COMMUNICABLE DISEASES ISSN 1361 - 1887

Provisional Summary 2002

NORTHERN IRELAND EDITION Vol 11 No 13 March 2003

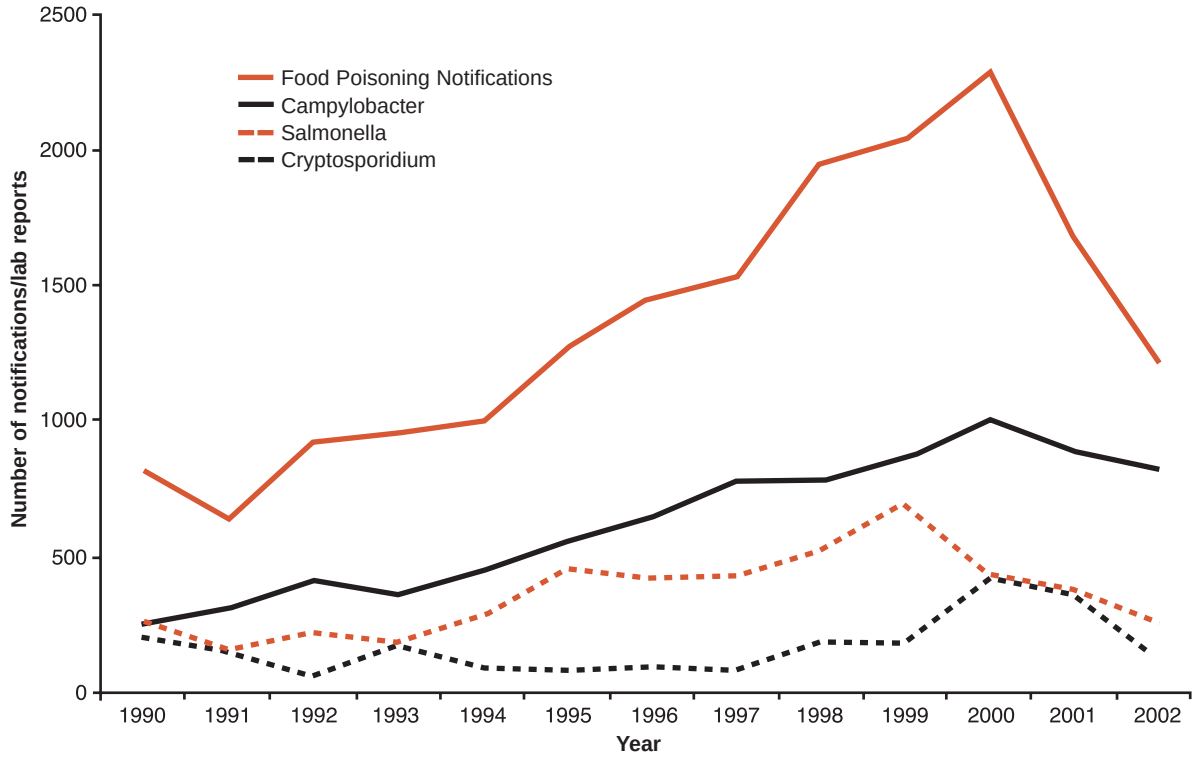
Introduction

This report summarises the main trends in communicable disease in Northern Ireland during 2002. It is primarily based on laboratory reports forwarded to CDSC (NI) and information supplied by Consultants in Communicable Disease Control (CCDCs). The data for 2002 should be regarded as provisional to allow for late reporting of results and for further typing of certain organisms. A more detailed report will be available later in 2003 with tables and graphs.

Gastrointestinal infections

Notifications of food poisoning had been increasing steadily from 1991 to 2000 and decreased dramatically in 2001. Notifications have declined by 47% over the past 2 years (from 2285 cases notified in 2000 to 1220 in 2002). Laboratory reports of *Campylobacter*, *Salmonella* and *Cryptosporidium* have also decreased in the past year.

Figure 1: Food Poisoning: Notifications and laboratory reports, 1990-2002, Northern Ireland



Campylobacter

Campylobacter remains the most common bacterial cause of food poisoning, with more than 3 times as many reports as *Salmonella.* However, reports have declined over the past 2 years with 1001 reported in 2000, 885 reported in 2001, and 817 reported in 2002 - a decrease of 7.7% compared to 2001.

Salmonella

Salmonella infection has shown a marked reduction for a third successive year. In 2000 there were 425 laboratory reports of salmonella, 367 in 2001 and 253 in 2002. This is the lowest annual total since 1993 when 178 cases were reported.

The decrease is mainly due to the large reduction in reports of *Salmonella enteritidis* and in particular *Salmonella enteritidis* PT 4. There were 99 reports of *S. enteritidis* in 2002 compared with 179 in 2001 (a reduction of 45%), and reports of phage type 4 declined by more than two thirds from 95 in 2001 to 31 in 2002. Reports of *S. enteritidis* PT 4 have also continued to decline in England and Wales but there were increases in a number of the more unusual phage types of *S. enteritidis*, namely PT 6a, 13a, and 14b. The rise in the phage types of *S. enteritidis* other than PT4 noted in England and Wales during 2002 was not observed in Northern Ireland.

Reports of *Salmonella typhimurium* have also declined - by 10% from 77 in 2001 to 70 in 2002. The decline in incidence of *S. typhimurium* DT 104 reports continues with 15 reports received in 2002 compared with 20 in 2001, and 37 in 2000.

Eighty (32%) cases of salmonella infection were acquired outside the UK in 2002. This compares with 160 (44%) of isolates acquired abroad during 2001.

There were no *Salmonella* outbreaks reported to CDSC (NI) during 2002.

E. coli O157

Reports of *E Coli* O 157 have almost halved compared to reports in previous years. A total of 28 isolates were reported during 2002. There were 52 reports of *E. coli* O 157 in 2001, of which 16 were attributable to an outbreak in a primary school and 54 in 2000, of which 8 were attributable to an outbreak in a nursery. All of the O 157 isolates reported in 2002 were Vero cytotoxin-producing *E. coli* (VTEC). There were no *E. coli* O 157 outbreaks reported to CDSC (NI) during 2002.

Cryptosporidium

There were 126 laboratory reports of *Cryptosporidium* during 2002 which is a 65% decrease on 2001. Reports of *Cryptosporidium* in the previous two years were exceptionally high due to outbreaks. More than half of all isolates reported in 2001 were attributable to a major water-borne outbreak, and two waterborne outbreaks in 2000 together accounted for 246 of the 417 reports that year.

Influenza

In Northern Ireland, enhanced surveillance of influenza for 2001/02 commenced in week 40 of 2001. During the 2001/02 season, the pilot study was expanded to a total of 20 sentinel GP practices situated throughout the Province. Twelve of these practices agreed to be involved in enhanced virological monitoring, by swabbing selected patients who presented with clinical influenza. For the current 2002/03 season, the number of participating sentinel GP practices has increased further to 24 and fifteen of these have agreed to participate in enhanced virological monitoring.

Throughout the 2001/02 season, consultation rates for influenza remained at very low levels, in accordance with that observed throughout the UK and Ireland. Consultation rates for 'flu-like illness (FLI) remained higher and much more variable than those for influenza (Figure 2).

To date, in the 2002/03 season, consultation rates for both influenza and FLI have been generally higher than those recorded in 2001/02, but lower than for 2000/01. However, since week 05 (2003), consultation rates for both influenza and FLI have been higher than for either of the previous two seasons.

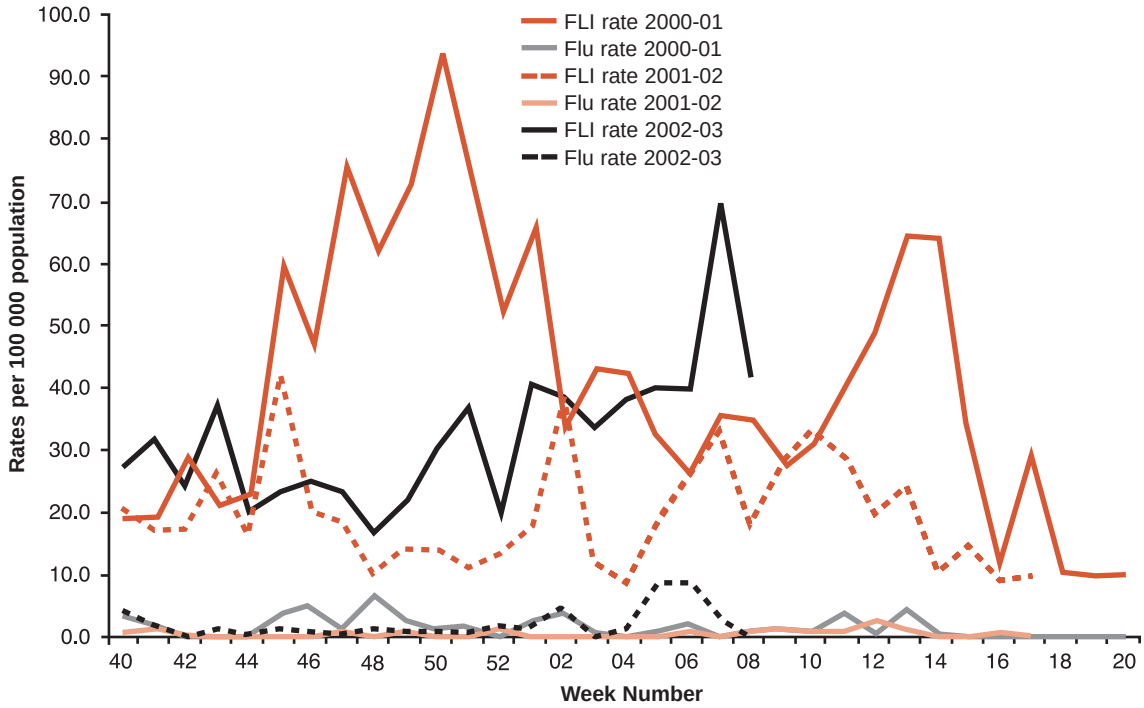
The full 2001/02 season summary may be downloaded from http://www.cdscni.org.uk. Individual weekly bulletins for the current season are also available on the CDSC (NI) website.

Virological Surveillance of Respiratory Infections in the Community

There were a total of 47 laboratory reports of influenza A and 8 of influenza B during the calendar year 2002. This compares to 130 and 170 reports respectively during 2001. The majority of positive laboratory reports are based on the presence of serum antibody to influenza virus. However, this may be due to previous infection or vaccination and therefore cannot be relied upon as an indicator of current infection. In 2002 there were 433 laboratory reports of RSV, compared to 407 reports in 2001.

During the 2001/02 surveillance period, 17 swabs were submitted by sentinel GP practices as part of the enhanced virological monitoring. Five were found positive for influenza A H3 and two for influenza A H1. Three further

Figure 2: GP consultation rates for influenza and FLI



swabs were found positive for adenovirus. An additional 17 swabs submitted from non-sentinel GPs and hospitalised patients were also found positive for influenza A. Thirteen were subtyped as influenza A H3 and three as influenza A H1. There were no detections of influenza B virus in Northern Ireland during the 2001/02 surveillance period.

Influenza Vaccination

The DHSSPS set a regional target of 70% influenza vaccine uptake among the over 65 population for winter 2002/03. By 30 November 2002, the overall Northern Ireland uptake rate was 69.5%. This is only very slightly lower than that recorded for the equivalent time period during winter 2001/02 (70.3%). Individual Board rates ranged from 68.2% to 70.6%.

In addition to the vaccination of those aged over 65 years, a target of 60% influenza vaccine uptake among the under 65 'at risk' population was also set by DHSSPS for winter 2002/03. It is estimated that approximately 10% of the under 65 population fall into the 'at risk' group. This group includes individuals with heart, renal or lung disease, diabetes, those who are immuno-suppressed through disease or chemotherapy and those living in residential homes. By 30 November 2002, the overall uptake rate in this group was 53.8%. Uptake rates by Health and Social Services Board ranged from 49.6% to 58.7%.

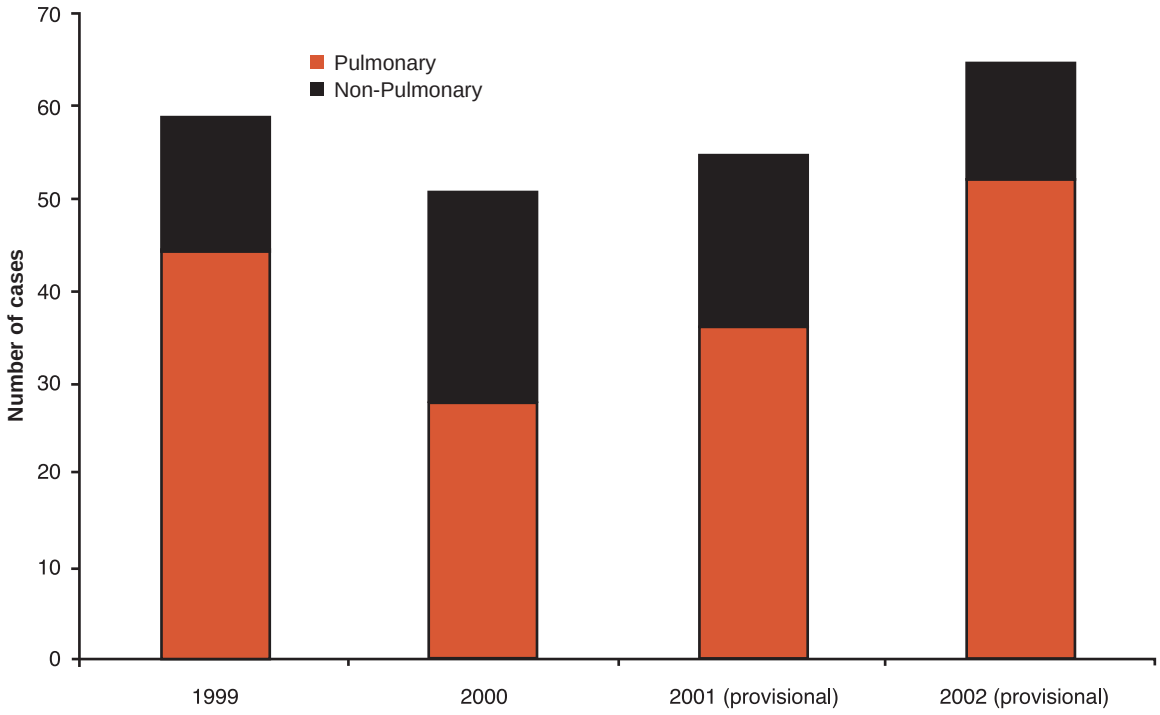
A detailed epidemiological report, including clinical risk profile of vaccinated individuals, will be prepared by CDSC (NI) at the end of March 2003.

Tuberculosis

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.

Through the enhanced surveillance programme, there were 52 notifications of pulmonary tuberculosis and 14 of non-pulmonary tuberculosis in 2002, compared with 36 and 19 respectively in 2001. To date, laboratory reports indicate that there have been 43 *M. tuberculosis* isolates cultured from cases notified in 2002, of which 35 (81%) are from patients with pulmonary tuberculosis. This compares with 41 *M. tuberculosis* isolates cultured from cases notified in 2001, of which 27 (66%) were from patients with pulmonary tuberculosis. There were no *M. bovis* isolates cultured from cases notified in 2002. This compares with 2 *M. bovis* isolates from cases notified in 2001.
In recent years, tuberculosis has been a disease confined largely to older age groups. Since 1992, when surveillance in Northern Ireland

Figure 3: Notifications of Tuberculosis through Enhanced Surveillance, 1999 - 2002, Northern Ireland

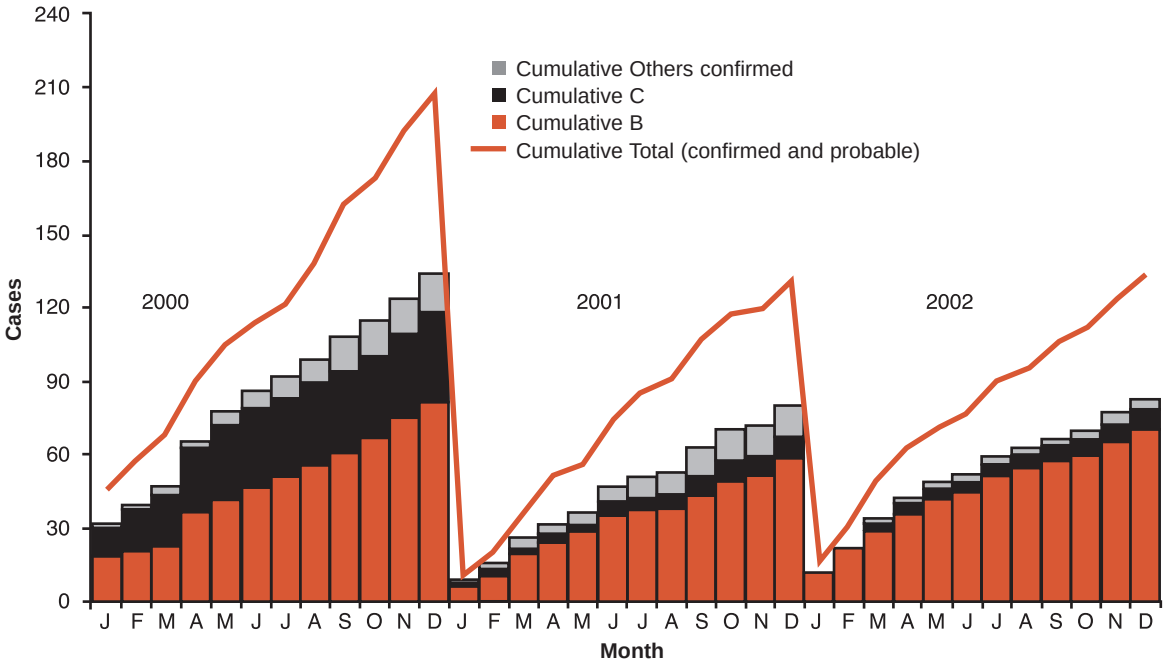


commenced, the number of notifications has been falling year by year. However, provisional examination of data collected through the enhanced surveillance scheme suggests that this downward trend has ceased and that numbers of notifications are now increasing once again (Figure 3). Of particular concern is the proportion of cases that are notified as pulmonary tuberculosis.

Meningococcal disease

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 CCDCs and the data is validated monthly (see Figure 4). The dataset includes laboratory confirmed cases and, in

Figure 4: Cumulative monthly cases of meningococcal disease from January 2000 to December 2002



addition, probable cases i.e. individuals for whom invasive meningococcal infection is the most likely cause of disease.

Between 1 January and 31 December 2002, there were 83 laboratory confirmed cases (70 group B, 8 group C and 5 ungrouped) and 50 probable cases of invasive meningococcal disease notified in Northern Ireland through the enhanced surveillance programme (total 133 cases). There were 7 deaths during 2002: four aged 0-2 years, one aged 5-14 years and two aged > 24 years. These figures are very similar to those of 2001, when 132 cases were notified and 81 were laboratory confirmed (60 group B, 8 group C and 13 Ungrouped or identified as other serogroups). The proportion of laboratory confirmed cases due to serogroup C infection has remained at 10 % during 2001 and 2002. This compares with a figure of 26.5% in 2000 and 37.4% in 1999 (when Men C vaccination commenced for specific age groups). During 2002, 5 of the 8 cases of serogroup C infection occurred in adults over 24 years of age who, under current guidelines, do not receive the Men C vaccine. However, the remaining 3 cases of serogroup C infection in 2002 occurred in children under 5 years of age. The first child (aged 4 years) failed to attend for vaccination. The second child (aged 3 years) had been vaccinated 24 months prior to the onset of disease and the third child (aged 3 years) had received a full course of Men C vaccine. Since 1999, this enhanced surveillance programme has provided valuable information on the impact of the Men C vaccine campaign, both locally and nationally. It has also provided useful information on any changes in the epidemiology of infection within Northern Ireland.

Brucellosis

The rise in reported cases of human brucellosis in Northern Ireland continues with a total of twenty nine cases being reported to date for 2002. For the second year in succession, this is the highest annual total on record. No cases of human brucellosis were reported during the period 1986-1997, but there has been a steady year on year increase in the numbers of cases of acute disease reported from 1998 to 2002, with 71 cases reported during this 5 year period.

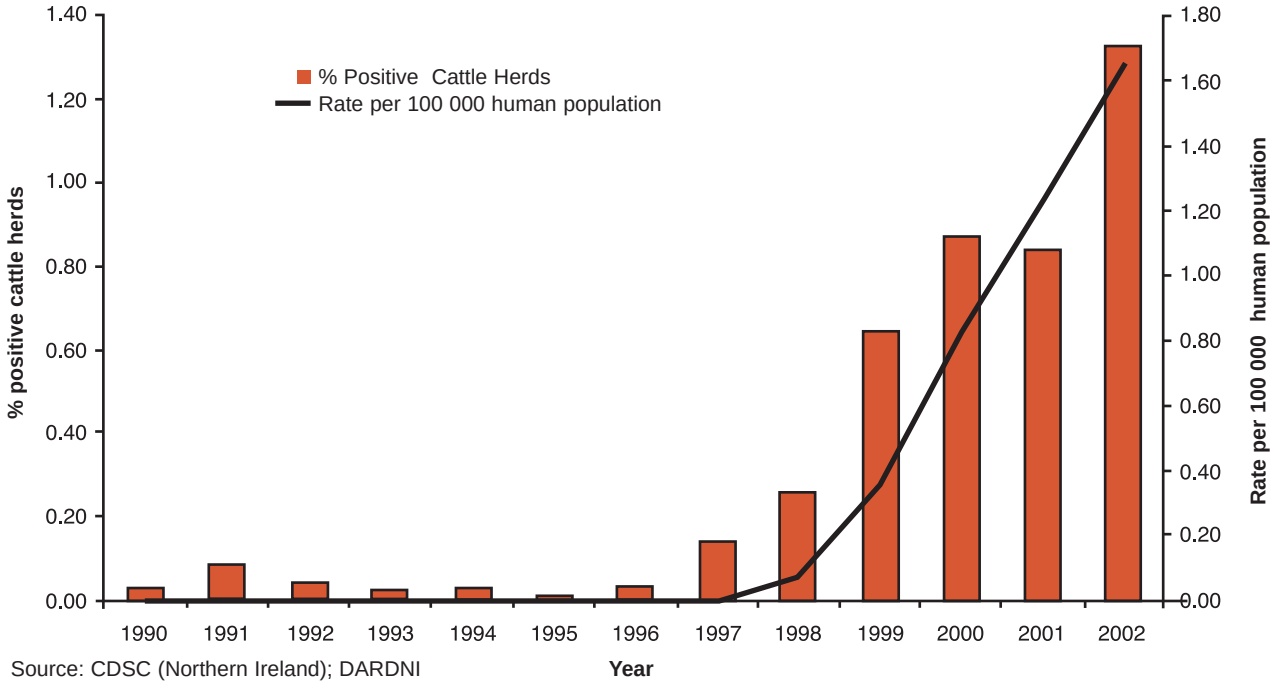
Unlike the disease in humans, bovine brucellosis is notifiable. Cases of bovine brucellosis remained low during the nineties, with a 14-month period in 1995-1996 when no cases were detected. However, the numbers of positive herds being detected through statutory testing have increased steadily since 1997, with 1.3% of sampled herds testing positive during 2002 (provisional data, DARDNI). The increase in reactor herds correlates closely to the increase in reported human cases (see Figure 5).

To date, a minimum of sixteen of the 29 cases reported during 2002 were farmers, or worked on a farm, one case was a veterinarian, and all seventeen cases were known to have had contact with brucella-positive animals. Occupational information is still being sought for the remaining twelve cases.

HIV and AIDS

Northern Ireland participates in the national HIV/AIDS surveillance programme which is primarily based on laboratory reports and confidential reports from clinicians.

Figure 5: Human and bovine brucellosis in Northern Ireland, 1990-2002



Source: CDSC (Northern Ireland); DARDNI

There were 17 HIV antibody positive reports and 4 reports of AIDS received during 2002. This compares to 19 HIV antibody positive reports and 8 AIDS reports received during 2001. Cumulative totals to date to the end of December 2002 of those individuals first reported in Northern Ireland stand at 250 HIV infected individuals and 102 AIDS cases (see Figure 6).

Syphilis Outbreak

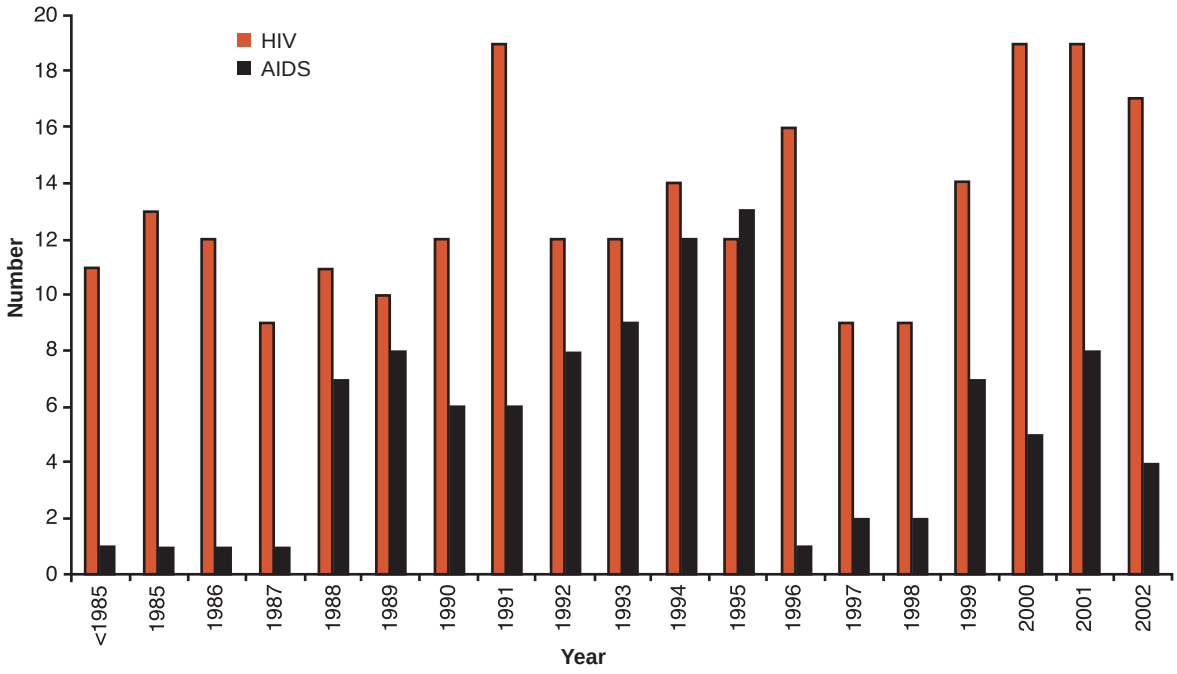
The syphilis outbreak identified in October 2001, continued throughout 2002 and is still ongoing. Twenty six individuals presented to a genito-urinary medicine clinic in 2002 with syphilis, compared to 20 in 2001. By 31 December 2002, 47 cases had been reported since 1 July 2000. All except three were male, and most (39) were men who have sex with men (MSM); two 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 4 were non-Northern Ireland residents.

There are substantive links with the Dublin outbreak with 12 cases indicating that Dublin was the likely location at which they were infected. Of the 39 MSMs, 13 (33%) reported that the likely route of infection was anal, whilst 14 (36%) reported that the likely route of infection was oral; 12 could not conclusively determine the likely route of transmission (oral-anal).

Twenty two cases had primary syphilis, 14 had secondary syphilis, 8 had early latent syphilis and staging is unconfirmed in 3 cases. Seven cases were HIV positive (6 of whom were previously aware of their status).

In general, the number of sexual contacts associated with this cohort is not large. Most (32) had 1 or 2 partners in the three months preceding infection, although one, a commercial sex worker had between 60 and 70.

Figure 6: HIV infected individuals and AIDS cases, by year of diagnosis, 1985-2002, Northern Ireland



Childhood Vaccination Programme

Vaccination coverage statistics are available for the first three quarters of 2002. Vaccination uptake among children by their second birthday for diphtheria, pertussis, Hib and meningitis C were 95% or greater.

MMR vaccine uptake among children by their second birthday fell from 93.1% in 1997 to a low of 89.5% in 1998 and rose in 2000 to 92.7%. In the first two quarters of 2002 the uptake fell to 89.7% and to 88.5% in the third quarter, the lowest level since the last two quarters of 2001.

Vaccine uptake in Northern Ireland still remains higher than the UK (see Figure 7).

The salivary testing programme confirmed one case of mumps during 2002. There were no confirmed cases of measles or rubella.

A more detailed report on the childhood vaccination programme will be included in the next Monthly Report.

Figure 7: MMR Vaccination Uptake rate at 24 months, 1996-2002, Northern Ireland and UK

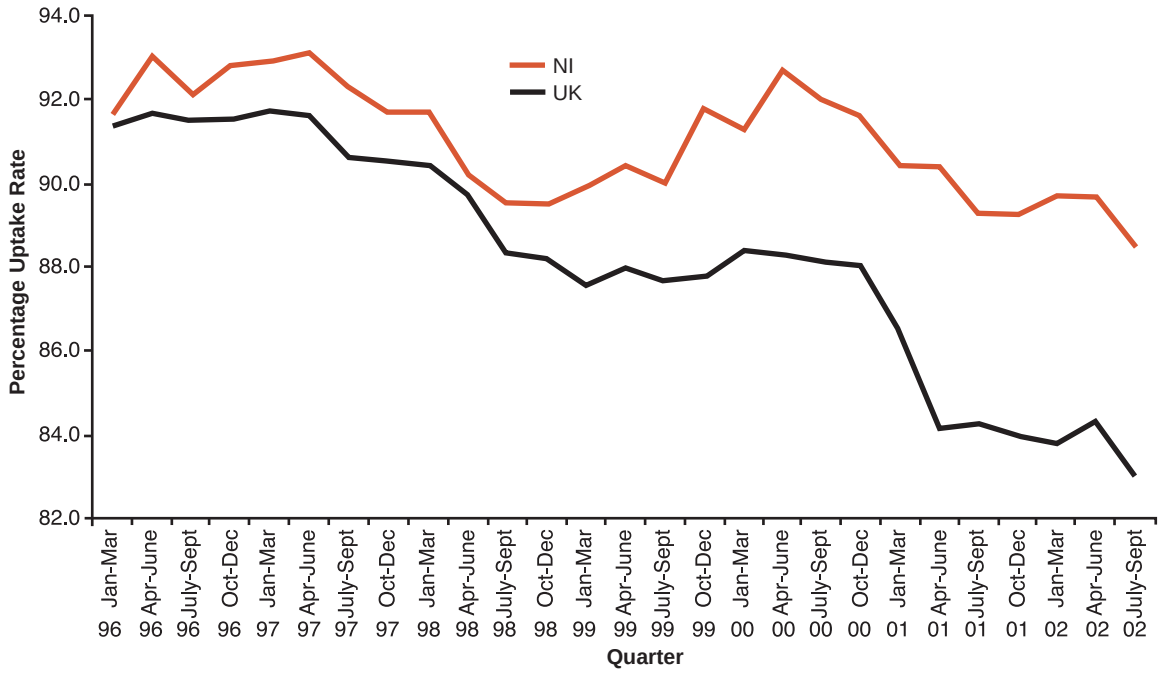


Table 1: Trends in specific reported pathogens, 1995-2002, Northern Ireland

	1995	1996	1997	1998	1999	2000	2001	2002
Enterics								
Adenovirus (faeces only)	205	213	215	138	187	111	143	164
Campylobacter	557	653	778	775	862	1001	885	817
Clostridium difficile toxin	323	412	423	481	574	382	314	403
Clostridium perfringens	2	11	5	12	6	10	12	20
Cryptosporidium	81	98	82	180	181	417	360	126
E.coli O157	7	14	30	29	54	54	52	28
Giardia lamblia	49	45	24	21	37	30	16	12
Listeria	5	2	4	6	1	4	5	2
Rotavirus	443	379	585	521	357	510	423	390
Total *Salmonella sp*	452	413	432	534	689	425	367	253
S.enteritidis	261	171	169	272	462	235	179	99
S.enteritidis PT 4	226	113	123	207	397	159	95	31
S. typhimurium	119	169	185	177	124	93	77	70
S. typhimurium DT 104	56	121	134	142	66	37	20	15
Shigella	259	154	24	14	12	11	16	9
SRSV	31	7	11	35	90	68	131	423
Respiratory								
Adenovirus (excl faeces)	27	41	87	135	96	72	182	33
Chlamydia	48	52	37	43	23	22	42	16
Coxiella burnetii	53	62	51	44	53	35	27	27
Influenza A	92	131	156	259	419	329	130	47
Influenza B	96	4	88	5	158	31	170	8
M. pneumoniae	47	23	124	111	20	17	82	64
RSV	420	903	1070	651	784	503	407	515
Hepatitis A	91	40	37	70	67	18	5	11
Hepatitis B	30	31	22	18	24	42	37	67
Hepatitis C	58	29	26	38	23	51	70	46
M. tuberculosis	65	50	37	32	38	26	42	48
M. bovis	2	4	2	0	3	0	2	1
S. aureus total (bacteraemia)	205	288	238	271	290	353	428	491
MRSA (bacteraemia)	3	26	30	52	68	131	190	183

Table 2: Notifications of Infectious Diseases, 1995-2002, Northern Ireland

Disease	1995	1996	1997	1998	1999	2000	2001	2002
Acute Encephalitis/Meningitis:Bacterial	96	86	74	48	82	99	66	75
Acute Encephalitis/Meningitis:Viral	18	19	17	16	17	31	24	23
Anthrax	0	0	0	0	0	0	0	0
Chickenpox	4785	7004	5253	4907	4584	4531	3857	4931
Cholera	0	0	0	0	0	0	0	1
Diptheria	0	0	0	0	0	0	0	0
Dysentery	272	155	29	18	10	24	22	7
Food Poisoning	1267	1456	1534	1942	2033	2285	1683	1220
Gastro-enteritis (persons under 2)	1072	745	896	1371	1121	1205	1103	882
Hepatitis A	92	49	33	91	62	26	9	1
Hepatitis B	9	15	8	1	4	11	6	8
Hepatitis Unspecified:Viral	21	15	15	16	12	9	10	2
Legionnaires Disease	1	0	2	2	2	1	1	3
Leptospirosis	0	1	1	2	1	0	0	1
Malaria	5	14	16	23	13	11	13	2
Measles	263	197	120	112	79	92	96	89
Meningococcal Septicaemia	44	67	56	87	145	123	77	98
Mumps	93	67	68	79	93	1006	534	77
Paratyphoid Fever	0	0	1	1	0	0	0	1
Plague	0	0	0	0	0	0	0	0
Polio (paralytic)	0	0	0	0	0	0	0	0
Polio (acute)	0	0	0	0	0	0	0	0
Rabies	0	0	0	0	0	0	0	0
Relapsing Fever	0	0	0	0	0	0	0	0
Rubella	221	190	127	111	73	62	65	50
Scarlet Fever	502	478	425	486	432	310	281	214
Smallpox	0	0	0	0	0	0	0	0
Tetanus	0	0	1	0	0	0	1	0
Tuberculosis (Pulmonary)	65	51	57	43	44	36	29	57
Tuberculosis (Non Pulmonary)	20	25	19	18	17	22	16	11
Typhoid	0	1	1	2	0	0	1	3
Typhus	0	0	0	0	0	0	0	0
Viral Haemorrhagic Fevers	0	0	0	0	0	0	0	1
Whooping Cough	131	148	135	100	108	61	65	69
Yellow Fever	0	0	0	0	0	1	1	0

Contributing Laboratories

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

Information

Editorial Team

Dr Brian Smyth
Audrey Lynch
Dr Julie McCarroll
Dr Hilary Kennedy
Ruth Fox

CDSC (NI)
Belfast City Hospital
Lisburn Road, Belfast, BT9 7AB
N. Ireland
Telephone: 028 9026 3765
Fax: 028 9026 3511
Email: cdscni@phl.org.uk

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

Information contained in this document is compiled from confidential reports and should not be quoted without permission from the Editor. Comments and contributions are welcomed and should be sent to the Editor.