 2003, Northern Ireland

Organism	Number of reports with history of foreign travel	Countries
Campylobacter	14	Spain (6), Majorca (3), Menorca (1), Egypt (1), Portugal (1), Australia (1), Rol (1)
Cryptosporidium	19	Majorca (18), Unknown (1)
Giardia Lamblia	1	India (1)
Mycoplasma Pneumoniae	1	Gambia (1)
Shigella Flexneri	2	Sri Lanka (1), Tanzania (1)
Shigella Sonnei	3	India (2), Mexico (1)

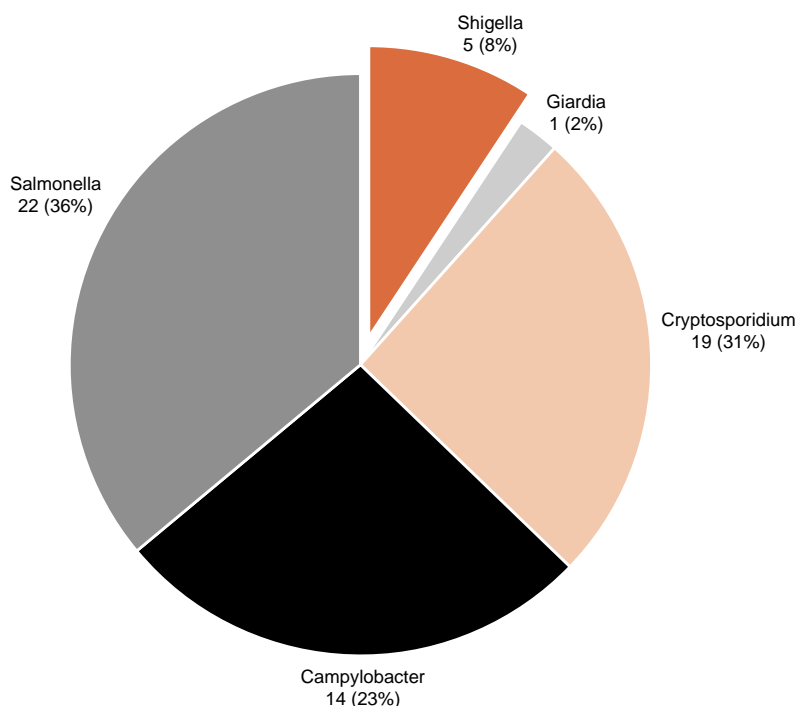
Data provisional

The majority of laboratory confirmed gastro-intestinal infections acquired abroad were caused by salmonella (36%). Thirty one per cent (19) of all

gastro-intestinal infections thought to have been acquired abroad to week 32 of 2003 were caused by cryptosporidium (Figure 1). In the each of the whole of the previous two years, only one report of

cryptosporidium was associated with a history of foreign travel. The large increase is due to the outbreak associated with a hotel swimming pool in Majorca.

Figure 1: Gastrointestinal Organisms Acquired Abroad, Weeks 1-32, 2003



Number of laboratory confirmed gastro-intestinal infections acquired abroad = 62

Table 4 shows the total number of laboratory reports of gastro-intestinal infections received by CDSC (NI) to week 32, and the number and proportion of total reports associated with foreign travel.

Table 4: Total Gastro-intestinal Organisms Acquired Abroad, Weeks 1-32, 2003

Organism	Total reported to week 32, 2003	Acquired Abroad (% of total reports)
Salmonella	105	22 (21%)
Campylobacter	440	14 (3%)
Cryptosporidium	92	19 (21%)
Shigella	9	5 (56%)
Giardia	10	1 (10%)
Total	656	62 (9%)

References:

¹ ABTA. ABTA's Holiday Trends 2003. Available at <http://www.abtamembers.org/press/kit/trends.htm>

Surveillance Figures for Creutzfeldt-Jakob Disease

Table 5 shows surveillance figures for definite and probable cases of Creutzfeldt-Jakob disease (CJD) in the United Kingdom up to 4 August 2003. To date in 2003, there have been 92 referrals to the CJD

surveillance unit with 12 confirmed as vCJD.

While this version of the table does not show figures for years prior to 1995 (the first year for which there

are vCJD confirmations), a more extended version can be accessed on the Department of Health website (<http://www.doh.gov.uk/cjd/cjdstat.htm>).

Table 5: Definite and probable CJD cases in the UK from 1995 to 4 August 2003

Year	Referrals for investigation	Deaths					vCJD Probable still alive
		Sporadic	Iatrogenic	Familial	GSS*	vCJD confirmed	
1995	87	35	4	2	3	3	-
1996	134	40	4	2	4	10	-
1997	161	60	6	4	1	10	-
1998	154	63	3	4	1	18	-
1999	170	62	6	2	0	15	-
2000	178	49	1	2	1	28	-
2001	179	56	3	2	2	20	-
2002	163	72	0	4	1	17	-
2003	92**	32	4	1	0	12	6
Total	-	-	-	-	-	133	-

*Gerstmann-Straussler-Scheinker syndrome

**As at 4 August 2003

Survey of CDSC (NI) information dissemination – summary results

In March CDSC (NI) undertook a survey among its Monthly Report readership to seek feedback on the Unit's publications and website. We wish to thank those who provided feedback and comments. Ninety-three responses were received from various disciplines including hospital clinicians, public health doctors, environmental health officers, vets and nurses.

Monthly Report section

Most respondents seemed satisfied with the quality of the information. Ninety eight per cent stated that the information provided was either very useful or fairly useful to their work with the appropriate amount of detail and the report was their sole source of such information. The laboratory reports section was also well received with over 90% of respondents generally satisfied with the content and interpretation of the data.

The majority were satisfied with the timeliness of the data given the timescales that the Unit adheres to, although 17% thought the data did require further interpretation. Almost all respondents stated that the presentation of the report was either well presented or satisfactory. Only 10% stated they had no internet access or email account where they could access the Monthly Report if it was only published as an electronic copy.

Website Section

Almost half of the respondents were aware that CDSC (NI) had a web site. Most had visited the website at least once per quarter since it's launch in June 2002 for accessing surveillance data, linking to other sites and downloading reports. The majority were successful in their search of the website. Overall, people found the site relatively easy to navigate and were pleased with its overall appearance and content. The surveillance and publications sections were considered to be the most useful with appropriate detail available in the surveillance section.

Other Publications

Of CDSC (NI)'s other publications, the Annual Review of Communicable Diseases was considered the most useful. Over half of respondents had not read the weekly 'flu bulletin, annual 'flu summary, annual TB report or the first report on MRSA blood cultures in N.I perhaps reflecting their very specific target audience. Most reports (97%) were received by post or email with few being directly downloaded from the website.

Information Requests

Twenty per cent of respondents had made a specific request for information directly to the Unit with over 70% requesting information more than once. Most people preferred to contact CDSC (NI) first rather than checking the website or publications for the data. The information requests were for a wide variety of purposes including teaching, presentations, answering Assembly/Parliamentary Questions and journalistic research. Everyone who requested information directly from the Unit considered their request was dealt with both politely and promptly. All stated that CDSC (NI) was able to meet their request completely and several stated that the Unit provided an excellent service.

As a result of this survey changes have been made to the website (www.cdscni.org.uk). As most respondents indicated they could access the Monthly Report electronically consideration will be given as to whether it is now appropriate to discontinue the traditional printed version. An electronic copy is more timely, does not have space restrictions for articles and is less expensive to produce.

Laboratory Reports

Mycobacteria: Laboratory Reports, Weeks 21-32

	Number of Reports received			Cumulative total	
	03/21-24	03/25-28	03/29-32	03/01-32	02/01-32
<i>M. avium-intracellulare</i> group	1	0	0	5	16
<i>M. chelonae</i>	0	0	0	2	2
<i>M. kansasii</i>	0	0	0	4	2
<i>M. malmoense</i>	0	0	0	5	3
<i>M. tuberculosis</i>	5	4	3	21	32
<i>Mycobacterium</i> sp	0	2	0	2	1
Total	6	6	3	39	56

Comment:

There was one report of *M. avium intracellulare* isolated from sputum in weeks 21-32. The patient was female, aged 68 years.

Twelve cases of *M. tuberculosis*

were reported during this 12 week reporting period. Five were isolated from sputum, 3 from pus (source unknown), 1 from CSF, 1 from lower respiratory tract, 1 from skin/wound and 1 from urine/kidney. Six cases were male, aged between 39 and 76 years. Six cases were

female, aged between 36 and 84 years.

There were two cases of *Mycobacterium* sp in this reporting period. One patient was female, aged 76 and the other was male, age unknown.

Foodborne and Gastro-intestinal Tract Infections: Laboratory Reports, Weeks 29-32

	Number of Reports received		Cumulative total	
	03/29-32	02/29-32	03/01-32	02/01-32
<i>Campylobacter</i>	52	78	440	523
<i>C. difficile</i> Toxin	40	93	575	593
<i>C. perfringens</i>	3	4	13	16
<i>E. coli</i> O157	5	3	10	10
<i>Salmonella</i> total	36	35	105	130
<i>S. enteritidis</i> (PT 4)	13 (2)	16 (7)	36 (6)	53 (13)
<i>S. typhimurium</i> (DT 104)	4 (2)	8 (2)	28 (6)	40 (8)
<i>Salmonella</i> other	19	11	41	37
<i>Shigella</i>	2	0	9	5
<i>Cryptosporidium</i>	29	13	92	104
<i>Giardia</i>	0	0	10	9
Adenovirus (faeces)	10	15	73	132
Enterovirus (faeces)	3	9	15	36
Rotavirus	7	29	538	343
SRSV	0	10	96	179

Salmonella (other than *enteritidis* or *typhimurium*):

S. braenderup.....1
S. derby..... 1
S. tambacounda..... 1
S. virchow..... 1
S. wenham..... 1
Salmonella sp..... 14

Comment:

The following were associated with foreign travel during this four-week period:

Male, age 46, *Campylobacter* sp, Majorca; Male, age 33,

Campylobacter sp, Spain; Female, age 59, *Campylobacter* sp, Republic of Ireland; Female, age 24, *Campylobacter* sp, Australia; Female, age 19, *Campylobacter* sp, Spain; Female, age 53, *S. enteritidis*, Portugal; Male, age 8, *S. enteritidis*, Lanzarote; Male, age 19, *S. enteritidis*, Lanzarote; Female, age 42, *S. enteritidis*, Lanzarote; Female, age 8, *S. enteritidis*, Spain; Male, age 58, *Salmonella* sp, Spain; Male, age 26, *S. typhimurium*, Spain; Female, age 2, *S. typhimurium*, Spain; Male, age 43, *S. virchow*, Menorca; Female, age 31, *Shigella sonnei*, Mexico.

An outbreak of Cryptosporidiosis occurred in a hotel in Majorca during July (Monthly Report Vol 12 No 7). Seventeen of the 29 reports received during weeks 29 – 32 were associated with travel to Majorca.

With the exception of *Shigella*, *Giardia* and Rotavirus, cumulative reports of foodborne and gastrointestinal tract infections continue to fall compared to the same period last year.

Reports of *Campylobacter*, *C. difficile* toxin, *C. perfringens* and *Cryptosporidium* have fallen by 16%, 3%, 19% and 12%

respectively compared to the same period last year.

Cumulative cases of Salmonella continue to exhibit a decline with 105 laboratory confirmed cases being reported to week 32 of 2003 – a reduction of 19%, mainly due to

the reduction in reports of *S. enteritidis* and *S. typhimurium* which have both declined by approximately 30%.

To week 32 this year there have been 9 reports of *Shigella* compared with 5 reports to week 32

in 2002; There have been 10 reports of *Giardia* compared with 9 reports for the same period in 2002.

Reports of Adenovirus, Enterovirus and SRSV have also maintained a decline (45%, 58% and 46% respectively).

Reports of Positive blood cultures: Laboratory Reports, Weeks 01-28

	2003/01-28	2002/01-28
Gram negative bacteria		
<i>Acinetobacter</i> sp	21	19
<i>Aeromonas</i> sp	2	2
<i>Brucella</i> sp	4	10
<i>Campylobacter</i> sp	0	4
<i>Citrobacter</i> sp	15	6
<i>Enterobacter</i> sp	35	35
<i>Escherichia coli</i>	290	306
<i>Haemophilus influenzae</i>	2	13
<i>Haemophilus</i> sp	10	0
<i>Klebsiella</i> sp	84	66
<i>Legionella</i> sp	0	1
<i>Leptospira</i>	0	1
<i>Neisseria meningitidis</i>	40	49
<i>Neisseria</i> sp	1	2
<i>Proteus</i> sp	48	39
<i>Providencia</i> sp	4	2
<i>Pseudomonas aeruginosa</i>	38	40
<i>Pseudomonas</i> sp	22	22
<i>Salmonella</i> sp	2	2
<i>Serratia</i> sp	41	28
Other gram negative bacteria	19	15
Totals	678	662
Gram positive bacteria		
<i>Corynebacterium</i> sp & Diphtheroids	0	14
Staphylococci:		
<i>S. aureus</i>	282	267
coagulase negative	170	193
Streptococci and enterococci:		
group A	19	14
group B	27	19
group C	1	3
group G	6	3
<i>Enterococcus</i> sp	100	109
α- and non-haemolytic	28	55
<i>S. pneumoniae</i>	102	85
Other gram positive bacteria	5	7
Totals	740	769
Anaerobic bacteria		
Anaerobic cocci	2	3
<i>Bacteroides</i> sp	25	24
<i>Clostridium</i> sp	13	24
Other anaerobic bacteria	0	4
Totals	40	55
Grand Total	1458	1486

Contributing Laboratories

Altnagelvin	Mater
Antrim	Musgrave Park
Belfast City	Regional Mycology
Belvoir Park	Regional Virus
Causeway	Royal Victoria
Craigavon	Tyrone County
Daisyhill	Ulster
Erne	

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Monthly numbers are provisional and should not be used to indicate trends.

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