HSC Public Health Agency

2011: Issue 8

Transmit

Health protection service bulletin December 2011

Foreword

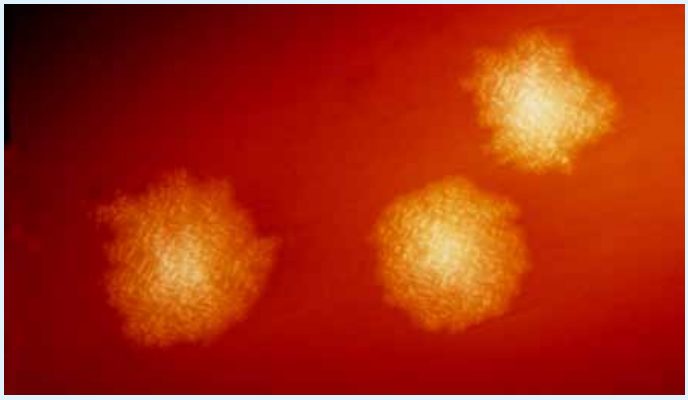
Winter is now upon us and is a time when we see an increase in certain infections. One of these is meningococcal disease and the bulletin this month includes an update on meningococcal infection, including pre-admission management chemoprophylaxis for contacts and vaccination. It is important that health professionals maintain vigilance for this infection and are familiar with the symptoms and signs, as well as management issues. Public health staff are always available, through either the health protection duty room or the out-of-hours rota, to help with contact follow-up and arrangement of chemoprophylaxis as appropriate.

This edition of *Transmit* contains the annual update from the healthcare associated infections (HCAI) team. There is an active programme of work ongoing within the health protection service to provide support to independent sector nursing and residential homes for *Clostridium difficile* infections and outbreak management. Detailed advice has been provided to nursing and residential homes on these issues, and the HCAI team work closely with those facilities to maintain good infection control arrangements.

New best practice advice for infection prevention and control in nurseries and childcare settings was launched on 14 October 2011. This document provides excellent advice on day-to-day implementation of good infection prevention control practices in nurseries and childcare settings. The resource has been widely distributed, including to Early Years teams, and is available on the Public Health Agency (PHA) website at:

www.publichealth.hscni.net/publications/infection-prevention-and-control-best-practice-advice-nurseries-and-childcare-settings

The Hine inquiry report was published in March 2011 in relation to the outbreak of *Clostridium difficile* within Northern Trust hospitals. The HCAI team and PHA continue to work with the Trusts and Health and Social Care Board (HSCB) to support the implementation of the recommendations in this report.



Pertussis is an infection for which we have a highly effective vaccination programme in place. This year, there have been 12 cases of pertussis notified to the duty room, with seven of those laboratory confirmed. Health protection staff have been involved in providing advice on these cases, including identification of close contacts who may require chemoprophylaxis and vaccination. All suspected or confirmed cases of pertussis should be notified to the health protection duty room as soon as possible.

The Northern Ireland Cancer Network has issued advice about patients on chemotherapy and seasonal flu vaccine. The seasonal flu vaccine should be given the week before chemotherapy and patients should be provided with advice on avoiding flu. This guidance is available at: cancerni.net

The flu immunisation programme is progressing very well and we have evidence of an increase in vaccine uptake already this year. Thank you to everyone involved in delivering the flu immunisation programme for your efforts in preventing flu in patients in Northern Ireland.

Lorraine Doherty

Dr Lorraine Doherty
Assistant Director of Public Health (Health Protection)

Contents

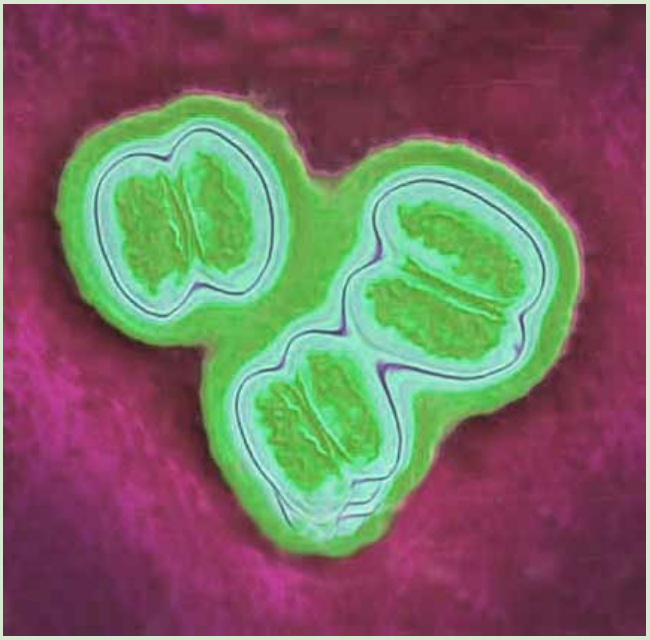
Meningococcal disease

As winter approaches, we start to think of coughs, colds, flu and other respiratory infections. However, it is important to remember that although it can occur at any time of year, meningococcal infection also tends to be more common in the winter months. In its early stages, meningococcal infection can have similar signs and symptoms to the other seasonal infections, so it is important to bear it in mind as part of the differential diagnosis, particularly in young children, in whom it is most common. Parents should be told to call back if their child's condition deteriorates or they are concerned.

New guidance from the Health Protection Agency was issued earlier this year. Although much of it reinforced guidance already in place, there are a couple of areas where it has been updated and which are of relevance to primary care.

Pre-admission management

When someone is suspected of having bacterial meningitis but there is no non-blanching rash, the patient should be transferred directly to hospital without antibiotics. However, if urgent transfer to hospital is not possible, for example due to adverse weather conditions, then parenteral antibiotics should be given.



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When meningococcal disease is suspected (meningitis with a non-blanching rash or meningococcal septicaemia) then parenteral antibiotics (either IM or IV benzlpenicillin) should be given at the earliest opportunity in primary or secondary care. It is important that transfer to hospital is not delayed in order to give antibiotics (ie if they are not immediately available then the patient should be urgently transferred to hospital without them).

Chemoprophylaxis for contacts

Ciprofloxacin is now the drug of choice for those close contacts requiring prophylaxis. It is suitable for all age groups and in pregnancy. Its advantages are that it is given in a single dose and is more readily available in community pharmacies.

The dosage regime is:

Adults and children aged over 12 years	500mg stat
Children aged between 5 and 12 years	250mg stat
Children aged between one month and 4 years	125mg stat

Rifampicin can still be used when ciprofloxin is contraindicated.

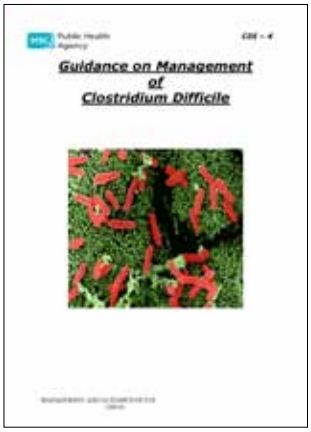
Vaccination

Most cases we now see are due to meningococcal group B, for which there is no vaccine. However, we do occasionally see a case due to group A, C, Y or W135 – in which case contacts will need to be vaccinated as well as receiving ciprofloxacin. Public health will advise on this according to the specific circumstances of the case.

Healthcare associated infections (HCAI) and infection prevention and control (IPC) team

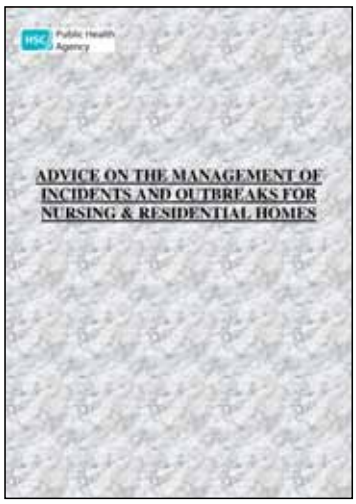
This annual *Transmit* update from the HCAI team contains a brief outline of programme developments recently undertaken and/or currently progressing with colleagues in Health and Social Care, local government and independent sector providers. The second half of this update includes a summary of the main findings from our HCAI surveillance programmes during 2010.

HCAI programme developments

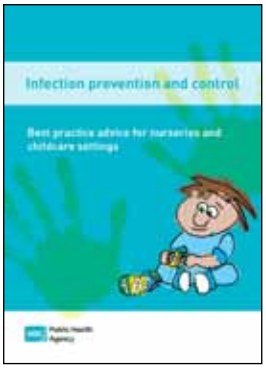


Support to independent sector nursing and residential homes for *Clostridium difficile* and outbreak management

The HCAI team established a programme to provide enhanced nursing support for independent sector nursing and residential homes during 2010. This programme is closely aligned with enhanced surveillance of *Clostridium difficile* infections (CDI) among patients in primary and community care settings (also introduced during 2010). All patients/residents in independent nursing and residential care homes who are diagnosed with CDI have a follow-up visit by a nurse from the HCAI team. A detailed risk assessment is undertaken with care providers. All facilities receive best practice guidance and advice on the management of *Clostridium difficile*.



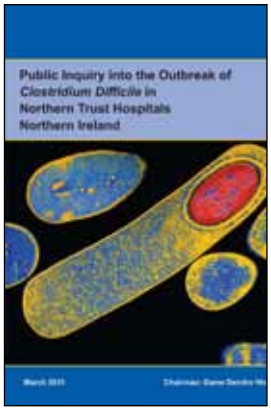
All independent sector nursing and residential homes that report a potential or suspected outbreak of gastroenteritis (viral and/or foodborne) to the health protection duty room will be investigated as a matter of urgency. All facilities reporting such outbreaks will have a follow-up visit from a member of the HCAI nursing team as soon as possible. These visits take place on the day the facility contacts the duty room or within a maximum of 72 hours of the outbreak being reported. A check list is completed, a risk assessment is carried out and appropriate advice is given to care providers.



Infection prevention and control. Best practice advice for nurseries and childcare settings

The PHA launched best practice infection prevention and control advice for childcare settings on 14 October 2011. The HCAI team led the development of this advice in partnership with key stakeholders from other organisations, ie representatives from the Early Years teams in Trusts and environmental health officers in local councils. The booklet provides staff with simple, practical advice on the day-to-day implementation of good infection prevention and control practices, as well as specific actions to take in the event of suspected outbreaks of infection. Copies of the booklet have been delivered to the Trusts' Early Years teams, to be distributed to all facilities registered with them.

Hine CDI inquiry implementation



The HCAI team is continuing to work with the Trusts and HSCB to support implementation of recommendations included in the Hine inquiry report published in March 2011. All Trusts have submitted initial implementation plans to the HSCB. Commentary on the content of these plans has been shared with Trusts. The PHA is currently supporting the HSCB in a series of round table discussions with Trusts regarding implementation of recommendations arising from the inquiry. These meetings will help the HSCB, Trusts and PHA:

- reach a shared understanding of progress made to date;
- establish appropriate indicators to assist with implementation of the recommendations;
- agree further work required to ensure full implementation of the recommendations.

HCAI annual report 2010

A full epidemiological summary of *S. aureus*, *C. difficile*, Panton-Valentine Leukocidin (PVL) *S. aureus*, *E. coli* bacteraemias, Extended Spectrum ß-Lactamases (ESBL) producing organisms, and enterococcal bacteraemias with glycopeptide-resistant enterococci (GRE) will be published in the HCAI annual report later this year. This first HCAI annual report from the PHA will also include a full summary of procedure-associated infections covering caesarean section, orthopaedic, neurosurgery and cardiac surgical site infection surveillance for 2010. The report will be made available on the PHA website www.publichealth.hscni.net later this year.

HCAI surveillance summary 2010

Staphylococcus aureus (SA) bloodstream infections

Since 2002, the rate of SA bacteraemias has fluctuated, largely driven by the incidence of meticillin-sensitive *S. aureus* (MSSA) bacteraemias. Indeed, since 2007 there has been an estimated 17% year-on-year reduction in the number of meticillin-resistant *S. aureus* (MRSA) infections, while the rate of MSSA bacteraemias has not changed significantly.

Table 1: Annual number and rates of MRSA, MSSA and SA bloodstream infections in Northern Ireland, 2006–2010

		MRSA		MSSA		SA	
Year	Occupied bed days (OBDs)	Episodes	rate/1,000 OBDs	Episodes	rate/1,000 OBDs	Episodes	rate/1,000 OBDs
2006*	1,359,898	182	0.13	253	0.19	435	0.32
2007	1,768,282	229	0.13	336	0.19	565	0.32
2008	1,753,299	208	0.12	373	0.21	581	0.33
2009	1,678,586	164	0.10	331	0.20	495	0.29
2010	1,616,662	118	0.07	285	0.18	403	0.25

* 2006 is not a complete year.

From 2009 to 2010, rates of SA bacteraemias, both MSSA and MRSA, decreased slightly in Northern Ireland. This equates to a reduction of 18.6% in the number of SA infections from 2009 to 2010 (Table 1). There was a 28% reduction in MRSA infections during this time and a 13.9% reduction in MSSA infections. In total, 285 infections were reported in 2010 compared to 331 in 2009 (Table 1).

Clostridium difficile infections (CDI)

Since 2006 there is evidence of a significant reduction in CDI among inpatients aged 65 years and over. However, with a peak in CDI during quarter four 2007 and early 2008, resulting from a 027 outbreak, it is difficult to quantify the overall reduction in CDI from 2006 onwards given the artificially high baseline noted during the outbreak.

Table 2: Annual number and rates of CDI in individuals aged 65 years and over, divided up by inpatients and community episodes, in Northern Ireland, 2005–2010

	Northern Ireland inpatients			Total community episodes
Year	***C. diff* episodes**	**Occupied bed days (OBDs)**	**Rate/1,000 OBDs**	
2005	1032	1,040,147	0.99	92
2006*	1073	1,026,937	1.04	115
2007	997	965,709	1.03	147
2008	989	957,194	1.03	299
2009	559	904,106	0.62	222
2010	414	895,006	0.46	172

* CDI testing was standardised in 2006.

In 2010, the number of CDI reported in hospital inpatients aged 65 years and over decreased by 25.9% from 2009 (Table 2). Surveillance and monitoring of CDI for individuals aged two years and over commenced in April 2008. In 2010, 122 episodes of CDI were reported in inpatients aged 2–64 years. This compares to 221 in 2009, a reduction of 45%.

In April 2009, a CDI ribotype surveillance scheme was introduced in Northern Ireland, facilitated by the establishment of a reference laboratory in the Royal Victoria Hospital as part of the *C. difficile* Ribotype Network (CDRN). For both hospital and community specimens, the most prevalent CDI ribotype during 2010 was 078, followed by 001 and 014.

Caesarean section surgical site infections (CS-SSI)

Mandatory surveillance of CS-SSI started in early 2008 and data feedback from this programme was commenced in quarter two (April-June) 2008. The aim of this surveillance initiative is to provide high-quality information that will help formulate policy, influence practice and develop interventional strategies to reduce the occurrence of SSIs following caesarean section procedures.

SSI definitions for caesarean section are those recommended by the National Healthcare Safety Network (NHSN), Centres for Disease Control (CDC) Atlanta, and the European Centres for Disease Control (ECDC) Stockholm. All patients undergoing a caesarean section must be included. All patients post-caesarean section that did not develop a surgical site infection during their hospital stay are monitored for up to 30 days post-discharge for development of SSI.

Compliance with CS-SSI surveillance has increased year on year, and was 80% for the region overall during 2010.

Table 3: Compliance with CS-SSI surveillance, 2008–2010

	2008 (%)	2009 (%)	2010 (%)
Northern Ireland	43.7	71.2	80.1
South Eastern HSC Trust	31.6	77.8	85.4
Western HSC Trust	73.7	97.2	99.5
Northern HSC Trust	31.1	88.4	87.7
Southern Trust	38.7	58.5	74.2
Belfast HSC Trust	47.9	58.3	68.6

Following caesarean section, mothers are assessed for development of SSI during the post-operative stay in hospital and also in the community. Community SSI surveillance includes mothers that are re-admitted due to development of a post-caesarean section SSI following discharge from acute care.

Table 4: CS-SSI rates (inpatient and post-discharge), 2008–2010

Year	Number of caesarean sections reported	Inpatient SSI rate (%)	Community SSI rate** (%)	Overall SSI rate (%)
2008*	2,449	1.18	14.82	16.01
2009	5,371	0.84	12.94	13.78
2010	5,968	0.57	11.65	12.25

* 2008 is not a complete year.

** Community SSI includes infections identified by community midwives and patients re-admitted due to SSI.

HCAI surveillance – web-based data entry and reporting

Web reports to clinical staff and health service managers assist with the continuing development of services and ensure that HCAI surveillance programmes are delivering 'information for action'. During 2010, a secure web-based data reporting tool was introduced to support the SSI and Intensive Care Surveillance programmes. The CDI and SA surveillance programmes continued to be delivered through web-based enhanced surveillance during 2010.

Duty room updates

Pertussis

Pertussis and public health

There have been 12 cases of pertussis notified to the duty room so far this year (to 8 November), with seven of these laboratory-confirmed. There have also been numerous vaccine and travel enquiries relating to pertussis. Of the seven laboratory-confirmed cases, three were infants too young to be vaccinated, two were incompletely immunised and two had been fully vaccinated.

The public health management of a pertussis case involves:

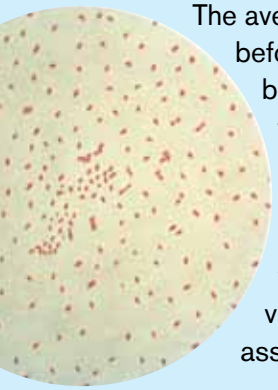
- gathering of information (including vaccination status);
- provision of advice on issues such as exclusions;
- identification of close contacts who, if deemed to be vulnerable, may require chemoprophylaxis and vaccination.

Liaison with infection control teams and occupational health may be required for hospital cases. Recently, the duty room was notified of a case of pertussis in an infant on a paediatric ward. The PHA provided advice on the management of the contacts identified, which included ward staff and other patients as well as household members.

All suspected or confirmed cases of pertussis should be notified to the health protection duty room as soon as possible. The duty room also deals with enquiries regarding travel to areas with pertussis outbreaks.

Pertussis the disease

Pertussis is a highly infectious, vaccine-preventable disease of the respiratory tract caused by *Bordetella pertussis* bacteria. Infection can occur in any age group. However, it is most common in infants, who also have the highest rates of complications and deaths. Older children and adults are less likely to be severely affected, but have the potential to transmit infection to vulnerable infants.



The average incubation period is 7–10 days. Cases are highly infectious during the early stages of illness, before the onset of the typical cough. Infectiousness then decreases and usually ends within three weeks, but may persist for longer in a proportion of cases. The period of communicability may be shortened to five days if appropriate antibiotic therapy is commenced within 21 days of the onset of symptoms.

The typical presentation is a cough with cold-like symptoms, which gradually progresses to paroxysmal coughing, which may end in vomiting, cyanosis and/or a characteristic inspiratory whoop (less common in infants). The cough often persists for two or three months. Adults and vaccinated children may have a milder, atypical illness. Diagnosis is usually based on clinical assessment and confirmed through laboratory testing.

Management of pertussis is supportive, with antibiotic treatment primarily aimed at eradicating the organism from cases to reduce the risk of secondary transmission. Serious complications are most common in infants and include pneumonia, seizures and encephalitis.

Pertussis vaccination

Pertussis immunisation was introduced to the UK routine childhood schedule in the 1950s. This resulted in a marked reduction in notifications. However, a cyclical pattern continues to be observed in the UK and the burden of pertussis remains highest in children too young to be fully protected.

To optimise pertussis control, an accelerated primary schedule is currently used and a pre-school booster dose of pertussis vaccine has been added to the immunisation schedule, with the aim of reducing illness in older age groups who may transmit the infection to vulnerable infants. Primary and reinforcing doses of pertussis vaccine are routinely recommended for all children under the age of 10 years in the UK, if not immunised according to the normal schedule.

Pertussis and travel

The HPA in England recently reported an increase in pertussis cases in some regions. There have been large outbreaks of pertussis in Australia and the USA over the last three to five years. Several states in Australia are now offering free targeted vaccination programmes for unvaccinated children and some adults.

Travellers may be concerned about contracting the illness themselves, or transmitting the disease to vulnerable children. Pre-travel health consultations offer a good opportunity to ensure that travellers are up to date with the UK vaccination schedule. The Travax and National Travel Health Network and Centre websites provide useful information on the most up-to-date recommendations and advice for travellers, including those visiting young children.

Useful resources

HPA website – whooping cough
www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/WhoopingCough

HPA website – vaccinations
www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/VaccinationImmunisation/Guidelines

Immunisation against infectious diseases – The Green Book www.dh.gov.uk/greenbook

Travax – travel health information for health professionals www.travax.nhs.uk

National Travel Health Network and Centre www.nathnac.org

Dr Judith Ewing, FY2, Public Health Agency

Information for cancer patients about seasonal flu and chemotherapy

The Northern Ireland Cancer Network (NICaN) has issued advice about flu for patients on chemotherapy, available at: cancerni.net

Key messages for GPs:

- The seasonal flu vaccine should be given in the week before chemotherapy.
- Some flu symptoms are similar to side-effects of chemotherapy and patients are advised to contact their chemotherapy unit if they develop flu-like symptoms.

Advice on helping avoid flu is also included.

Fish pedicures

The risk of infection associated with *Garra rufa* fish pedicures is likely to be very low, according to the Health Protection Agency (HPA), provided infection control procedures are followed. Some patients should be advised not to have the treatment, such as those who have:

- waxed or shaved their legs in the last 24 hours;
- any open cuts/wounds/abrasions/broken skin on their feet or lower legs;
- an infection on their feet (including athlete's foot, verruca);
- psoriasis, eczema or dermatitis affecting their feet or lower legs;
- diabetes (increased risk of infection);
- an infection with a bloodborne virus such as hepatitis B or C, or HIV;
- any immune deficiency due to illness or medication;
- bleeding disorders or are on anticoagulant medication (eg heparin or warfarin).

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www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1317130999316

Focus on drinking water and health in Northern Ireland

The PHA, with other agencies with a shared interest in the safety of drinking water, participated in two workshop events organised by the Drinking Water Liaison Group (DWLG) and supported by the Chartered Institute of Environmental Health (CIEH) and the Department of Health, Social Services and Public Safety (DHSSPS).

As part of the consultation process on draft drinking water and health guidance, the events provided the opportunity to learn more about the content of the new guidance. PHA attendees also worked with colleagues from other agencies to consider multi-agency responses to a variety of scenarios covering water quality in public and private supplies and major disruption to the public supply.

Attendees at the workshops, which were part-funded by the DHSSPS, included PHA health protection staff, emergency planning officers, environmental health practitioners and technicians, drinking water providers, and regulators and policy makers.

PHA Consultant in Health Protection, Dr Brian Smyth, who chaired the sub-group preparing the guidance, said: "We are fortunate in Northern Ireland to have high-quality drinking water and it can be something we all take for granted. Nevertheless, it is important all partner agencies understand their roles regarding water quality and significant disruptions to supply and are familiar with risk assessment and communication processes."

Nigel McMahon, Chief Environmental Health Officer, DHSSPS, and Chair of the DWLG said: "I am delighted with the level of interest and attendance of delegates from such a diverse range of professional backgrounds. The workshops have allowed us to present and consider the key elements of the new guidance and to receive further feedback. They have also provided a terrific opportunity to meet with colleagues, learn more about our respective roles and work through some practical examples together."

The attendance of the Chief Medical Officer, Dr Michael McBride, at the Draperstown event also indicated high-level support for the initiative.

The DWLG is made up of representatives from Northern Ireland Water (NIW), the PHA, the Northern Ireland Public Health Laboratory, the Chief Environmental Health Officers Group, the Drinking Water Inspectorate (DWI), and the DHSSPS. The DWLG hopes to publish a final version of the guidance by the end of the year.

The photograph below, taken at the event held on 27 September 2011 at Oxford Island near Craigavon, shows a number of speakers featured on the programme. From left to right are PJ O'Neill (PHA); Eamonn Toner (Derry City Council); Nigel McMahon (DHSPSS); Dr Gerry Waldron (PHA); Berni Corr (DWI); Dymphna Gallagher (NIW), Dr Brian Smyth (PHA); Alison McMullan (NIW); and Colin Clements (DWI).

Table 5: Foodborne and gastrointestinal tract infections – provisional laboratory reports, weeks 13–26, 2010–2011, and weeks 1–26, 2010–2011

	Number of reports received		Cumulative total	
	2011 weeks 13–26	2010 weeks 13–26	2011 weeks 1–26	2010 weeks 1–26
Campylobacter	335	267	544	446
C. difficile toxin	177	183	373	353
C. perfringens	4	7	11	17
E. coli O157	10	17	11	18
Salmonella total	28	33	79	64
S. enteritidis (PT 4)	7 (0)	7 (0)	15 (1)	18 (2)
S. typhimurium (DT 104)	7 (0)	14 (2)	30 (14)	19 (4)
Salmonella other	14	12	34	27
Shigella	2	3	3	4
Cryptosporidium	52	59	86	78
Giardia	6	3	16	7
Adenovirus (faeces)	66	26	80	80
Enterovirus (faeces)	8	7	13	23
Rotavirus	448	350	585	554
Norovirus	74	137	209	545

Further information for health professionals and other agencies:

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Tel: 028 9055 3994 or 028 9055 3997
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