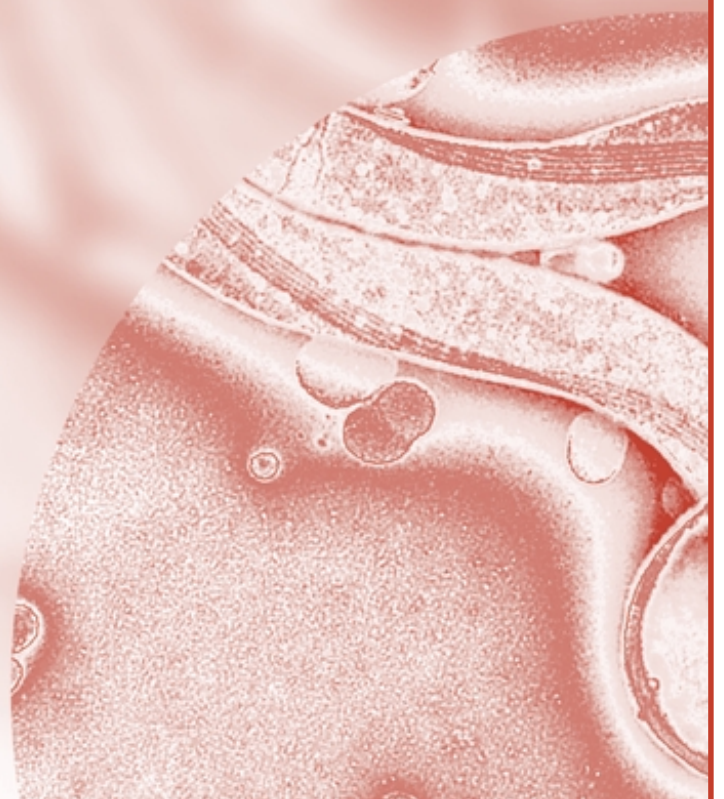




COMMUNICABLE DISEASES • ISSN 1361 - 1887

Provisional Summary 2003

Northern Ireland Edition
Vol 12 No 13



Introduction

This report summarises the main trends in communicable disease in Northern Ireland during 2003. It is primarily based on laboratory reports forward to CDSC (NI) and information supplied by Consultants in Communicable Disease Control. This is a more detailed annual summary than in previous years and replaces our annual report. The data for 2003 should be regarded as *provisional* to allow for late reporting of results and further typing of organisms. CDSC (NI) is extremely grateful to colleagues in Trusts and Boards for providing timely data and information on a wide range of infections and communicable disease issues.

This summary can also be downloaded from our website <http://www.cdscni.org.uk>

Contributing Laboratories		Information	
Altnagelvin	Mater	<i>Editorial Team:</i>	CDSC (NI)
Antrim	Musgrave Park		Belfast City Hospital
Belfast City	Regional Mycology	Dr Brian Smyth	Lisburn Road, Belfast, BT9 7AB
Belvoir Park	Regional Virus	Audrey Lynch	N.Ireland
Causeway	Royal Victoria	Dr Julie McCarroll	Telephone: 028 9026 3765
Craigavon	Tyrone County	Dr Hilary Kennedy	Fax: 028 9026 3511
Daisyhill Ulster		Ruth Fox	Email: cdscni@hpa.org.uk
Erne		Julie Boucher	

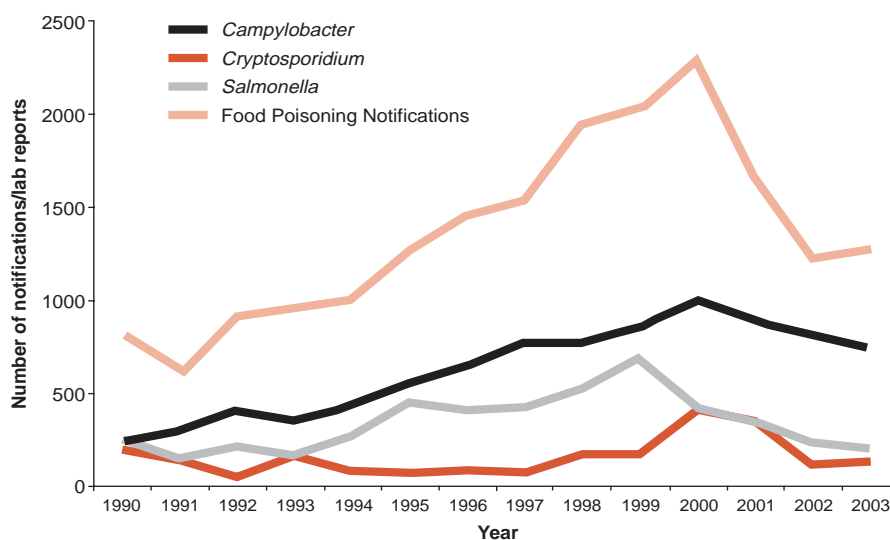
Contents

1	Gastrointestinal Infections Foodborne and Gastrointestinal outbreaks: 2003	3
2	Imported Infections	9
3	Human Brucellosis in Northern Ireland, 2003	13
4	Enhanced Surveillance of Influenza in Northern Ireland	15
5	Enhanced Surveillance of Meningococcal Disease	19
6	Enhanced Surveillance of Tuberculosis	23
7	Legionella Infections	27
8	Hepatitis	29
9	HIV and AIDS	33
10	Syphilis Outbreak in Northern Ireland 2001-2003	37
11	Childhood Vaccination Programme	41
	Appendix 1 – Trends in Specific Reported Pathogens	
	Appendix 2 – Notifications of Infections Diseases	

Gastrointestinal infections

Notifications of food poisoning increased steadily from 1991 to 2000. Between 2000 and 2002 there was a decrease of 47% (from 2285 cases notified in 2000 to 1220 in 2002). There has been a slight increase to 1268 cases (4%) during 2003. Laboratory confirmed reports of *Campylobacter* and *Salmonella* have also declined between 2002 and 2003, although reports of *Cryptosporidium* have slightly increased.

Figure 1: Food poisoning: Notifications and laboratory reports, 1990-2003, Northern Ireland

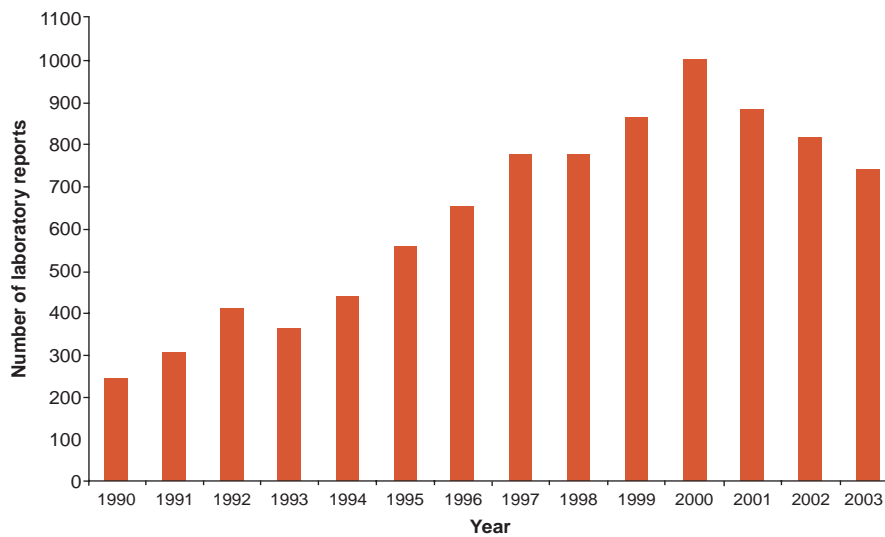


Source: DHSSPS, CDSC (NI)

Campylobacter

Reports of *Campylobacter* infection first exceeded reports of *Salmonella* infection in Northern Ireland in 1991, and *Campylobacter* remains the single most common form of bacterial food poisoning with 740 reports in 2003 (approximately 3.5 times more than *Salmonella*). Reports increased steadily from 1993, peaking at 1001 in 2000. Since then there has been a 26% reduction in reports. This is in line with trends in Great Britain: between 2000 and 2003 reports of *Campylobacter* have decreased by 24%, 36% and 31% in England, Wales and Scotland respectively.

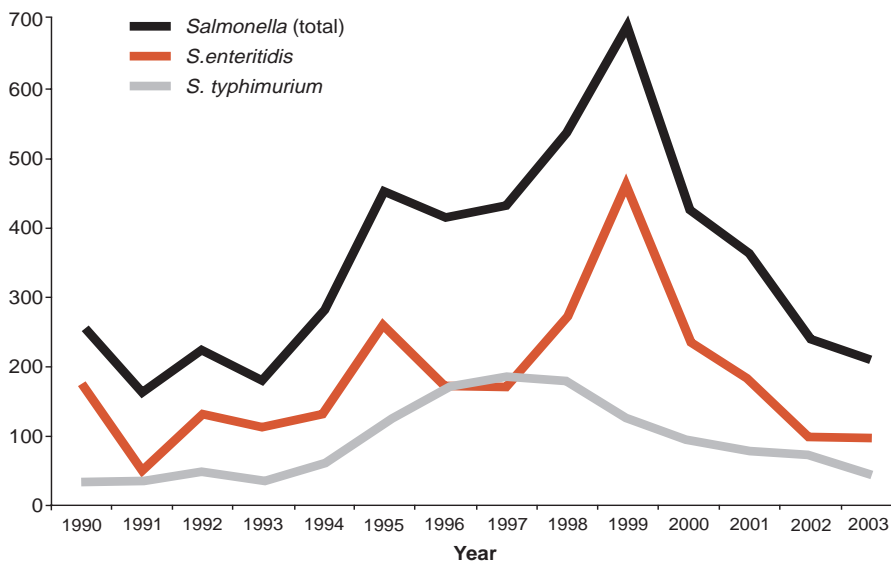
Figure 2: Laboratory reports of *Campylobacter*, 1990-2003, Northern Ireland



Source: CDSC (NI)

Salmonella

Figure 3: Laboratory reports of *Salmonella*, 1990-2003, Northern Ireland



Source: CDSC (NI)

Having increased during the 1990s such that in 1999, the incidence of *Salmonella* in Northern Ireland exceeded that in the rest of the UK for the first time, *Salmonella* infection has shown a marked reduction for a fourth successive year. In 2000 424 laboratory reports were received, 364 in 2001, 239 in 2002 and 210 in 2003. This represents a reduction of approximately 70% since the peak in 1999.

Table 1 lists serotypes for which more than one report was received from 1999 to 2003. *S. enteritidis* and *S. typhimurium* are consistently the top two serotypes.

Table 1: Frequently reported serotypes of *Salmonella*, 1999-2003, Northern Ireland

1999 Total <i>Salmonella</i> 689		2000* Total <i>Salmonella</i> 425		2001* Total <i>Salmonella</i> 367		2002* Total <i>Salmonella</i> 240		2003* Total <i>Salmonella</i> 213	
<i>enteritidis</i>	462	<i>enteritidis</i>	235	<i>enteritidis</i>	179	<i>enteritidis</i>	98	<i>enteritidis</i>	94
<i>typhimurium</i>	124	<i>typhimurium</i>	93	<i>typhimurium</i>	76	<i>typhimurium</i>	71	<i>typhimurium</i>	43
<i>virchow</i>	12	<i>dublin</i>	7	<i>virchow</i>	9	<i>virchow</i>	5	<i>infantis</i>	4
<i>bredeley</i>	10	<i>hadar</i>	7	<i>hadar</i>	5	<i>montevideo</i>	4	<i>kottbus</i>	4
<i>hadar</i>	6	<i>virchow</i>	6	<i>dublin</i>	4	<i>braenderup</i>	3	<i>virchow</i>	4
<i>braenderup</i>	5	<i>bredeley</i>	5	<i>braenderup</i>	3	<i>hadar</i>	3	<i>bredeley</i>	3
<i>heidelberg</i>	5	<i>kentucky</i>	4	<i>anatum</i>	2	<i>infantis</i>	3	<i>dublin</i>	2
<i>agona</i>	4	<i>derby</i>	3	<i>montevideo</i>	2	<i>agona</i>	2	<i>newport</i>	2
<i>java</i>	4	<i>infantis</i>	3	<i>stanley</i>	2	<i>newport</i>	2	<i>ohio</i>	2
<i>stanley</i>	4	<i>java</i>	3	<i>weltevreden</i>	2	<i>panama</i>	2		
<i>thompson</i>	4	<i>muenster</i>	3			<i>senftenberg</i>	2		
<i>anatum</i>	2	<i>agona</i>	2						
<i>hidalgo</i>	2	<i>blockley</i>	2						
<i>infantis</i>	2	<i>brandenburg</i>	2						
<i>javiana</i>	2	<i>heidelberg</i>	2						
<i>mbandaka</i>	2	<i>lagos</i>	2						
<i>tennessee</i>	2	<i>livingstone</i>	2						

* Total includes 1 report of *S. paratyphi* in 2002, and 1 report of *S. typhi* in 2000, 3 in 2001 and 3 in 2003
Source: CDSC (NI)

Salmonella enteritidis is the most frequently isolated serotype, accounting for almost 40% of the total for 2002 and 44% of the total in 2003. The reduction in salmonellosis in the past four years can be attributed to the reduction in *S. enteritidis*. Since the peak in 1999 when 462 reports were received, reports of *S. enteritidis* have shown a reduction of 80%. The most frequently isolated phage type (PT) of *S. enteritidis* is PT 4; 397 reports were received in 1999, accounting for 86% of *S. enteritidis* isolations and 58% of all reported salmonella infections in Northern Ireland during that year. In 2003, by contrast, there were 18 reports of *S. enteritidis* PT 4 received, accounting for 19% of *S. enteritidis* isolations and 9% of all reported salmonella infections in Northern Ireland.

Table 2: *Salmonella enteritidis* phage types reported in 2003, Northern Ireland

Phage type	Number of reports received
PT 1	20
PT 1C	1
PT 4	18
PT 5A	2
PT 6	14
PT 6A	3
PT 8	5
PT 12	3
PT 14B	2
PT 21	7
PT 24	3
PT 48	1
PT 53	1
Untyped	14
Total	94

Source: CDSC (NI)

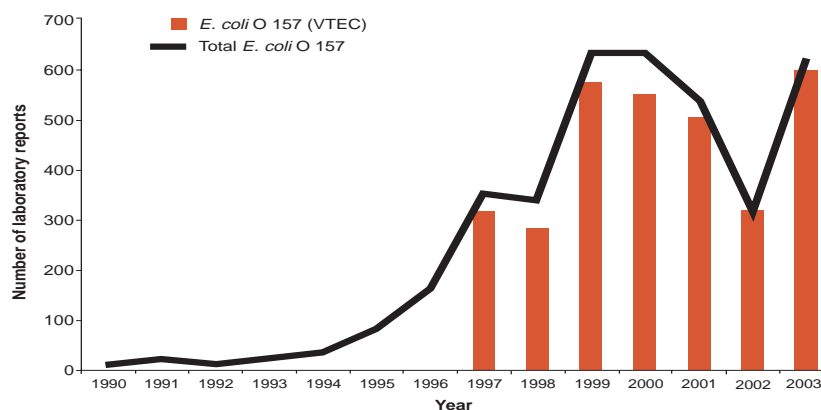
Reports of *Salmonella typhimurium* exceeded reports of *Salmonella enteritidis* only once during the past decade, in 1997, and then began to decline. It is the most commonly isolated serotype after *S. enteritidis*. The most frequently isolated phage type of *S. typhimurium* during the past decade is definitive type (DT) 104: 23% of *S. typhimurium* isolates in 2003 were DT 104. This compares to 53% in 1999. Laboratory reports of *S. typhimurium* fell by 65% from 124 in 1999 to 43 in 2003 and reports of *S. typhimurium* DT 104 fell by 85% from 66 in 1999 to 10 in 2003.

There have been no *Salmonella* outbreaks reported to CDSC (NI) since 2001. The continuing decrease in *Salmonella* incidence in Northern Ireland is in contrast to England where the number of reports of individual cases and outbreaks have risen. Between September 2002 and November 2003, 59 *Salmonella enteritidis* outbreaks occurred in England and Wales affecting over 2,262 people. Foods made from eggs, particularly eggs imported from Spain, were identified as the cause of many of these outbreaks. Over half (58%) of the outbreaks were linked to the consumption of foods prepared with raw shell eggs.

E. coli O 157

On average there have been 47 laboratory reports of *E. coli* O 157 reported annually between 1999-2003. Fifty three reports were received in 2003, of which 51 were vero-toxigenic. This compares to 27 reported during 2002, all of which were vero-toxigenic.

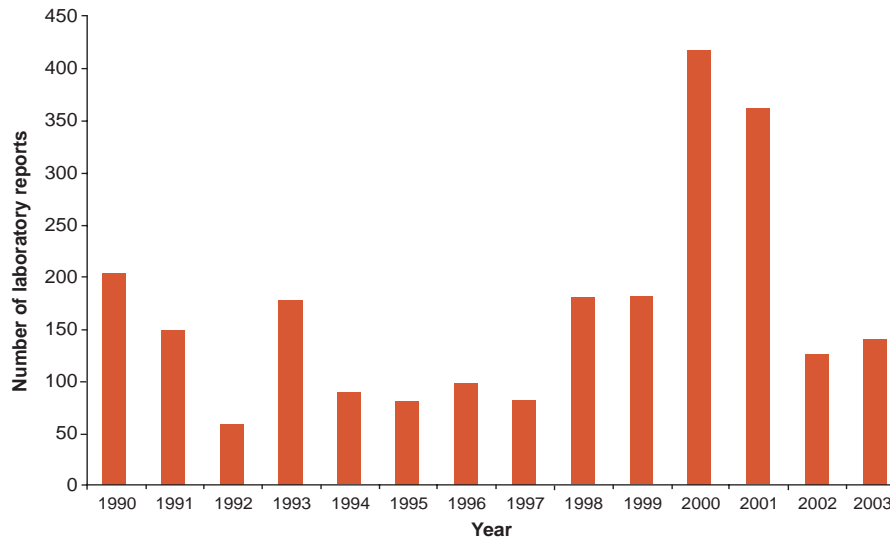
Figure 4: Laboratory reports of *E. coli* O 157, 1990-2003, Northern Ireland



Transmission occurs via contaminated foodstuffs - beef and beef products, milk, and vegetables have been associated with cases or outbreaks – or contact with infected animals, particularly on farms or in animal sanctuaries. Person-to-person spread can occur by direct contact (faecal oral), particularly in households, nurseries, and infant schools. One outbreak was reported to CDSC (NI) in 2003, which occurred in a nursery in the Northern Health and Social Services Board. Sixteen of the 53 reports received in 2003 were associated with this outbreak.

Cryptosporidium

Figure 5: Laboratory reports of *Cryptosporidium*, 1990-2003, Northern Ireland



Source: CDSC (NI)

There were 140 laboratory reports of *Cryptosporidium* received in 2003, compared with 126 in 2002 – an increase of 11%. Exceptionally high numbers of reports were received in 2000 and 2001 due to 3 large waterborne outbreaks accounting for 437 reports in total. Thirty-three of the reports received during 2003 were associated with travel to Majorca, where an outbreak linked with a swimming pool occurred during July.

Foodborne and gastrointestinal outbreaks: 2003

Outbreak surveillance is primarily based on reports received from Consultants in Communicable Disease Control. During 2003 CDSC (NI) was made aware of three foodborne outbreaks affecting at least 53 people and 44 other gastro-intestinal outbreaks affecting at least 559 people. This compares with two foodborne outbreaks and 68 gastrointestinal outbreaks 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 38 non-foodborne outbreaks of gastroenteritis and in three 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, 18 in residential/nursing homes and one in a childcare facility reported in 2003. The other three outbreaks occurred outside Northern Ireland but involved local residents or local laboratories. An outbreak of *Cryptosporidium* was reported involving a hotel swimming pool in Majorca. *E. Coli* O 157 was the causative agent in an outbreak in Dublin and an outbreak of SRSV occurred on a cruise ship which had docked in Belfast. Twenty-six 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 3: General outbreaks of foodborne and other gastrointestinal illness reported to CDSC (NI), 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	
Dec	W	Residential Home	Viral		Foodborne followed by person/person	8	n/a
Dec	E/N	Sandwich Retailer	?Viral			28	n/a
Other gastro-intestinal outbreaks							
Month	Board	Location	Organism	Suspect vehicle ²	No. ill ³	No +ve	
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	E	Hospital	SRSV			3	
Jan	N	Hospital	SRSV	Person-to-person	78	5	
Jan	N	Hospital	?Viral	Person-to-person	7	0	
Jan	E	Hospital	SRSV			2	
Jan	E	Hospital	SRSV			2	
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	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	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	E	Hospital	SRSV			3	
Mar	S	Nursing Home	SRSV	Person-to-person	44	0	
Mar	N	Hospital	SRSV	Person-to-person	5	2	
Mar	N	Nursing Home	Viral	Person-to-person	19 residents, 9 staff	0	
Apr	N	Hospital	SRSV			1	
Apr	N	Nursing Home	Viral	Person-to-person	10 residents, 4 staff	0	
May	W	Nursing Home	SRSV			1	
May	N	Nursing Home	Viral	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	N	Nursing Home	Viral	Person-to-person	14 residents, 5 staff	0	
Jun	S	Nursing Home	Unknown	Person-to-person	23	0	
July	~	Hotel	<i>Cryptosporidium</i>	Person-to-person			
Aug	~	Café	<i>E. Coli</i> O 157			2	
Aug	E	Cruise Ship	SRSV			7	
Sept	N	Nursery	<i>E. Coli</i> O 157	Person-to-person		16	
Sept	N	Residential Home	Viral	Person-to-person	18 residents, 4 staff	0	
Oct	W	Hospital	Viral		10 staff, 13 patients		
Dec	S	Hospital	SRSV	Person-to-person	11 patients, 13 staff	1	
Dec	S	Nursing Home	Viral	Person-to-person	5 patients, 1 staff	0	

¹General outbreaks involve members of more than one household;

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

³The number known to be ill.

Source: CDSC (NI)

Imported Gastrointestinal Infections

Salmonella

There were 213 laboratory reports of individuals with *Salmonella* infection reported to CDSC (NI) in 2003. In contrast to the data collected for isolates for the same period in 2002 where 80 (33%) were believed to have been acquired abroad (i.e. outside the UK), 101 isolates (47%) in 2003 had a history of foreign travel.

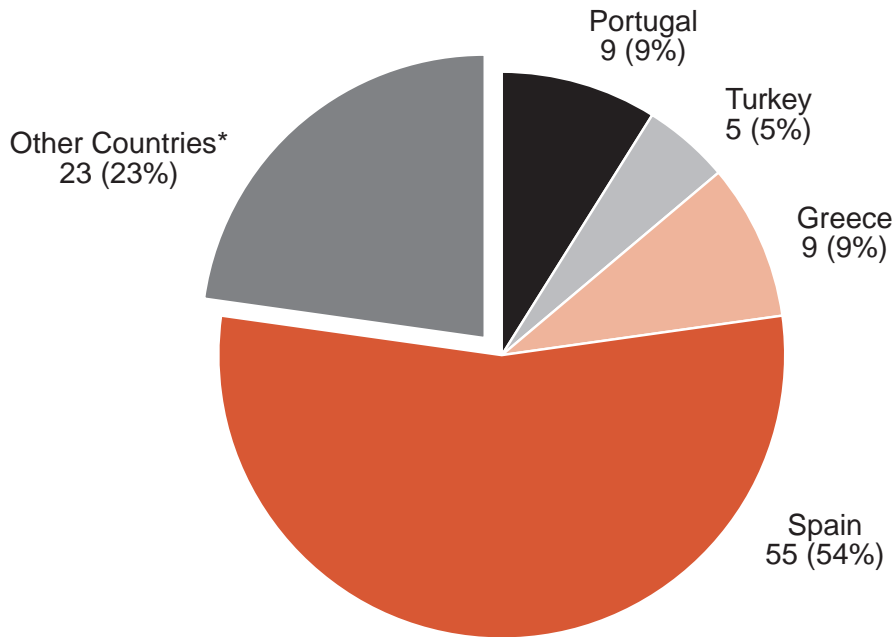
Over half were thought to have acquired their infection in Spain (including Canary Islands and Balearic islands) – these three areas are the most popular holiday destinations for British holidaymakers¹. The remainder acquired infection in Greece (including Greek Islands), Portugal and Turkey. Other countries included were: Australia, Cuba, Czech Republic, Dominican Republic, Egypt, France, Italy, Philippines, Palestine, Republic of Ireland, Thailand, Tunisia, UAE and USA. There were an equal number of males and females and ages ranged from 1 – 71 years. Table 4 shows the serotypes reported to CDSC (NI) in 2003.

Table 4: Laboratory Reports of *Salmonella*, 2003, Northern Ireland

Serotype	Number of reports received	Number thought to have been acquired abroad and country
<i>S. blockley</i>	1	Cyprus (1)
<i>S. braenderup</i>	1	
<i>S. bredeney</i>	3	
<i>S. derby</i>	1	Phillipines (1)
<i>S. dublin</i>	2	RoI (1)
<i>S. eastbourne</i>	1	Palestine (1)
<i>S. enteritidis (PT4)</i>	94 (18)	Czech Republic (1), France (1), Greece (7), Portugal (5), RoI (1), Spain (31), Tunisia (1), Turkey (1), Unknown (1)
<i>S. give</i>	1	RoI (1)
<i>S. hadar</i>	1	
<i>S. heidelberg</i>	1	
<i>S. infantis</i>	4	Spain (3)
<i>S. Johannesburg</i>	1	UAE (1)
<i>S. kottbus</i>	4	
<i>S. mikawasima</i>	1	
<i>S. montevideo</i>	1	
<i>S. newport</i>	2	Egypt (1)
<i>S. ohio</i>	2	
<i>S. spp</i>	39	Australia (2), Cuba (1), Dominican Republic (1), Greece (1), Italy (1), Portugal (4), Spain (9), Thailand (2), Turkey (2), USA (1)
<i>S. souza</i>	1	
<i>S. tambacounda</i>	1	
<i>S. typhi</i>	3	Bangladesh (1)
<i>S. typhimurium (DT 104)</i>	43 (10)	Spain (9), Turkey (2), UAE (2)
<i>S. virchow</i>	4	Spain (3)
<i>S. wenham</i>	1	Tunisia (1)
Total	213	101

Source: CDSC (NI)

Figure 6: Travel Related *Salmonella* Reports Among NI Residents, 2003



N = 101 (47%)

*ROI = 3

Source: CDSC (NI)

Other Gastrointestinal Infections

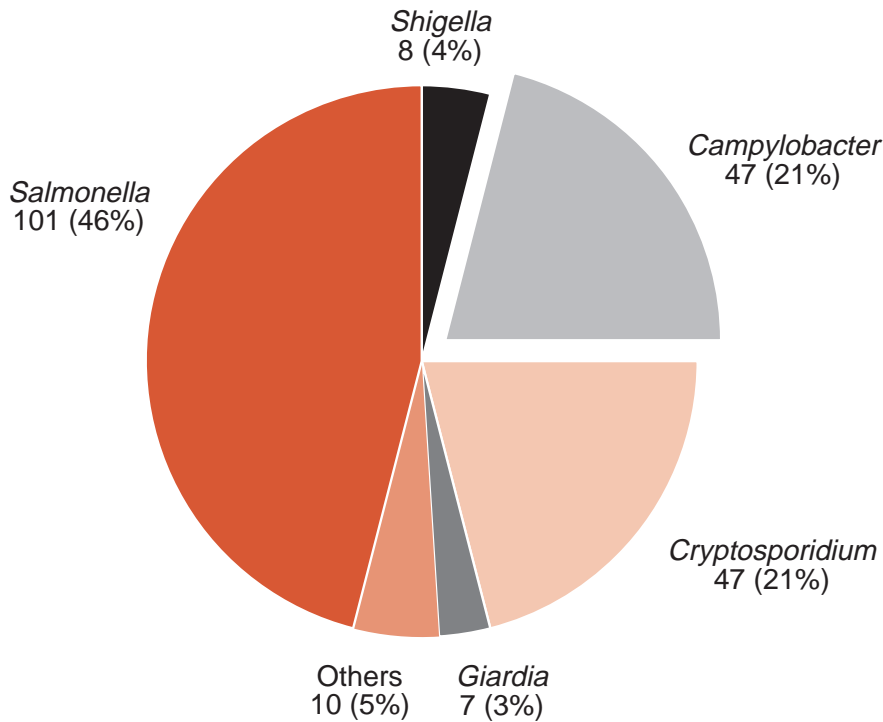
Other gastrointestinal infections with a history of having travelled abroad during 2003 were as follows:

Table 5: Other Gastrointestinal Infections Acquired Abroad, 2003, Northern Ireland

Organism	Number of reports with history of foreign travel	Countries
<i>Campylobacter</i>	47	Australia (1), Barbados (1), Egypt (1), Greece (3), India (1), Kenya (1), Portugal (1), Rol (13), Spain (20), Thailand (2), Tunisia (1), Turkey (1), Med Cruise (1)
<i>Cryptosporidium</i>	47	Canada (1), France (3), Greece (1), India (1), Rol (3), Spain (36), Unknown (2)
<i>Giardia lamblia</i>	7	India (2), Rol (1), Spain (2), Thailand (2)
<i>Shigella flexneri</i>	2	Sri Lanka (1), Tanzania (1)
<i>Shigella sonnei</i>	6	Africa (1), India (3), Mexico (1), Spain (1)
<i>E. Coli</i> O 157	4	Rol (1), Spain (2), Unknown (1)
Adenovirus	1	Spain (1)
<i>C. difficile</i> Toxin	3	Spain (3)
Rotavirus	1	Spain (1)
SRSV	1	Spain (1)

Source: CDSC (NI)

Figure 7: Gastrointestinal Infections Acquired Abroad, 2003, Northern Ireland



N = 220

Source: CDSC (NI)

Table 6 shows the total number of laboratory reports of gastrointestinal infections received by CDSC (NI) in 2003, and the number and proportion of total reports associated with foreign travel.

Table 6: Total Gastrointestinal Infections Acquired Abroad, 2003, Northern Ireland

Organism	Total reported in 2003	Acquired abroad (% of total reports of each organism)
<i>Salmonella</i>	213	101 (47%)
<i>Campylobacter</i>	740	47 (6%)
<i>Cryptosporidium</i>	140	47 (34%)
<i>Giardia lamblia</i>	18	7 (39%)
<i>Shigella</i>	13	8 (62%)
<i>E. coli</i> O 157	53	4 (8%)
Adenovirus	145	1 (0.7%)
<i>C. difficile</i> Toxin	1014	3 (0.3%)
Rotavirus	554	1 (0.2%)
SRSV	115	1 (0.9%)

Source: CDSC (NI)

Salmonella was the most common laboratory confirmed gastrointestinal infection among Northern Ireland residents acquired outside the UK. The large number of *Cryptosporidium* isolates was due to an outbreak associated with a hotel swimming pool in Majorca.

References:

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

Human Brucellosis in Northern Ireland, 2003

Brucellosis is a zoonotic disease which is mainly transmitted from cattle, sheep, goats or pigs to humans. In livestock, chronic lifelong infection, where the organisms localise in the reproductive organs, gives rise to abortions, the birth of weak offspring, and reduction in milk production. Organisms are shed in large numbers in milk, urine and cyetic products. Control and eradication of the disease in livestock is achieved through identification and elimination of infected herds.

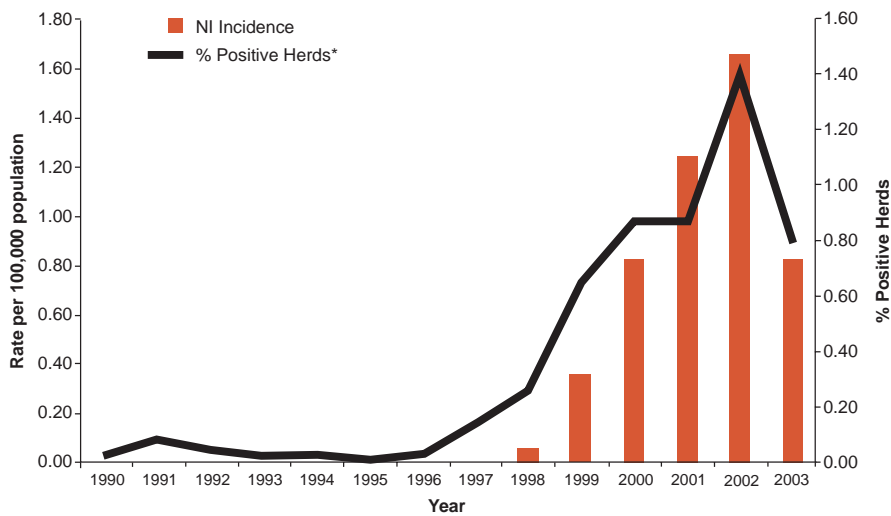
It is transmitted to humans through inhalation, contact with infected post-partum materials, and ingestion of unpasteurised milk or dairy products. The human form of the disease presents as a flu-like illness with myalgia, fatigue, night sweats and intermittent fever which can occur for lengthy and variable periods of time. Severe chronic complications can occur in some individuals if they are inadequately treated. Treatment in humans is normally with a tetracycline, like doxycycline, along with gentamicin or rifampicin for a period of at least 6 weeks.

The disease does not occur in the United Kingdom in goats, sheep or pigs. It was practically eradicated from cattle in 1984, and, until recently, the last outbreak of bovine brucellosis occurred in Great Britain in 1993^{1,2}. Whereas the small numbers of cases of human brucellosis in the UK are all acquired abroad, most Northern Ireland cases are indigenous.

In Northern Ireland, human infection is mainly acquired through contact with infected cattle. Prior to 1997, bovine brucellosis was detected only at low levels; however, it has been on the increase across the Province since then. The number of *Brucella*-infected herds rose from 3 in 1995/1996 to 172 in 1999/2000. In particular, there has been a high incidence of reactor herds in the south and west of the Province. As a consequence, particularly in these areas, levels of the disease in humans have also increased, with a large number of cases being recorded as occupationally acquired.

Although human brucellosis is not notifiable, it is a reportable disease under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (Northern Ireland) 1997 (RIDDOR) to the Health and Safety Executive. A multi-agency Brucellosis Advisory Group has been established to: share information on human and animal brucellosis, identify high risk work activities, promote best practice in disease prevention, control and management and raise awareness in 'at risk' groups through targeted information campaigns. Professionals have also been targeted in the awareness campaign.

Figure 8: Human Brucellosis in Northern Ireland 1990-2003



Source: CDSC (Northern Ireland): DARDNI

Between 1 January 1998 and 31 December 2003, 86 cases of human brucellosis were reported to CDSC (NI). Annual totals peaked in 2002, with 28 cases being reported. The total in 2003 has fallen by 50% to 14 cases. Of the 86 cases, 57 (67%) were known to be farmers, 36 (63%) of which were known to have been exposed to *Brucella*-positive herds. Six cases had been associated with an abattoir which was contracted to cull *Brucella*-positive herds. Two cases were veterinarians who both had histories of working with *Brucella*-positive herds. Only one case, a baker, had no obvious exposure to any risk factors. One case in 2003 was a child who lived on a farm. The occupation in 18 cases was unknown.

Bovine herd incidence increased 5-fold between 1996 (0.02%) and 1997 (0.11%), and continued to increase to a level of 1.37 in 2002. The rate has dropped to 0.79 % in 2003. The geographical correlation between positive herds and human cases continues to be noted.

Acknowledgements

- Darrell Abernethy & David Irwin, DARDNI Veterinary Service
- Consultants in Communicable Disease Control
- Consultant Medical Microbiologists
- Frank Lyons, Brucella Reference Laboratory, University Hospital Aintree
- Dr Delia Skan, Health and Safety Executive for Northern Ireland

References

1. DEFRA (2004) News Release (18 March 2004): DEFRA confirms Brucellosis on farm in Cornwall . Movement restrictions on seven neighbouring farms. Available at <http://www.defra.gov.uk/news/2004/040318b.htm>
 2. DEFRA (2004) News Release (31 March 2004) Epidemiological team set up to look into source of brucellosis outbreak in Cornwall. Available at <http://www.defra.gov.uk/news/2004/040331g.htm>
-

Enhanced Surveillance of Influenza in Northern Ireland (ESINI)

Influenza is an acute viral disease of the respiratory tract caused by infection with the influenza virus, of which there are three main types; influenza A, B and C. The incubation period for influenza is 1-3 days and disease onset is rapid thereafter. Symptoms include fever, myalgia, headache, coryza, sore throat and cough. Such symptoms are common to a range of viral upper respiratory tract infections, therefore patients may be described as having 'flu or 'flu-like illness (FLI).

Enhanced Surveillance of Influenza in Northern Ireland (ESINI) was introduced as a pilot study in October 2000 and has continued each season thereafter. The principal aim of the project is to provide an early warning scheme for influenza circulation in NI. The scheme involves the weekly compilation of consultation data from sentinel GP practices and call-rate data from out-of-hours Co-Operatives (Co-Ops). A subset of sentinel GPs each year also carry out virological surveillance. This entails nasal and throat swabbing of patients presenting with clinical influenza. Swabs are sent to the Regional Virus Laboratory where they are tested for the presence of influenza, together with a number of other respiratory pathogens.

During each 'flu season, a NI report is published weekly and distributed to Health Boards, Trusts, Consultants in Communicable Disease Control, data providers and other interested parties. Weekly data is also sent to Colindale for inclusion in the UK dataset.

In April 2002, Northern Ireland became an associate member of the European Influenza Surveillance Scheme (EISS) and, in September 2003, the Province was accorded full membership of EISS. ESINI data is exported weekly to EISS for inclusion in the European surveillance programme.

2002/03 Season

In Northern Ireland, enhanced surveillance of influenza for 2002/03 commenced in week 40 of 2002. A total of 24 sentinel GP practices, situated throughout the Province, took part in surveillance. Fifteen of these 24 practices also agreed to be involved in enhanced virological monitoring, by swabbing selected patients who presented with clinical influenza.

Five out-of-hours medical co-operatives (Co-Ops) also agreed to supply call data, broken down by age and sex, for enhanced surveillance purposes.

Throughout the 2002/03 season, consultation rates for influenza remained at very low levels, in accordance with that observed throughout the UK and Ireland. As in previous years, consultation rates for FLI remained much higher and more variable than those for influenza.

The main peak in clinical activity for the 2002/03 season occurred between Week 04 and Week 09, when children aged 0-14 were the group most affected by illness. This peak also corresponded to the first laboratory confirmed influenza infections of the season; influenza B in hospitalised children.

The full 2002/03 season summary may be downloaded from <http://www.cdscni.org.uk>.

2003/04 Season

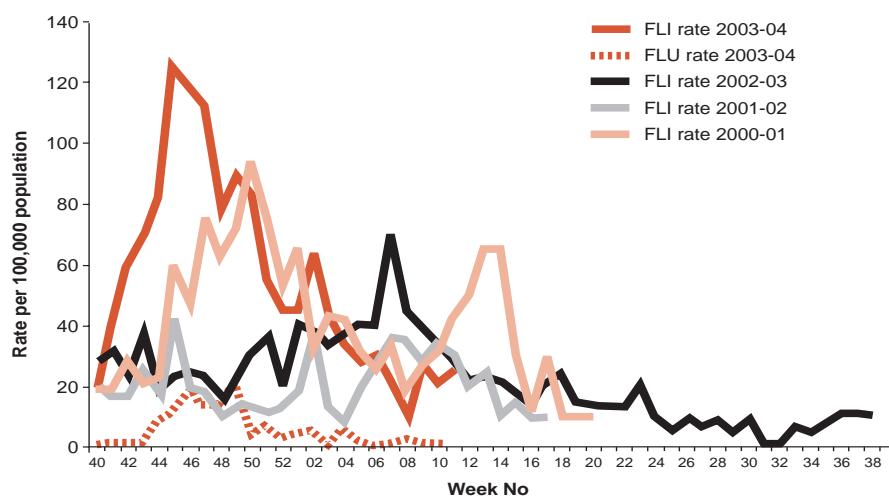
Twenty-three sentinel GP practices and 5 Co-Ops are participating in enhanced surveillance of influenza this season and, as in 2002/03, 15 of the sentinel practices were also involved in virological monitoring.

Based on historical data, influenza activity in the current season commenced some three months earlier than would, normally, be expected. Between Week 40 and Week 45, GP consultation rates rose sharply and, in Week 45, the combined GP consultation rate for influenza and FLI was higher than that recorded for any week since the ESINI scheme commenced (Figure 9).

Children, particularly those aged 0-4 years, have been the group most affected this winter. There has been very little influenza in circulation over the past few years and the opportunity for development of immunity has been restricted. Illness in young children is, therefore, not unexpected. The first laboratory confirmed case of influenza A H3 in the 0-4 age-group occurred in mid-October 2003 and, by the end of January 2004, a further 52 cases had been confirmed.

Individual weekly bulletins are available to download, as they are published, from the CDSC (NI) website.

Figure 9: GP Consultation Rates for Influenza and 'Flu-Like Illness



Source: CDSC (NI) Enhanced Surveillance of Influenza

Influenza Vaccination in Northern Ireland

2002/03

During the winter of 2002-2003, DHSSPS set an uptake target of 70 % for influenza vaccination in those aged 65 and over. In addition to the immunisation of those aged over 65 years, a target of 60% influenza immunisation uptake among the under 65 “at risk” population was also set. Prior to the commencement of the 2002/03 campaign it was agreed that, across Northern Ireland, a nominal 10% of the under 65 population should be considered “at risk”.

All four Health and Social Services Boards met or exceeded the target set for those aged 65 and over and the overall uptake in NI, for this age group, was 72% (range 71% - 74%). The overall uptake in the under 65 “at risk” population for 2002/03 was 56% (range 52% - 62%), which may reflect variation between Boards and between individual GP practices in the proportion of under 65s considered to be “at risk”. An analysis of the 2002-2003 vaccination campaign may be found in the Monthly Report for April 2003 (Volume 12 No.2), available at <http://www.cdscni.org.uk>

2003/04

For winter 2003/04, DHSSPS again set uptake targets of 70% for influenza vaccination in those aged 65 and over and 60% influenza immunisation uptake among the under 65 “at risk” population.

By 30 November 2003, the uptake target in those aged 65 and over had already been met and exceeded, with an overall NI uptake rate of 70.4% (range 69.1% to 73.7%). This is despite a 0.4% increase in the number of those aged 65 and over between 2002 and 2003.

By the same date, the uptake target in “at risk” individuals under 65 years of age had also been met and exceeded, with an overall NI uptake rate of 61.3% (range 59.4% to 65.7%).

Final influenza immunisation uptake figures were collected at the end of the 2003/04 campaign and a detailed report, including clinical risk profile of vaccinated individuals, has been published in the Monthly Report for March 2004 (Vol 13 No.2), available at <http://www.cdscni.org.uk>.

Enhanced Surveillance of Meningococcal Disease (ESMD) 2003 Calendar Year

Meningococcal disease is a major worldwide cause of morbidity and mortality caused by bacteria of the species *Neisseria meningitidis*, of which there are thirteen serogroups. All serogroups are capable of causing disease. The most important of these are the serogroups A, B, C and W135, which differ primarily in the structure of their capsules or outer envelopes. Many people carry strains of *Neisseria meningitidis* in their nasopharynx without ever developing invasive disease. In Western Europe and most industrialised countries, serogroups B and C are responsible for the majority of infections. Meningococcal disease can occur at any time of year in susceptible individuals. However, in Europe, it tends to increase notably during the winter months. Further information can be found on the Health Protection Agency (<http://www.hpa.org.uk/>) and CDSC (NI) (<http://www.cdscni.org.uk>) websites.

Since January 1999, Northern Ireland has participated in a national enhanced surveillance programme for meningococcal infection. Cases of invasive meningococcal disease are notified to the surveillance programme throughout the year by CsCDC and the data is validated monthly.

A significant increase in the UK incidence of serogroup C infection during the 1990s led, in 1999, to the introduction of a meningococcal C conjugate (Men C) vaccine. Prior to such vaccination, serogroup C infections accounted for around 30-35% of all invasive meningococcal disease cases in the UK. In England and Wales, between 1999 and 2001, laboratory-confirmed reports of serogroup C infections fell by 86%. The number of deaths in those less than 20 years of age also fell from 60 in 1999 to 6 in 2001¹. A similar outcome has also been observed in Northern Ireland. In 1999, when enhanced surveillance of meningococcal disease commenced, 39% of all laboratory-confirmed cases were due to serogroup C infection. In the following two years, this figure fell significantly; to 26% in 2000 and 10% in 2001. No further decrease was recorded during 2002. However, in 2003, less than 5% of all laboratory confirmed cases in Northern Ireland were due to serogroup C infection.

The enhanced surveillance programme allows the compilation and analysis of all cases of meningococcal disease, including those with a clinical diagnosis only. Collation of supplementary information also enables the identification of fatalities and clusters, monitors the impact of the Men C vaccination programme and highlights any vaccine failures.

The 2003 Northern Ireland dataset is now complete. A total of 116 notifications of meningococcal disease were received during the calendar year, giving an incidence rate of 6.9 cases per 100,000 population (Table 7). This compares with an incidence rate of approximately 4.6 per 100,000 population for England and Wales over the same period^{2,3}

Table 7: Cases and rate per 100,000 persons by Health Board, 2003, Northern Ireland

Board	Population ⁴	Confirmed	Rate	Probable	Rate	All cases	Rate
EHSSB	666,860	20	3.0	9	1.3	29	4.3
NHSSB	428,226	33	7.7	4	0.9	37	8.6
SHSSB	312,190	18	5.8	5	1.6	23	7.4
WHSSB	282,043	12	4.3	15	5.3	27	9.6
Northern Ireland	1,689,319	83	4.9	33	2.0	116	6.9

Source: CDSC (NI)

Of the 116 cases notified in 2003, a total of 83 (71.6%) were laboratory confirmed as *Neisseria meningitidis* infection. Of these 83 cases; 71 (85.6%) were identified as serogroup B infection, 4 (4.8%) as serogroup C infection and the remaining 8 (9.6%) cases were ungrouped or identified as other serogroups (Table 8).

Table 8: Laboratory confirmed cases by Health Board, 2003, Northern Ireland

Board	Serogroup B	Serogroup C	W135	Others and Ungrouped
EHSSB	19	0	0	1
NHSSB	29	0	0	4
SHSSB	15	3	0	0
WHSSB	8	1	0	3
Northern Ireland	71	4	0	8

Source: CDSC (NI)

The number of laboratory confirmed cases, and the proportion of those identified as serogroup B infection, was almost identical in 2002 and 2003. However, the total number of notifications in 2003 was considerably lower than that recorded for 2002 (116 cases compared to 133 cases).

PCR continues to be an important tool for the rapid diagnosis of meningococcal disease. During 2003, PCR was used in the diagnosis of 79% of all confirmed cases and as the sole diagnostic tool in 54% of all confirmed cases. In contrast, culture was used as the sole diagnostic tool in only 20% of confirmed cases during 2003.

As in previous years, the majority of cases of invasive meningococcal disease in 2003 were reported in children, particularly those aged 4 years and under (Table 9)

Table 9: Cases and rate per 100,000 persons by age, 2003, Northern Ireland

Age group	Population ⁴	B	C	Others and Ungrouped	Total Confirmed	Rate
0-2	66929	36	0	4	40	59.8
3-4	47820	9	2	0	11	23.0
5-14	255295	10	1	1	12	4.7
15-17	80670	3	0	0	3	3.7
18-24	159592	7	0	1	8	5.0
25+	1079013	6	1	2	9	0.8
Total	1689319	71	4	8	83	4.9

Source: CDSC (NI)

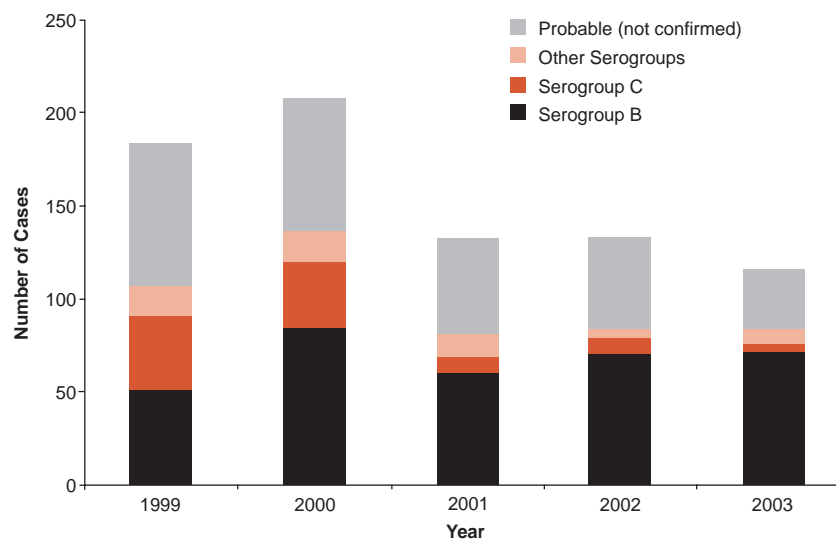
During 2003, three deaths were attributed to invasive meningococcal disease. All occurred in children (aged 1, 2 and 3 years), all presented with septicaemia and all had laboratory confirmed serogroup B infection. By comparison, seven deaths occurred during 2002, of which four were in children aged 2 years and under with laboratory confirmed serogroup B infection.

Men C vaccine failures occurred in two fully vaccinated children, aged 3 years and 11 years, during 2003. There have been a total of four vaccine failures in Northern Ireland since the vaccination campaign began, in November 1999.

References

1. Balmer, P. & Miller, E. Meningitis C: a Vaccine Update. *Vaccine Action*. Issue 8. Spring 2002.
 2. Health Protection Agency <http://www.hpa.org.uk/cdr/>
 3. 2002 mid-year population estimates National Statistics Online <http://www.statistics.gov.uk/>
 4. 2001 mid-year population estimates, Northern Ireland Statistics Research Agency <http://www.nisra.gov.uk/>
-

Figure 10: Cases of invasive meningococcal disease, Northern Ireland, 1999-2003



Source: CDSC (NI)

Enhanced Surveillance of Tuberculosis

Tuberculosis is the leading cause of death worldwide due to any single infectious agent¹ and, in 1993, the World Health Organisation declared tuberculosis a global emergency. It is caused by organisms of the *Mycobacterium tuberculosis* complex, which include *M. tuberculosis*, *M. bovis* and *M. africanum*. All three of these organisms are capable of causing tuberculosis in humans, however it is *M. tuberculosis* which is of the greatest public health importance. Infection can take the form of chronic pulmonary infection, where the organism infects part of the lung and is transmitted by coughing or sneezing. Non-pulmonary tuberculosis is less common than the pulmonary form and can involve any organ or tissue, most commonly bone, lymph nodes, central nervous system, skin and the genito-urinary tract.

The global incidence rate of tuberculosis is growing at approximately 0.4% per year. During 2001, 2.4 million new cases of tuberculosis were reported worldwide, of which half were smear positive. However, it has been estimated that these 1.2 million new smear positive cases represent only one third of the true total².

Tuberculosis disproportionately affects poorer nations and the greatest burden of disease is to be found in South-East Asia and sub-Saharan Africa. In addition, HIV infection is now the single most important factor driving the global tuberculosis pandemic. It is estimated that up to 12 million people worldwide are co-infected with HIV/AIDS and tuberculosis and, of these, 70% live in sub-Saharan Africa³. In future, particularly in those countries with widespread *M.bovis* infection of livestock and where conditions favour zoonotic transmission of infection, this form of tuberculosis may also become an increasing threat to public health⁴.

Since the 1990s, multi-drug resistant strains of tuberculosis have emerged throughout the world. These are defined as strains with resistance to isoniazid and rifampicin, with or without resistance to other drugs. Although the numbers of tuberculosis isolates has been increasing in the UK since the late 1980's, the percentage of those displaying multi-drug resistance has remained at the same low level. Not surprisingly, the highest proportion of multi-drug resistance has been observed in individuals with a previous history of tuberculosis⁵. The high incidence of multi-drug resistance in other countries, especially Eastern Europe, is giving major cause for concern, particularly with the increasing movements in population from those countries to Western Europe and the UK.

An enhanced surveillance programme for tuberculosis has been operational in Northern Ireland since 1992. Data collected include: clinical details, treatment, laboratory results and demographic information. This enables the production of a detailed annual report on the local epidemiology of

tuberculosis. A national surveillance system commenced in England and Wales in 1999, and Northern Ireland joined this scheme in 2000.

The next phase of the national surveillance programme commenced in January 2002, with the collection of treatment outcome information on all tuberculosis cases notified from 1 January 2001. Outcome data in Northern Ireland is now collected on a standardised 'Tuberculosis Treatment Outcome Surveillance Form', which has been customised for local use.

Once a case has been notified, patient details are entered onto a secure database at CDSC (NI) and Outcome Forms are generated automatically. These forms are then forwarded, approximately 9 months after initial notification, to the appropriate Consultant in Communicable Disease Control (CCDC) for completion by the patients' clinician.

Notification and Outcome data are validated regularly (using laboratory reports and anti-microbial resistance information), updated and analysed. The anonymised information is then used for inclusion in National, European and WHO reports, as well as for disease surveillance at a local level. As the data collection process can only be completed 12 months after the initial notification, an annual epidemiological report does not normally become available until 18 months after the end of the reporting period. A report presenting the epidemiological data for tuberculosis cases reported in NI from 1 January 2001 to 31 December 2001 is available at: <http://www.cdscni.org.uk/publications>

2002 Calendar Year

During 2002, a total of sixty-seven cases of tuberculosis were notified through the enhanced surveillance scheme. This is equivalent to a rate of 3.9 per 100,000 population, between one third and one quarter of the rate recorded for England and Wales. Fifty-four of these cases were reported as pulmonary disease and thirteen as non-pulmonary disease. This represents an increase of over 20% when compared to 2001, when thirty-six pulmonary and nineteen non-pulmonary cases were notified. Thirty-nine of the fifty-four pulmonary cases and nine of the thirteen non-pulmonary cases notified in 2002 were confirmed, by culture, to have *Mycobacterium tuberculosis* infection. The remaining nineteen cases, although not culture confirmed, were treated on the basis of clinical judgement or were diagnosed at post mortem. There were no *M. bovis* isolates cultured from cases notified in 2002. A report presenting the epidemiological data for tuberculosis cases reported in NI from 1 January 2002 to 31 December 2002 will be prepared during 2004 and published, in due course, on the CDSC (NI) website.

2003 Calendar Year

Provisional data indicates that, during 2003, a total of fifty-two cases of tuberculosis were notified through the enhanced surveillance scheme. Thirty-two of these cases were reported as pulmonary disease and twenty as non-pulmonary disease. Twenty-two of the thirty-two pulmonary cases and fourteen of the twenty non-pulmonary cases notified in 2003 have, to date, been culture confirmed as *Mycobacterium tuberculosis* infection. In addition, *M. bovis* infection was culture confirmed in two further non-pulmonary cases notified during 2003.

Tuberculosis in Northern Ireland has, for many decades, been a disease confined largely to older age groups born in the UK or Ireland. Historically, this has often been due to re-activation of latent disease, rather than to newly acquired infection. However, recent trends suggest a decrease in the age at which individuals are becoming infected. Examination of the data also indicates that this decrease in age cannot be attributed solely to the importation of disease into Northern Ireland from other EU countries, or from elsewhere.

Although tuberculosis is not considered a major communicable disease problem in Northern Ireland, changing disease patterns and epidemiology in demographic groups observed elsewhere, and particularly in England and Wales, indicate the need for vigilance and the importance of functional and informative surveillance strategies. The predictive value of surveillance systems may well be tested in the future, particularly with the expansion of the European Union and increasing migration to the UK both from within, and from outside, Europe.

References

1. *World Health Organisation Report on the Tuberculosis Epidemic (1997)*. WHO, Geneva.
 2. *World Health Organisation Report on Global Tuberculosis Control (2003)*. WHO, Geneva.
 3. *World TB Day 24 March 2003 Newsletter*. Published at <http://www.hpa.org.uk/>
 4. Cosivi, O., Grange, J. M., Daborn, C.J., Raviglione, M. C., Fujikura, T., Cousins, D., Robinson, R.A., Huchzermeyer, H. F. A. K., de Kantor, I. & Meslin, F-X. (1998) *Emerg. Infect. Dis.* 4(1): 59-70.
 5. *PHLS 1999/2000 Review of Communicable Diseases – England and Wales*. Published at <http://www.hpa.org.uk/>
-

Legionella Infections

Bacteria of the genus *Legionella* consist of 39 species and greater than 60 serogroups, around half of which have been implicated in causing human disease. The best-known species is *L. pneumophila*, and the most common disease causing serogroups are 1 and 6. They are responsible for causing two types of infection in susceptible individuals; Pontiac fever and Legionnaires' Disease. Pontiac Fever is a milder form of infection, where patients present with 'flu-like symptoms in the absence of pneumonia. These symptoms develop quickly and resolve spontaneously in a few days.

Legionnaires' Disease is a more severe condition associated with significant morbidity and mortality, particularly amongst immunocompromised patients and the elderly. Men are more commonly affected than women. The primary manifestation is pneumonia, with a dry non-productive cough and severe 'flu-like symptoms. Multi-organ involvement can occur with an overall mortality rate of 15-20%, though this can be much higher in immunocompromised patients. It can occur sporadically as an uncommon cause of community-acquired pneumonia, or as cases associated with environmental sources such as hospitals, hotels and factories.

The organisms survive well in warm, moist environments, even in the presence of chlorine. Therefore they are often found in water storage systems, where they survive and proliferate through parasitism of amoebae. Transmission to humans takes place via inhalation of contaminated aerosols, in environments such as saunas, showers, humidifiers and cooling towers.

Legionnaires' Disease is treated using antibiotics such as erythromycin or tetracycline in community-acquired cases. Identification and treatment of any environmental source is also an important part of disease eradication, and the Health and Safety Executive produces a code of practice for control of the organism¹. Clusters of disease related to a common environmental source are not unusual, and guidelines are produced for the investigation of such clusters², as well as for isolated cases³. Outbreaks of the disease can also be related to hotels, and many cases diagnosed in the UK are acquired abroad by individuals on holiday.

The European Working Group for Legionella Infections (EWGLI) was established in 1986 with the aim of improving knowledge and information on the clinical and environmental aspects of Legionnaires' Disease through developments in diagnosis, management and treatment of the disease. In 1987, the group initiated a surveillance scheme (EWGLINET), which detects cases of Legionnaires' Disease among those staying in hotels or other types of holiday accommodation within Europe. Information regarding cases can then be made available to appropriate authorities, for the purposes of investigation. When notified of a case of Legionnaires' Disease which was possibly acquired abroad (within Europe), EWGLI

informs all countries of case notifications and possible country of origin. In addition, EWGLI also aims to identify clusters relating to particular establishments, and provides cluster alerts to all member countries.

In Northern Ireland during 2003, seven cases of *Legionella* infection were notified to CDSC (NI) through HPA surveillance questionnaires for Legionnaires' Disease. This is the highest annual total recorded. One had no symptoms of pneumonia, and was deemed to be Pontiac Fever. One other case had no history of travel, and was categorised as a sporadic domestic case.

The remaining five travel-associated cases were notified to EWGLINET, and two were part of separate clusters. One outbreak was related to holiday accommodation in Turkey, and to date has involved one other case. The remaining cluster was related to accommodation in Bulgaria, which has involved four other cases of Legionnaires' Disease, one case of Pontiac Fever and one asymptomatic case. The remainder of the local cases were associated with travel to Italy, Bulgaria and Portugal. Four (57%) of the cases were female, and all five involved travel in a European country outside the UK (Table 10). Ages ranged from 23 years to 70 years, with a median age of 48 years.

Since 1980, 36 cases of Legionnaires' Disease have been recorded by CDSC (NI). The female:male ratio was 1:4, and twenty-one (58%) cases were known to have travelled within Europe during the incubation period of the disease.

Table10: Legionnaires' Disease in Northern Ireland, 1980-2003

YEAR	Travel Abroad	UK	Domestic Acquired in NI	Nosocomial	Total Cases	Total Deaths
1980	1	0	0	0	1	0
1981	0	0	0	0	0	0
1982	0	0	0	0	0	0
1983	0	0	1	0	1	1
1984	1	0	0	0	2	0
1985	1	0	0	0	1	0
1986	0	0	1	0	1	0
1987	1	0	0	0	1	0
1988	0	0	2	0	2	0
1989	2	0	0	0	2	0
1990	1	0	1	1	1	0
1991	0	0	0	0	0	0
1992	2	0	0	0	2	0
1993	1	0	0	0	1	0
1994	0	1	0	0	1	0
1995	1	0	0	0	1	0
1996	0	0	0	0	0	0
1997	0	0	1	0	1	0
1998	1	0	0	0	1	0
1999	2	0	3	0	5	2
2000	1	0	0	0	1	0
2001	0	0	0	0	0	0
2002	1	0	3	0	4	0
2003	6	0	1	0	7	0

Source: CDSC (NI)

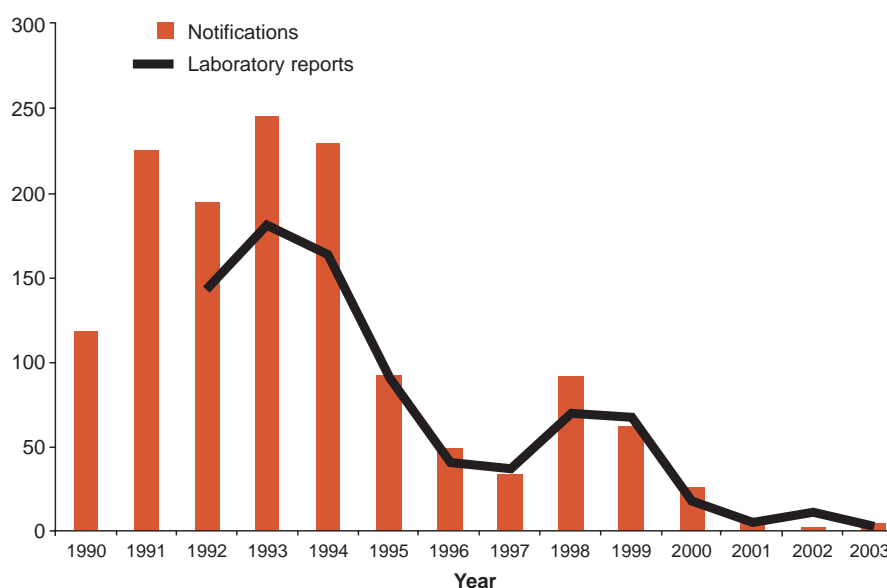
1. Legionnaires' Disease: Control of *Legionella* bacteria in water systems. London. HSE Books
2. Investigation of outbreaks (and single cases) of legionellosis from water systems incorporating cooling towers and evaporative condensers. HSE, 2002. Available at:<http://www.hse.gov.uk/lau/lacs/46-4.htm>
3. Lee J V and Joseph C. Guidelines for investigating single cases of legionnaires' disease. *Communicable Disease and Public Health* 2002; 5, 2, 157-162.

Hepatitis

Hepatitis A

There were 3 laboratory reports of Hepatitis A in 2003, 2 males and 1 female, aged between 12 and 49 years. There was no history of foreign travel noted for any of the cases. Laboratory reports of Hepatitis A have decreased considerably over recent years. In 2000, 18 reports were received, compared with 5 and 11 in 2001 and 2002 respectively. Notifications of Hepatitis A have also decreased with 26 received in 2000 compared with 6 in 2001, 1 in 2002 and 4 in 2003.

Figure 11: Notifications and Laboratory Reports of Hepatitis A, 1990-2003, Northern Ireland

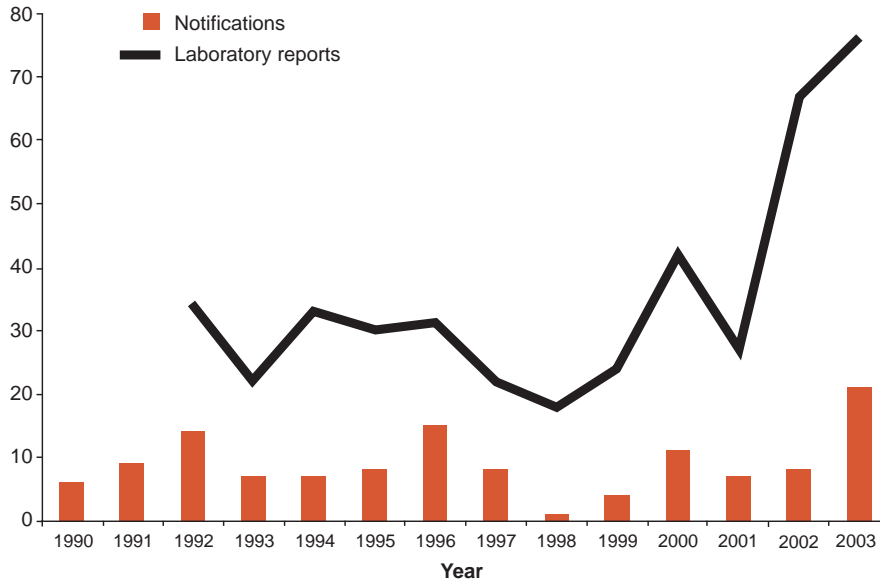


Source: CDSC (NI)

Hepatitis B

There were 76 laboratory reports of Hepatitis B received in 2003: 44 males, 29 females and 3 of unknown gender. The females were aged from 21 years to 46 years, the males from 9 years to 80 years and the other 3 from 23 years to 45 years. Hepatitis B laboratory reports have generally increased over recent years with 37 reported in 2001 and 67 in 2002. Twelve (16%) of the 76 laboratory reports received in 2003 were associated with an acute infection, compared with 8 (12%) of the 67 reports received in 2002. None of the Hepatitis B reports received in 2003 were reported to have been associated with intravenous drug use, although risk factor information is very incomplete. Notifications of Hepatitis B are considerably lower, with 7 reported in 2001, 8 in 2002 and 21 in 2003.

Figure 12: Notifications and Laboratory Reports of Hepatitis B, 1990-2003, Northern Ireland

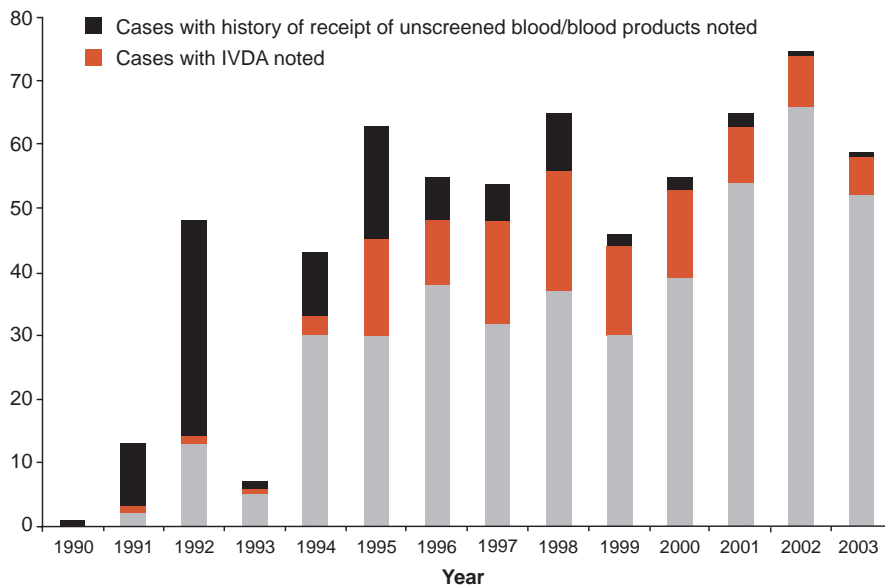


Source: CDSC (NI)

Hepatitis C

There were 59 laboratory reports of Hepatitis C received in 2003, 50 males and 9 females. The females were aged 22 years to 79 years and the males from 17 years to 84 years. Of the 50 males for whom laboratory reports were received, it was noted that 6 had experimented with intravenous drugs in the past and one was HIV positive. There were no risk factors recorded for any of the female cases. Laboratory reports of Hepatitis C have fluctuated over recent years; from 1995-2002 laboratory reports have ranged from 23 to 70 per year. Hepatitis C is currently not a notifiable disease in Northern Ireland.

Figure 13: Laboratory Reports of Hepatitis C, 1990-2003, Northern Ireland



Source: CDSC (NI)

Hepatitis C is the most significant infectious disease affecting those who inject drugs. The Unlinked Anonymous Prevalence Monitoring Programme of injection drug users was extended to Northern Ireland in 2002¹. Sixteen per cent (12/77) of injecting drug users at the survey sites had antibodies to Hepatitis C. Approximately half of injectors with Hepatitis C were aware of their infection. The DHSSPS will be issuing a Hepatitis C strategy and action plan in 2004 which will address surveillance, clinical and prevention issues.

References:

1. *Shooting Up. Infections among injecting drug users in the UK 2002. An update: December 2003.*
Health Protection Agency.
-

HIV and AIDS

Northern Ireland participates in the national HIV/AIDS surveillance programme, primarily based on confidential voluntary reporting of cases by clinicians to the Communicable Disease Surveillance Centre (Colindale) and the Scottish Centre for Infection and Environmental Health.

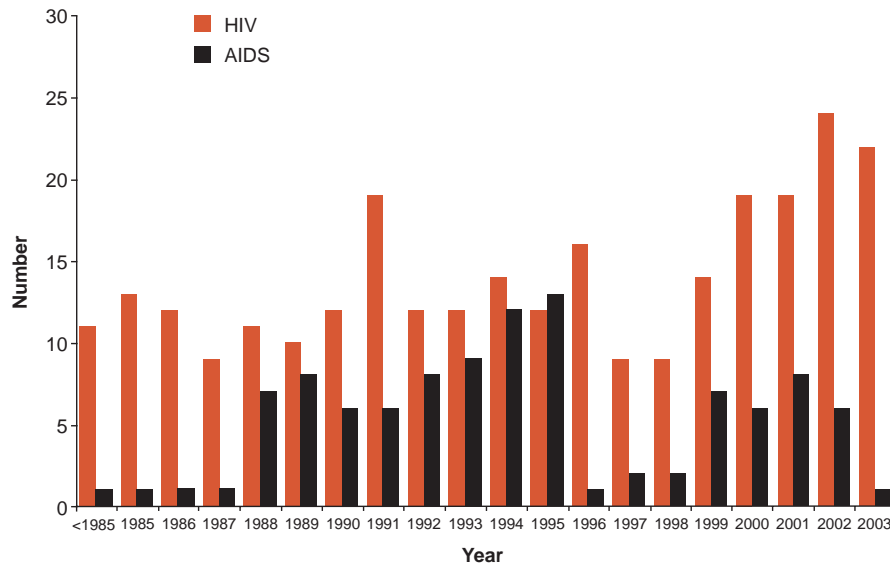
By 31 December 2003 61,100 HIV infected individuals had been reported within the United Kingdom since surveillance commenced in the 1980s. Table 11 describes the number of HIV infected individuals and those with AIDS for England, Wales, Scotland and Northern Ireland. In England 64% of HIV infected individuals were first reported from the London region.

Table 11: HIV infected individuals^s and AIDS cases by country to 31 December 2003

Country	HIV	AIDS
England	56,286	18,509
Wales	878	294
Scotland	3,657	1,180
Northern Ireland	279	106
United Kingdom	61,100	20,089

By 31 December there were 279 reports of HIV infected individuals^s who were first diagnosed in Northern Ireland. This total excludes those initially diagnosed in Great Britain (GB) but who have returned to Northern Ireland and could be receiving treatment for their infection – these individuals are included in the GB total. Figure 14 describes the number of HIV infected individuals^s and AIDS cases by year of diagnosis since the start of HIV/AIDS surveillance.

Figure 14: HIV infected individuals⁵ & AIDS cases by year of diagnosis, 1985-2003, Northern Ireland



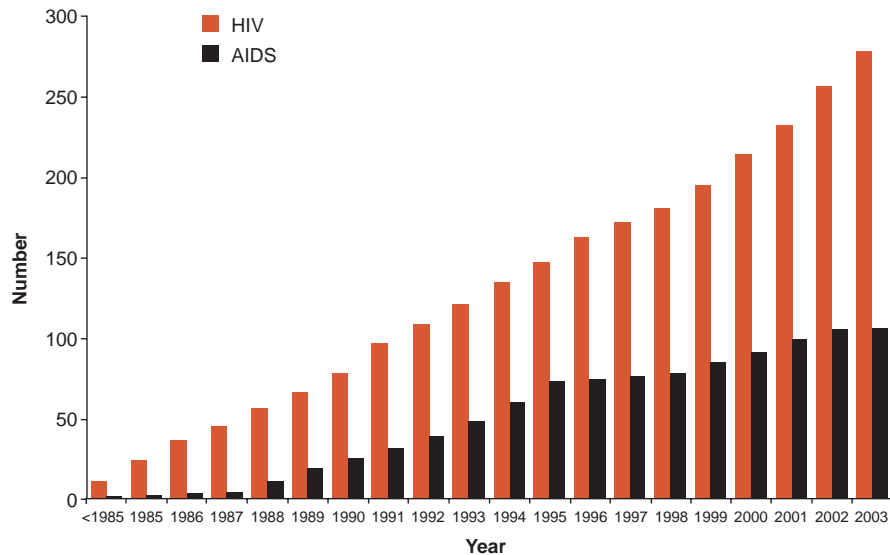
Source: CDSC (NI)

⁵ Individuals with laboratory reports of infection plus those with AIDS or death reports for whom no matching laboratory report has been received.

Since HIV surveillance commenced there have been between 9-24 new cases of HIV infection being reported each year. However, the number of new reports of HIV infection has increased in recent years. The mean annual number of cases reported between 1988-2002 was 15 – there were 22 cases reported to date for 2003, and 2002 saw the highest number of cases (24) reported in a single year since surveillance began.

The effect of enhanced anti-retroviral therapy introduced in 1996 has been to delay progression to AIDS in those who have had their HIV infection previously diagnosed. There have been 106 AIDS cases diagnosed in the Province to 31 December 2003. On average, there have been 6 cases of AIDS diagnosed annually between 1988-2003. Figure 15 shows that whilst cumulative cases of HIV are increasing, cumulative cases of AIDS are increasing at a much lower rate.

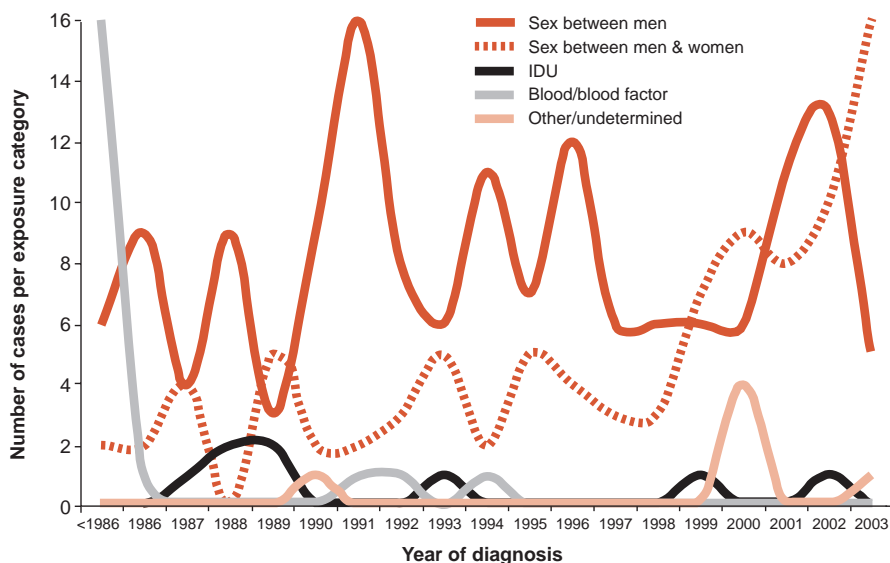
Figure 15: HIV^s and AIDS cases: cumulative total by year of diagnosis, 1985-2003, Northern Ireland



Source: CDSC (NI)

Globally, the main exposure category for HIV infection is via heterosexual intercourse. The main exposure category for HIV infection in Northern Ireland remains sex between men and this accounted for 153/279 (55%) reports; this proportion is very similar to that noted for the UK. Nevertheless, the cumulative proportion of cases in who acquired their infection through heterosexual intercourse is slowly increasing (27%, 28%, 29% by the end of 2000, 2001 and 2002 respectively, rising to 33% by end of 2003). Eight (3%) are thought to have acquired HIV infection through injecting drug use, and this number has shown little change in recent years.

Figure 16: HIV^s infected individuals by exposure category and year of diagnosis, 1986-2003, Northern Ireland

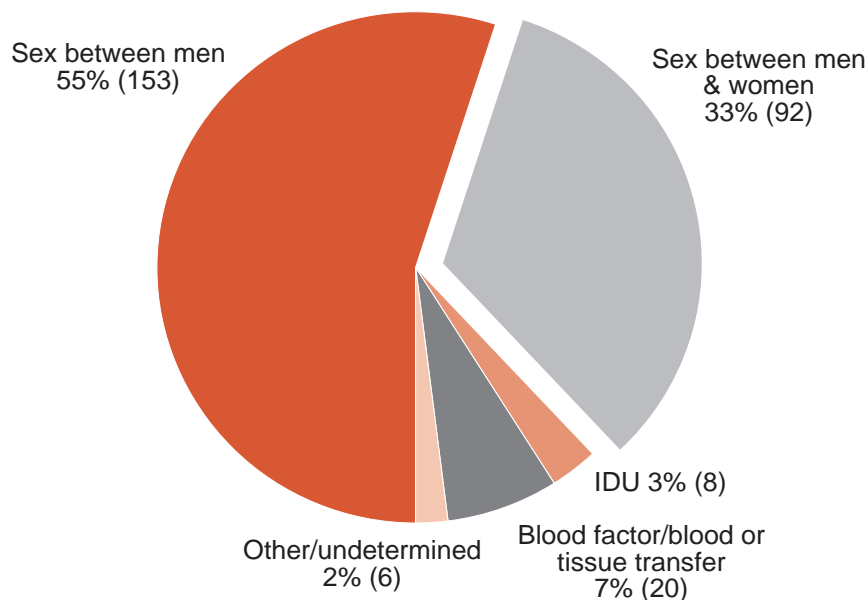


Source: CDSC (NI)

^s Individuals with laboratory reports of infection plus those with AIDS or death reports for whom no matching laboratory report has been received.

In the UK as a whole, the proportion of those HIV infected individuals thought to have acquired their infection through injecting drug use is 7%, but in Scotland this proportion is much higher - 33%.

Figure 17: HIV infected individuals⁵ by exposure category to 31 December 2003, Northern Ireland



N = 279

Source: CDSC (NI)

⁵ Individuals with laboratory reports of infection plus those with AIDS or death reports for whom no matching laboratory report has been received.

Table 12: AIDS cases by exposure category to 31 December 2003, Northern Ireland

Exposure category	Male	Female	Total
Sexual intercourse:			
between men	59		59
between men & women	15	12	27
Injecting drug use	2	2	4
Blood/blood factor	12	1	13
Other/undetermined	2	1	3
Total	90	16	106

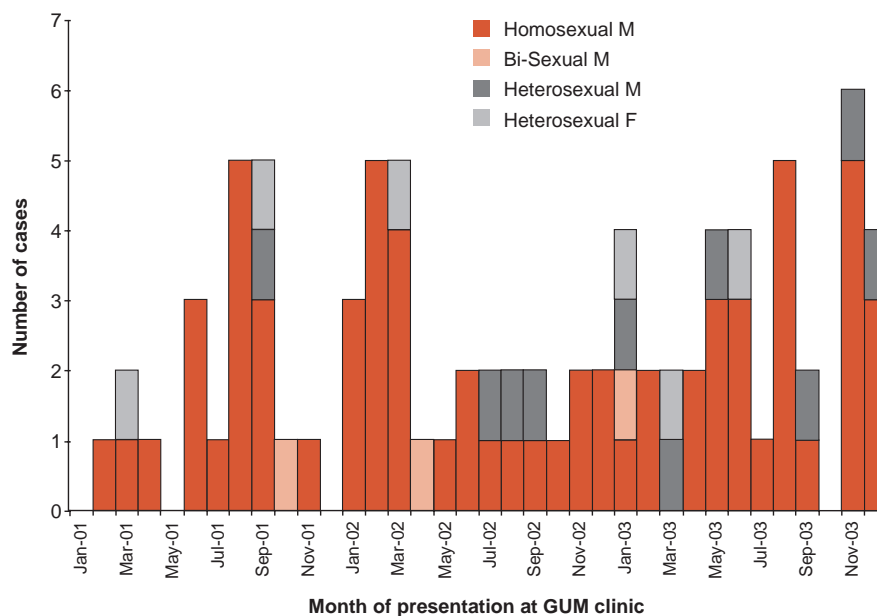
Source: CDSC (NI)

Syphilis Outbreak in Northern Ireland 2001-2003

The syphilis outbreak identified in October 2001 continued throughout 2002 and 2003, and is still ongoing. Thirty-six individuals presented to a genito-urinary clinic in 2003 compared with 28 in 2002 and 20 in 2001; one presented in 2000.

By 31 December 2003 85 cases had been reported since 1 July 2000. All except six were male, and most (69) were men who have sex with men (MSM); three of whom were bisexual. The mean age of the cohort was 36 years, range 17-64 years. Cases were resident in all four Boards in Northern Ireland and 6 were non-Northern Ireland residents.

Figure 18: Epidemic Curve: month of presentation at GUM clinic (n=85)



Source: CDSC (NI)

One individual presented to the GUM clinic in February 2000 and is not included in the epidemic curve

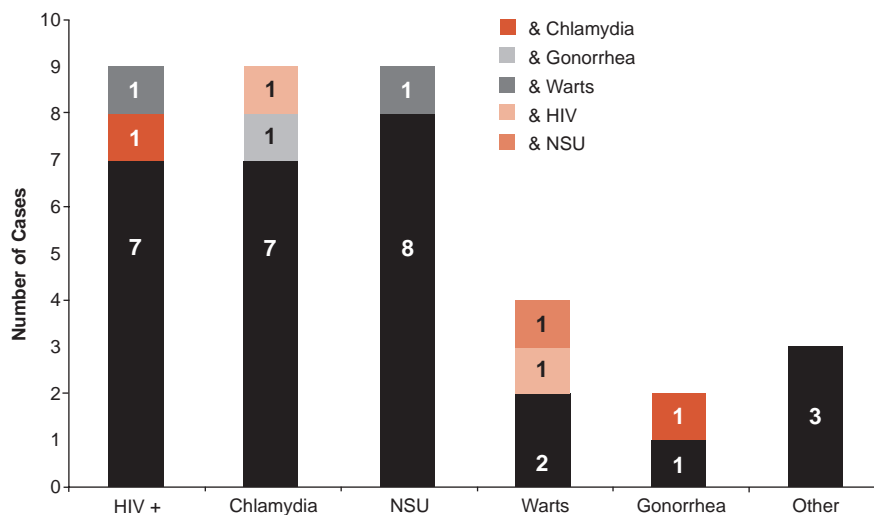
Most people cited more than one reason for attending the GUM clinic. The majority of cases presented because they were symptomatic for syphilis or another sexually transmitted disease (STI). Seventeen cases were identified through contact tracing: four of these were contacts of cases involved in the Dublin outbreak, and thirteen cases were identified as a result of contact tracing from this outbreak. One case was a pregnant woman identified through ante-natal screening and her partner was subsequently identified through contact tracing. Two cases were identified by the Northern Ireland Blood Transfusion Service.

Thirty six cases were diagnosed with primary syphilis, 24 with secondary syphilis, 15 with early latent syphilis and staging was unable to be confirmed in 10 cases.

High risk behaviour

None of the 85 cases admitted to intravenous drug use, and in general, the number of sexual contacts associated with this cohort is not large. Most (55) had 1 or 2 partners in the three months preceding infection, although one, a commercial sex worker had between 60 and 70. Only one of the cases was a commercial sex worker (CSW), and none of the other cases admitted contact with a commercial sex worker in the three months preceding diagnosis. The CSW was also HIV positive and worked in both Northern Ireland and Republic of Ireland. Thirty two cases had concomitant sexually transmitted infections (STIs), and of these, four had two STIs in addition to syphilis infection. Nine cases were HIV positive (8 of whom were previously aware of their status). This is of particular concern as HIV transmission may be enhanced by syphilis co-infection.

Figure 19: Concomitant STIs during this episode (n=32)



The 3 concomitant STIs categorised as 'other' were balanitis, bacterial vaginosis (BV), and scabies together with thrush.
NSU – non-specific urethritis

Source: CDSC (NI)

None of the heterosexuals (6 females, 10 males) considered anal intercourse as the likely route of their infection. Nine considered that vaginal intercourse was the most likely route of infection, but five were unable to determine whether their infection was more likely to have been acquired via oral or vaginal intercourse. Data on the most likely route of infection was available for sixty seven of the MSMs. Thirty three (48%) considered that oral intercourse was the most likely route of infection and fifteen (22%) considered that anal intercourse was the most likely route. Nineteen could not conclusively determine the most likely route of infection (oral-anal). The three bisexual MSMs all considered that the most likely route of their infection was via oral intercourse.

Individuals diagnosed at the beginning of the outbreak reported sexual contacts in Dublin whereas individuals presenting more recently appear to have contracted syphilis within Northern Ireland.

Table 13: Likely location at which infection was acquired (n=85)

Dublin	N Ireland	Elsewhere in UK	Outside British Isles*	Unknown
15	42	7	9	12

*Holland, USA, Spain, South Africa, Canary Islands, Ibiza, Germany

Source: CDSC (NI)

Three cases have had more than one episode of infection since the outbreak began in July 2000. Two cases have had 2 distinct episodes of infection while the third individual has had three distinct episodes of infection.

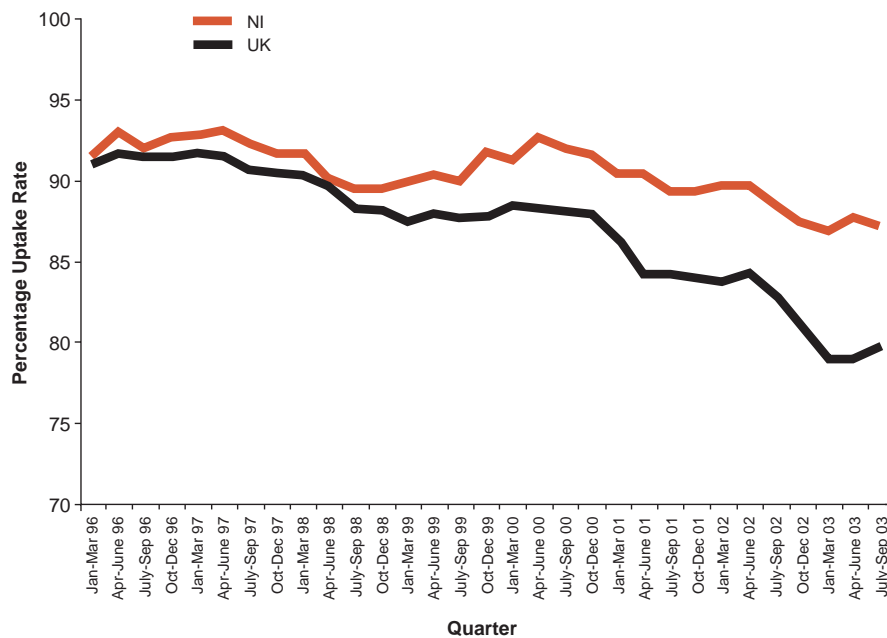
Initiatives to raise awareness of the re-emergence of syphilis commenced in mid-October 2001 and are ongoing. As the cohort was not generally associated with a high number of sexual partners, or multiple anonymous partners, or specific locations, it was difficult to identify a target group within the general population to implement intervention strategies. However, the outbreak was identified promptly and a strong network of organisations is continuing to provide information and raise public and professional awareness. The syphilis outbreak questionnaire was not designed to analyse perceptions of what constitutes 'safe sex', but the data collected suggests that oral sex may be perceived as being less risky than anal sex, and condoms are not always used even when the subject is aware that they have an STI. This highlights the need to reiterate the importance of using a condom for oral sex. The challenge is to raise awareness of sexual health issues, particularly in the heterosexual community, and to educate the sexually active population about the long-term consequences of infectious syphilis and other STIs, and of the importance of prevention and early detection if at risk of infection.

Childhood Vaccination Programme

Vaccination coverage statistics are available for the first three quarters of 2003. Vaccination uptake among children by their second birthday for diphtheria, tetanus, pertussis, polio, hib and meningitis C were 95% or greater and show little change from recent years.

MMR vaccination uptake rates stabilised during 2003 at approximately 87% after having fallen for the previous four quarters. The lowest MMR vaccine uptake among children by their second birthday since January 1996 was in Jan-Mar 2003 at 86.9%. It rose to 87.8% in the second quarter and then fell again to 87.2% in Jul-Sept. Despite this, vaccine uptake in Northern Ireland still remains higher than the UK (Figure 20) and reflects considerable activity at local level by Consultants in Communicable Disease Control, general practitioners, community medical and nursing staff working with parents and the media.

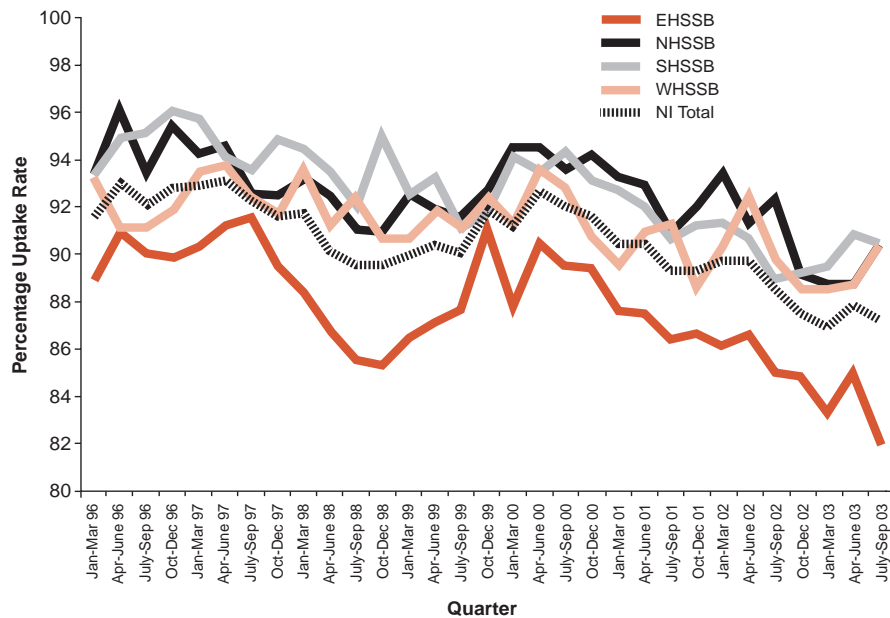
Figure 20: MMR Vaccination Uptake Rate at 24 months, 1996-2003, Northern Ireland and UK



Source: Cover/Korner – CDSC (Colindale)

The 2003 MMR quarterly uptake rates within Boards varied from 82% – 91% (Figure 21).

Figure 21: MMR Vaccination Uptake Rates at 24 Months by Board, 1996-2003, Northern Ireland



Source: CDSC (NI)

The salivary testing programme confirmed 55 cases of mumps during 2003. Reports of mumps have been increasing since September 2003 and this has carried through to 2004. There were no confirmed cases of measles or rubella but there was one laboratory confirmed case of rubella.

A more detailed report on the childhood vaccination programme, salivary testing programme and mumps outbreak can be found in Monthly Report Vol 13 No 1.

Trends in specific reported pathogens, 1995-2003, Northern Ireland

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Enterics									
Adenovirus (faeces only)	205	213	215	138	187	111	143	164	145
<i>Campylobacter</i>	557	653	778	775	862	1001	885	817	740
<i>Clostridium difficile</i> toxin	323	412	423	481	689	718	662	924	1015
<i>Clostridium perfringens</i>	2	11	5	12	6	10	12	20	20
<i>Cryptosporidium</i>	81	98	82	180	181	417	360	126	140
<i>E.coli</i> O157	7	14	30	29	54	54	46	27	53
<i>E. coli</i> O157 (VTEC)	0	0	27	24	49	47	43	27	51
<i>Giardia lamblia</i>	49	45	24	21	37	30	16	12	18
<i>Listeria</i>	5	2	4	6	1	4	5	2	3
Rotavirus	443	379	585	521	357	510	423	391	554
Total <i>Salmonella</i> sp	452	413	432	534	689	425	367	240	213
<i>S.enteritidis</i>	261	171	169	272	462	235	179	98	94
<i>S.enteritidis</i> PT 4	226	113	123	207	397	159	95	32	18
<i>S. paratyphi</i>	0	0	1	2	0	0	0	1	0
<i>S. typhi</i>	1	0	1	1	0	1	3	0	3
<i>S. typhimurium</i>	119	169	185	177	124	93	76	71	43
<i>S. typhimurium</i> DT 104	56	121	134	142	66	37	20	16	10
<i>Shigella</i>	259	154	24	14	12	11	16	9	13
SRSV	31	7	11	35	90	68	131	396	115
Respiratory									
Adenovirus (excl faeces)	27	41	87	135	96	72	185	40	25
<i>Chlamydia</i>	48	52	37	43	23	22	21	16	14
<i>Coxiella burnetii</i>	53	62	51	44	53	35	27	27	11
Influenza A	92	131	156	259	419	329	130	47	48
Influenza B	96	4	88	5	158	31	169	8	2
<i>M. pneumoniae</i>	47	23	124	111	20	17	82	64	24
RSV	420	903	1070	651	784	503	407	515	154
Hepatitis A	91	40	37	70	67	18	5	11	3
Hepatitis B	30	31	22	18	24	42	37	67	76
Hepatitis C	63	55	54	65	46	55	65	75	83
<i>M. tuberculosis</i>	65	50	37	32	38	26	42	47	37
<i>M. bovis</i>	2	4	2	0	3	0	2	0	2
<i>S. aureus</i> total (bacteraemia)	205	288	238	271	291	353	428	495	592
MRSA (bacteraemia)	3	26	30	52	69	131	192	186	251

Notifications of Infectious Diseases, 1990-2003, Northern Ireland

Disease	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Acute Encephalitis/ Meningitis:Bacterial*	106	110	89	105	122	98	69	74	48	82	99	68	75	69
Acute Encephalitis/ Meningitis:Viral*	52	62	29	17	22	18	36	17	16	17	31	29	23	9
Anthrax	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Chickenpox *	2744	3578	9955	6699	6138	4785	7004	5253	4907	4584	4531	3927	4931	4459
Cholera	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dysentery	51	66	174	129	136	272	155	29	18	10	24	22	7	14
Food Poisoning	819	636	915	954	1004	1266	1456	1534	1942	2033	2285	1644	1220	1268
Gastro-enteritis (persons under 2)	1157	1091	1070	1379	888	1072	745	896	1371	1121	1205	1106	882	867
Hepatitis A*	118	225	194	245	229	92	49	33	91	62	26	6	1	4
Hepatitis B*	6	9	14	7	7	8	15	8	1	4	11	7	8	21
Hepatitis Unspecified:Viral*	189	206	96	43	31	22	15	15	16	12	9	10	2	15
Legionnaires' Disease*	2	1	2	1	1	1	0	2	2	2	1	1	3	4
Leptospirosis*	2	3	1	3	3	0	1	1	2	1	0	0	1	0
Malaria*	4	8	14	8	6	5	14	16	23	13	11	13	2	1
Measles	334	342	303	495	950	263	197	120	112	79	92	96	89	57
Meningococcal Septicaemia*	2	23	27	34	39	42	67	56	87	145	123	90	98	76
Mumps**	187	189	156	115	103	93	67	68	79	93	1006	537	77	180
Paratyphoid Fever	0	0	1	1	2	0	0	1	1	0	0	0	1	0
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polio (paralytic)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polio (acute)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rabies	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Relapsing Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubella**	543	357	293	528	408	220	190	127	111	73	62	65	50	34
Scarlet Fever	772	575	525	575	519	502	478	425	486	432	310	283	214	304
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tetanus	0	0	0	0	1	0	0	1	0	0	0	1	0	0
Tuberculosis (Pulmonary)	94	69	68	69	64	71	51	56	43	44	36	31	58	26
Tuberculosis (Non Pulmonary)	37	27	16	21	29	19	24	19	18	17	22	17	10	12
Typhoid	3	0	0	1	0	0	1	1	2	0	0	1	3	0
Typhus	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Viral Haemorrhagic Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whooping Cough	285	240	205	134	234	131	148	135	100	108	61	65	69	40
Yellow Fever	0	0	0	0	0	0	0	0	0	0	0	1	0	0

* Only notifiable from 16 April 1990

** Only notifiable from October 1988

Source: DHSSPS (NI)