HSC Public Health Agency

2011: Issue 7

Transmit

Health protection service bulletin Oct/Nov 2011

Foreword

Arrangements for the management of seasonal flu 2011/12 are the key element of this edition of *Transmit*. The flu immunisation programme was formally launched on 30 September 2011, with a strong focus on promoting immunisation uptake among vulnerable groups, in particular pregnant women. The health protection service in the PHA has been planning for the management of seasonal flu this year and information on all issues to do with seasonal flu, including information materials, is available at: www.fluawareni.info

This bulletin includes an important update from the duty room on management of close community contacts of invasive group A streptococcal disease (iGAS). Household contacts of iGAS cases are at a low but definite risk of infection, and it is very important that health protection are made aware of cases, so the duty room can identify and manage any contacts appropriately.

The latest immunisation uptake figures are now available and published here. Figures for the childhood immunisation programme show they are at historically high levels, but still slightly short of the levels needed to completely keep these diseases away, so efforts are needed to improve them until they reach these targets. The outbreaks of measles seen across Europe are a strong reminder of the need to protect against this serious disease by MMR immunisation.

The quarterly reports for MRSA and *Clostridium difficile* infections are now available and on the PHA website. Well done to the Western Health and Social Care Trust, which reported no episodes of MRSA in quarter two this year. This is the first time a Trust has achieved this record over a three month period since *Staph aureus* surveillance commenced in Northern Ireland.

I know the flu immunisation programme will now be actively underway in primary care and in Trusts. I would encourage all Health and Social Care workers to have their flu vaccine before we see flu arriving in Northern Ireland.

Lorraine Doherty

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

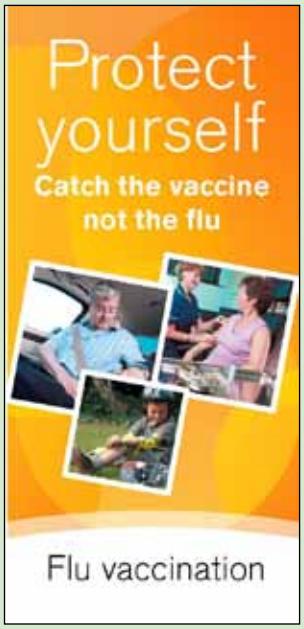
Contents

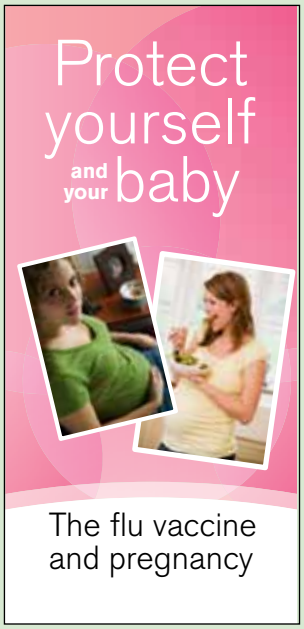
Flu vaccination programme

As autumn arrives, it is time to start preparing for the winter. For many people, one of the most important aspects of this preparation is getting the flu vaccine. There is a lot of detailed information available through the links at the end of this article and the intention is not to reproduce all of this here, but to highlight some of the main points.

There are no additions to the groups who should be vaccinated, so this still includes:

- people with chronic heart disease;
- people with chronic respiratory disease;
- people with chronic kidney disease;
- people with chronic neurological disease;
- people with diabetes;
- immunosuppressed patients;
- everyone aged 65 years and over.





An important point to note is that all pregnant women, who have been included for the last two years, will now always be included as a group requiring vaccination and will be vaccinated in general practice rather than by midwives. However, midwives will still have a crucial role to play in advising women and promoting the vaccine.

Consideration should also be given to the vaccination of household contacts of immuno-compromised individuals.

It is very important that children with chronic neurological conditions and those with complex health needs are vaccinated early. This includes, but is not limited to, children who attend special schools for severe learning disability. Tragically, we have seen a number of deaths in these children in the past two winters, which highlights the importance of vaccination in this group.

We have also seen the need to protect pregnant women. Flu can have very serious consequences for both the mother and her baby. Pregnant women have been admitted to hospital, some very seriously ill and requiring ventilation. Flu brings an increased risk of premature birth, stillbirth and neonatal death for the baby. We have an enormous wealth of information that shows the flu vaccine during pregnancy is both safe and effective. The US, for example, has been recommending flu vaccination in pregnancy since the mid-1990s. In that time, nearly 12 million doses have been given to pregnant women, with no evidence of harm for either the mother or the baby. Furthermore, vaccination in pregnancy also helps protect the baby in the first six months of life, a time when it is too young to be vaccinated.

There is new guidance on egg allergy and the flu vaccine. Everyone with egg allergy or even egg anaphylaxis can now receive some form of flu vaccine. Details have been sent in a letter to all practices.

The importance of Health and Social Care workers being vaccinated is also being emphasised. Everyone should seriously consider getting the vaccine:

- for their own protection;
- to help protect their families by not catching it and passing it on;
- as a duty of care to their patients, many of whom will be very vulnerable to the complications of flu.

Northern Ireland has a very good record of vaccinating patients – we need to build on that to ensure as many as possible are vaccinated early. Our record for vaccinating Health and Social Care workers is not so good and we need to make every effort to improve it this year.

The updated Green Book chapter is available at:

www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_079917

The Chief Medical Officer letter is available at:

www.dhsspsni.gov.uk/hss-md-14-2011.pdf

Management of flu

Seasonal flu activity in the southern hemisphere has been mixed this year, with H1N1 2009, H3N2 and flu B all circulating in variable proportions in different countries.

The DHSSPS has issued a letter that addresses some aspects of flu management, available at: www.dhsspsni.gov.uk/hss-md-19-2011.pdf

The flu bulletin will be published fortnightly, going to weekly as flu activity increases. A range of resources, including the flu bulletin, are available on: www.fluawareni.info

www.publichealth.hscni.net

Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 40 (3–9 October 2011)

Initially this bulletin will be released on a bi-weekly basis. However once influenza (flu) activity begins to increase it will be released on a weekly basis.

As the season develops additional charts and tables will be added where necessary. This bulletin provides an update on trends since the last bulletin was published in mid-May.

Summary

- GP consultation rates for combined flu/flu-like illness (FLI) increased from 12.8 in week 39 to 14.6/100,000 population in week 40. Rates in week 40 are lower compared to the same week last year and are well below the Northern Ireland threshold (70/100,000 population).
- There were no RSV detections in week 40.
- Out-of-hours flu/FLI call rates remain stable and low.
- No flu detections.

Introduction

In order to monitor flu activity in Northern Ireland a number of surveillance systems are in place. A new development for this winter will be surveillance of critical care patients in hospitals with confirmed flu.

Additional surveillance systems are:

- GP sentinel surveillance representing 11.7% of the Northern Ireland population.
- GP out-of-hours surveillance system.
- Virological reports from the Regional Virus Laboratory (RVL).
- Mortality data from Northern Ireland Statistics and Research Agency (NISRA).

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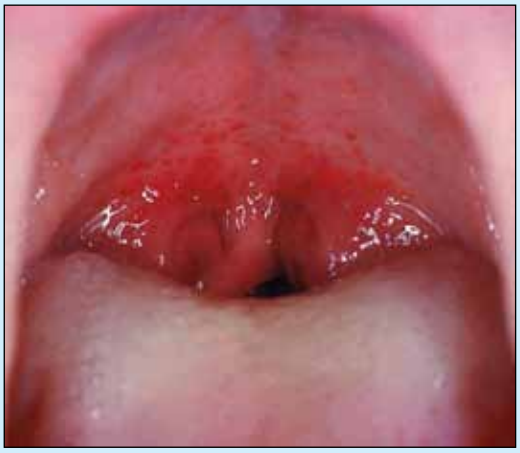
As with last year, routine testing for flu in the community is not necessary unless there is a clinical necessity or for flu spotter purposes. The PHA will advise on testing if there is a suspected outbreak, particularly in a nursing or residential home. Testing of patients with suspected flu on admission to hospital is recommended, however. The Regional Virology Laboratory will be testing samples once per day, with results available the same day. Coordinated transport arrangements will help ensure timely results are available.

Television and radio campaigns encouraging flu vaccination will continue throughout October and November. If and when flu increases in Northern Ireland, ads in the press and on radio will inform the public about respiratory hygiene and self-care.

Duty room updates

Management of close community contacts of invasive group A streptococcal disease (iGAS)
Group A streptococcal infections are caused by *Streptococcus pyogenes* and commonly present as mild sore throat and skin/soft tissue infections such as impetigo and cellulitis. However, iGAS can in rare cases cause more serious invasive infections such as bacteraemia, necrotising fasciitis and streptococcal toxic shock syndrome.



Household contacts are at a low but definite risk of infection. It is therefore important that health protection is made aware of cases so that duty room staff can identify and manage anyone who has had prolonged contact with the case in a household-type setting during the seven days before onset of illness.

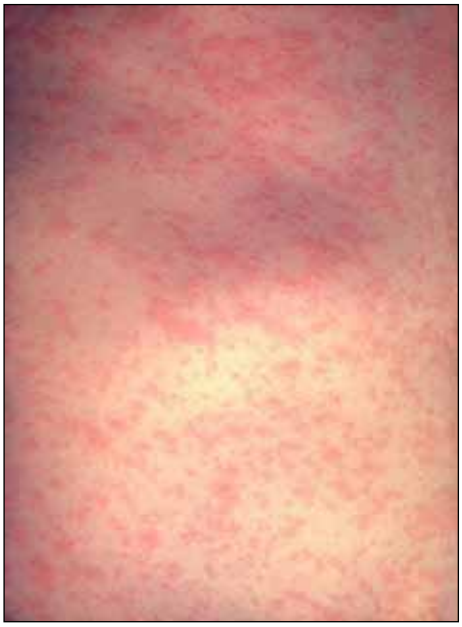
The contacts should then be assessed and advised to look out for the symptoms of iGAS infection for the next 30 days. If there are symptoms suggestive of invasive disease, such as high fever, severe muscle aches, localised muscle tenderness and otherwise unexplained gastrointestinal symptoms, the contact should be referred urgently to accident and emergency. If there are symptoms suggestive of non-invasive infection such as a sore throat, low grade fever or minor skin infections, the contact should be prescribed penicillin V 500mg for 10 days or azithromycin 500mg once daily for five days.

They should also be provided with the following information leaflet: www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/StreptococcalInfections/Guidelines/strepInvasiveGroupAStrepiGAS/

If the contact is well, they can be reassured and provided with an information leaflet, advising them to present to their GP if symptoms occur.

Further information can be accessed from the Health Protection Agency website at: www.hpa.org.uk

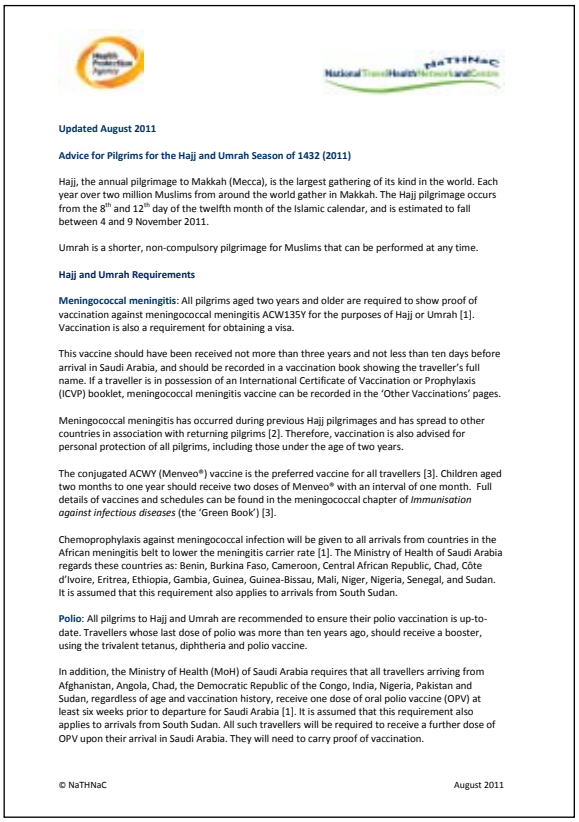
Measles



MMR rates in Northern Ireland have improved recently and this is very encouraging. Older children and young adults, however, may remain unprotected, and the Health Protection Agency has highlighted the risk of measles and meningitis for students with the publication of a leaflet: www.hpa.org.uk/Publications/InfectiousDiseases/InfectionControl/

This is in response to a rise in cases of measles in England and Wales, with 777 laboratory confirmed cases reported to the Health Protection Agency up to the end of July 2011, compared with a provisional total of 374 cases for the whole of 2010. Those cases were mainly in children or young adults under 25 years of age and have been associated with small clusters in universities and schools, with many of the patients unvaccinated.

A number of other countries are also reporting a rise in measles, with France of particular concern currently. The Institute for Public Health in France reported 14,500 cases of measles in the first six months of 2011, concentrated in the south of the country. Most cases have occurred in infants under one year of age and young adults. Complications have included severe pneumonia and encephalitis, with a small number of deaths.



Updated August 2011

Advice for Pilgrims for the Hajj and Umrah Season of 1432 (2011)

Hajj, the annual pilgrimage to Makkah (Mecca), is the largest gathering of its kind in the world. Each year over two million Muslims from around the world gather in Makkah. The Hajj pilgrimage occurs from the 8th and 12th day of the twelfth month of the Islamic calendar, and is estimated to fall between 4 and 9 November 2011.

Umrah is a shorter, non-compulsory pilgrimage for Muslims that can be performed at any time.

Hajj and Umrah Requirements

Meningococcal meningitis: All pilgrims aged two years and older are required to show proof of vaccination against meningococcal meningitis ACW135Y for the purposes of Hajj or Umrah [1]. Vaccination is also a requirement for obtaining a visa.

This vaccine should have been received not more than three years and not less than ten days before arrival in Saudi Arabia, and should be recorded in a vaccination book showing the traveller's full name. If a traveller is in possession of an International Certificate of Vaccination or Prophylaxis (ICVP) booklet, meningococcal meningitis vaccine can be recorded in the 'Other Vaccinations' pages.

Meningococcal meningitis has occurred during previous Hajj pilgrimages and has spread to other countries in association with returning pilgrims [2]. Therefore, vaccination is also advised for personal protection of all pilgrims, including those under the age of two years.

The conjugated ACWY (Menveo®) vaccine is the preferred vaccine for all travellers [3]. Children aged two months to one year should receive two doses of Menveo® with an interval of one month. Full details of vaccines and schedules can be found in the meningococcal chapter of *Immunisation against infectious diseases* (the 'Green Book') [3].

Chemoprophylaxis against meningococcal infection will be given to all arrivals from countries in the African meningitis belt to lower the meningitis carrier rate [1]. The Ministry of Health of Saudi Arabia regards these countries as: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Mali, Niger, Nigeria, Senegal, and Sudan. It is assumed that this requirement also applies to arrivals from South Sudan.

Polio: All pilgrims to Hajj and Umrah are recommended to ensure their polio vaccination is up-to-date. Travellers whose last dose of polio was more than ten years ago, should receive a booster, using the trivalent tetanus, diphtheria and polio vaccine.

In addition, the Ministry of Health (MoH) of Saudi Arabia requires that all travellers arriving from Afghanistan, Angola, Chad, the Democratic Republic of the Congo, India, Nigeria, Pakistan and Sudan, regardless of age and vaccination history, receive one dose of oral polio vaccine (OPV) at least six weeks prior to departure for Saudi Arabia [1]. It is assumed that this requirement also applies to arrivals from South Sudan. All such travellers will be required to receive a further dose of OPV upon their arrival in Saudi Arabia. They will need to carry proof of vaccination.

 August 2011

Meningococcal vaccination for the Hajj

The Hajj pilgrimage is the largest annual religious gathering of its kind in the world. Each year, over two million Muslims from around the world gather in Mecca. This year, the Hajj is estimated to fall between 4 and 9 November.

The PHA advises that all pilgrims aged two years and older are required to show proof of vaccination against meningococcal meningitis ACW135Y for the purposes of Hajj.

This vaccine should have been received not more than three years and not less than 10 days before arrival in Saudi Arabia, and should be recorded in a vaccination book showing the traveller's full name.

For further information, visit the National Travel Health Network and Centre: www.nathnac.org/travel/factsheets/Hajj_umrah.htm

Immunisations and vaccine preventable diseases

Immunisation uptake figures for Northern Ireland have remained fairly constant for the past two years or so, with slight quarter-to-quarter variation. They are mostly at historically high levels, with MMR by two years of age now back up to its highest ever level.

However, MMR by two years and two doses of MMR by five years of age are still slightly short of the recommended 95% uptake needed to completely keep these diseases away, so efforts are continuing to improve these levels until they reach these targets. The recent outbreaks of measles across Europe remind us of the importance of achieving these very high uptake levels.

Table 1: Completed primary immunisations by 12 months, January–March 2011, Northern Ireland

Area	% coverage at 12 months			
	No of children in cohort	DTaP/IPV/Hib3	MenC2	PCV2
Eastern	**2,164**	96.30%	96.20%	96.30%
Northern	**1,442**	97.90%	97.70%	97.90%
Southern	**1,404**	98.00%	97.90%	98.10%
Western	**1,056**	98.20%	98.10%	98.30%
Northern Ireland total	**6,066**	**97.40%**	**97.30%**	**97.50%**

Figure 1: Polio vaccination uptake rates at 12 months, Northern Ireland and UK, 2000–2011

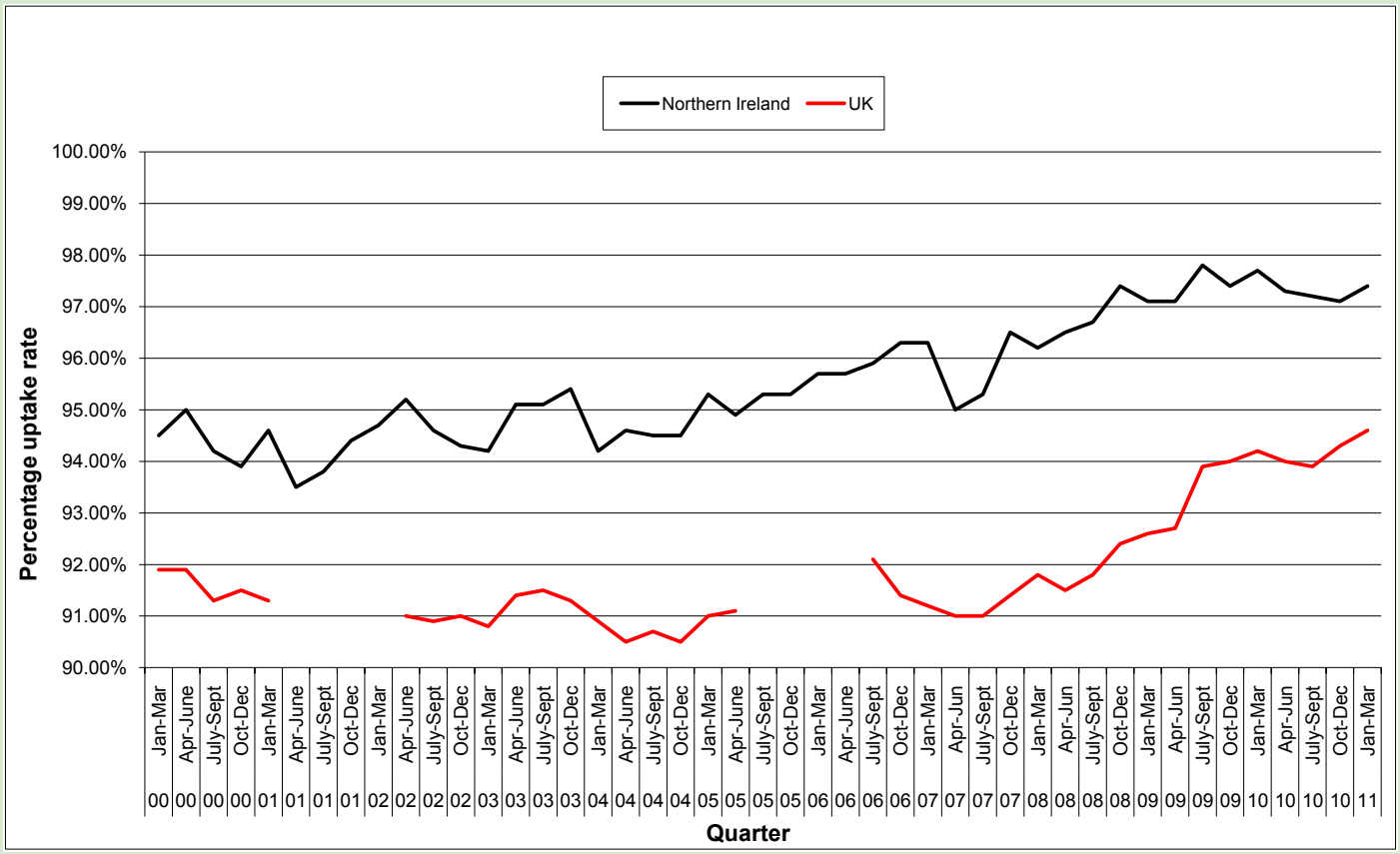


Table 2: Completed primary immunisations by 24 months, January–March 2011, Northern Ireland

Area	% coverage at 24 months					
	No of children in cohort	DTaP/IPV/Hib3	Infant MenC	PCV booster	Hib/MenC	MMR1
Eastern	2,152	98.30%	96.70%	90.50%	93.60%	90.00%
Northern	1,377	99.50%	98.30%	95.40%	97.40%	94.90%
Southern	1,367	99.40%	98.70%	94.40%	97.00%	94.10%
Western	1,087	98.70%	97.50%	96.00%	96.90%	95.30%
Northern Ireland total	**5,983**	**98.90%**	**97.70%**	**93.50%**	**95.90%**	**93.00%**

Figure 2: MMR vaccination uptake rates at 24 months, Northern Ireland and UK, 2000–2011

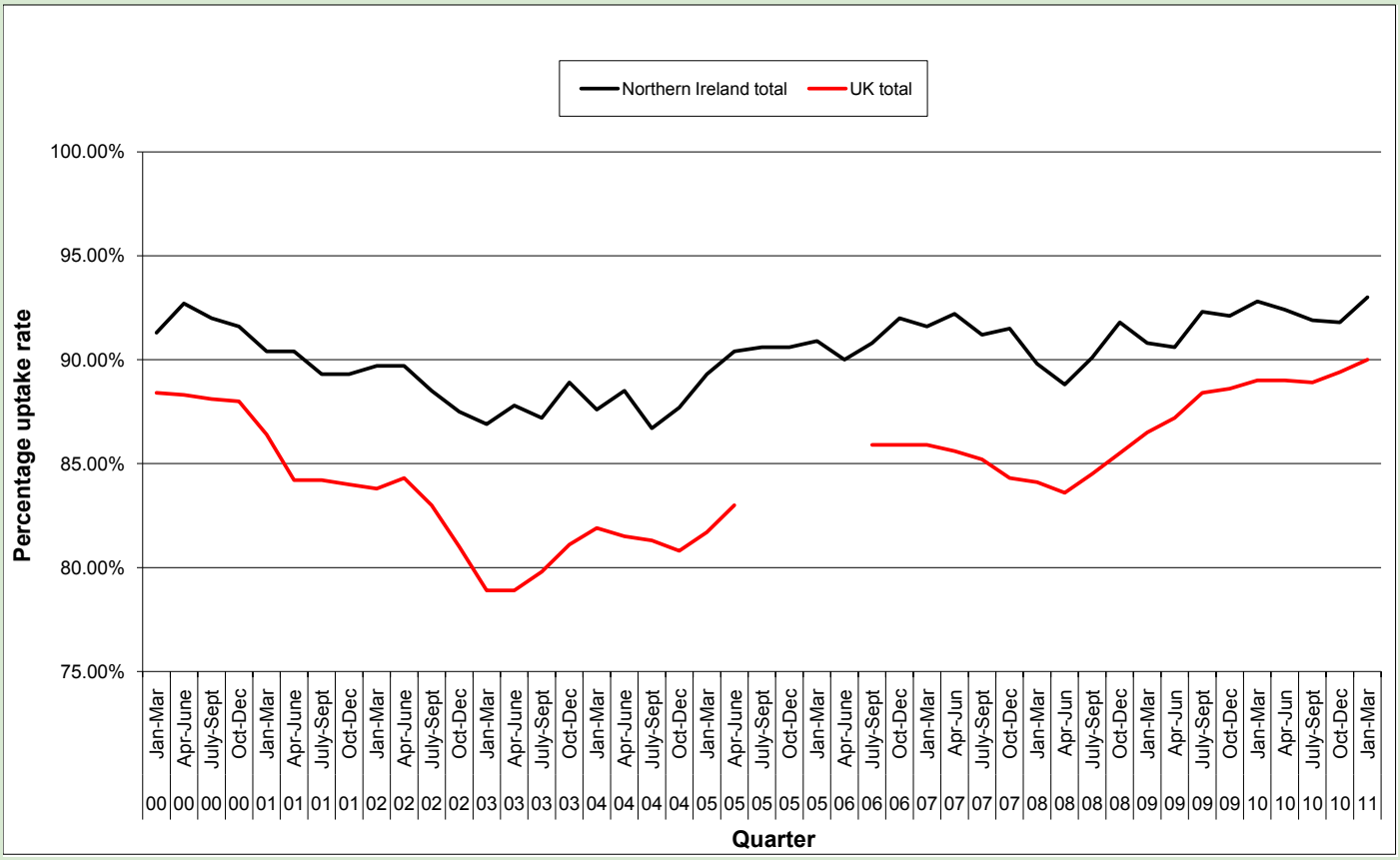


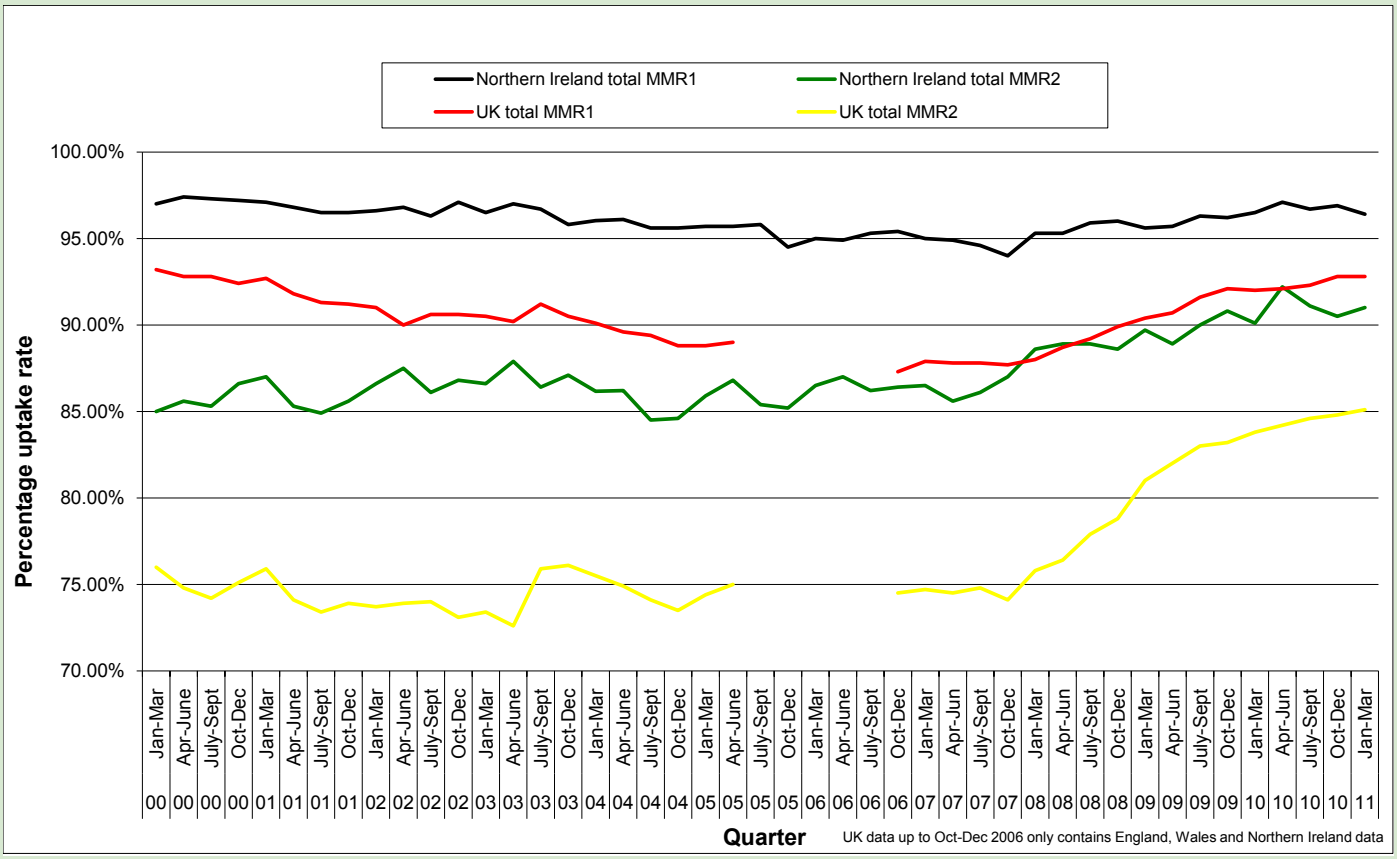
Table 3: Completed primary immunisations by 12 and 24 months, January–March 2011, Northern Ireland and UK

Country	% coverage at 12 months			% coverage at 24 months				
	DTaP/ IPV/Hib3	MenC2	PCV2	DTaP/ IPV/Hib3	Infant MenC	PCV booster	Hib/ MenC	MMR1
England	94.20%	93.60%	93.80%	96.10%	95.20%	89.70%	91.70%	89.50%
Scotland	97.00%	96.90%	97.20%	98.10%	96.40%	93.60%	94.20%	93.30%
Wales	96.50%	96.30%	96.40%	97.60%	96.20%	91.50%	93.70%	91.60%
Northern Ireland	97.40%	97.30%	97.50%	98.90%	97.70%	93.50%	95.90%	93.00%
UK	94.60%	94.10%	94.20%	96.10%	95.50%	90.20%	91.20%	90.00%

Table 4: Completed primary immunisations and boosters by five years of age, January–March 2011, Northern Ireland and UK

Area	% coverage at five years					
	DTP/Pol3	Hib3	MenC	MMR1	MMR2	DTaP/IPV
Eastern	97.20%	94.00%	94.60%	95.30%	87.90%	89.40%
Northern	98.90%	96.50%	97.10%	97.40%	94.40%	96.20%
Southern	97.90%	94.80%	94.50%	96.60%	91.50%	93.50%
Western	98.20%	96.00%	95.60%	97.20%	91.90%	93.40%
Northern Ireland total	97.90%	95.20%	95.40%	96.40%	91.00%	92.60%
England	95.10%	94.50%	92.70%	92.20%	84.50%	86.00%
Scotland	98.50%	97.70%	95.40%	96.20%	89.00%	90.80%
Wales	97.20%	96.80%	95.50%	95.00%	87.10%	89.70%
UK	95.50%	94.90%	93.10%	92.80%	85.10%	86.70%

Figure 3: MMR vaccination uptake rates at five years of age, Northern Ireland and UK, 2000–2011



Vaccine preventable diseases

There are three routine sources of information on childhood vaccine preventable diseases:

- statutory notifications based on clinical diagnosis;
- salivary antibody tests to confirm a clinical diagnosis;
- laboratory reports.

Of particular note is the reduction in mumps cases compared to the same period in the previous two years. Confirmed cases of other vaccine preventable diseases remain very low. Of significance is the fact that there were no confirmed cases of measles even though there have been major outbreaks across Europe (see 'News' section) – a reflection of our high vaccine uptake over recent years (see Table 6).

Table 5: Notifications of vaccine preventable infectious diseases, Northern Ireland *

Disease	Quarter one (weeks 1-13) 2011	Quarter one (weeks 1-13) 2010	Quarter one (weeks 1-13) 2009
Diphtheria	0	0	0
Measles	8	17	11
Mumps	16	92	83
Polio	0	0	0
Rubella	5	5	7
Tetanus	0	0	0
Whooping Cough	0	4	6

* Data provisional

Table 6: Laboratory reports of vaccine preventable infectious diseases, Northern Ireland *

Disease	Quarter one (weeks 1-13) 2011	Quarter one (weeks 1-13) 2010	Quarter one (weeks 1-13) 2009
Diphtheria	0	0	0
Measles **	0	7	0
Mumps **	1	8	7
Polio	0	0	0
Rubella **	2	0	0
Tetanus	0	0	0
Whooping Cough	0	3	0

* Data provisional

** Serologically confirmed by the Regional Virus Laboratory (RVL)

Table 7: Salivary antibody testing results, quarter one 2011, Northern Ireland*

	Quarter 1				
	Area	**Notifications ****	**Salivary test completed**	**Confirmed case**	**Not confirmed**
Measles	Northern	3	1	0	1
	Southern	2	0	0	0
	Eastern	0	0	0	0
	Western	3	1	0	1
	Total	**8**	**2**	**0**	**2**
Rubella	Northern	1	0	0	0
	Southern	1	0	0	0
	Eastern	1	0	0	0
	Western	2	1	0	1
	Total	**5**	**1**	**0**	**1**

* Data provisional

** Notification data to week 13

Table 8: Respiratory viruses, quarters one and two 2011, Northern Ireland

Respiratory viruses *	2011	2011	2010
	Q1	Q2	Cumulative Q1–Q2
Influenza A (H1N1) 2009	373	0	17
Influenza A (other)	0	0	0
Influenza B	193	0	0
Respiratory syncytial virus (RSV)	577	15	184

* Data for influenza and RSV taken from virology reporting database for both 2010 and 2011, based on specimen date.

Note that due to the pandemic that began in mid-2009, the number of cases of both influenza and RSV were substantially down during the normal 2009/10 flu season, in particular the period under consideration in this report.

Table 9: Respiratory bacteria, quarters one and two 2011, Northern Ireland

Respiratory bacteria**	2011	2011	2010
	Q1	Q2	Cumulative Q1–Q2
Coxiella burnetii	0	0	0
Mycoplasma pneumoniae	3	1	0
Chlamydia pneumoniae	0	0	0

** Data taken from CoSurv.

All data provisional.

Table 10: Laboratory confirmed mycobacteria, quarters one and two 2011, Northern Ireland

Mycobacteria	2011	2011	2010
	Q1	Q2	Cumulative Q1–Q2
Mycobacterium tuberculosis complex *			
M. tuberculosis	10	13	25
M. africanum	0	0	1
M. bovis	0	2	1
Atypical mycobacterium **			
M. abscessus	2	2	1
M. avium-intracellulare group	10	12	19
M. celatum	0	0	1
M. chelonae	0	2	4
M. cosmeticum	0	0	0
M. fortuitum	0	1	2
M. gordonae	3	1	7
M. interjectum	0	0	1
M. kansasii	3	3	3
M. lentiflavum	0	0	2
M. malmoense	4	1	6
M. marinum	0	1	0
M. peregrinum	1	0	2
M. simiae	0	1	1
M. xenopi	0	0	2

* Based on specimen date or date of notification where known. Figures obtained from CoSurv database/Northern Ireland TB database.

** Based on specimen date. Figures obtained from CoSurv database.

Excludes duplicates within 26 weeks, as per PHA guidelines.

All figures are provisional.

Quarterly reporting of MRSA and *Clostridium difficile* infections (CDI)

The following tables are taken from the PHA's quarterly *S. aureus* (SA) and *C. difficile* surveillance reports for the period April to June 2011 (quarter two 2011) .

The full reports can be found at: www.publichealthagency.org/publications

These reports are based on data extracted from the Northern Ireland HCAI web-based surveillance system. These figures are validated during cross-checking with the laboratory reporting system (CoSurv) and by HSCT staff on a quarterly basis.

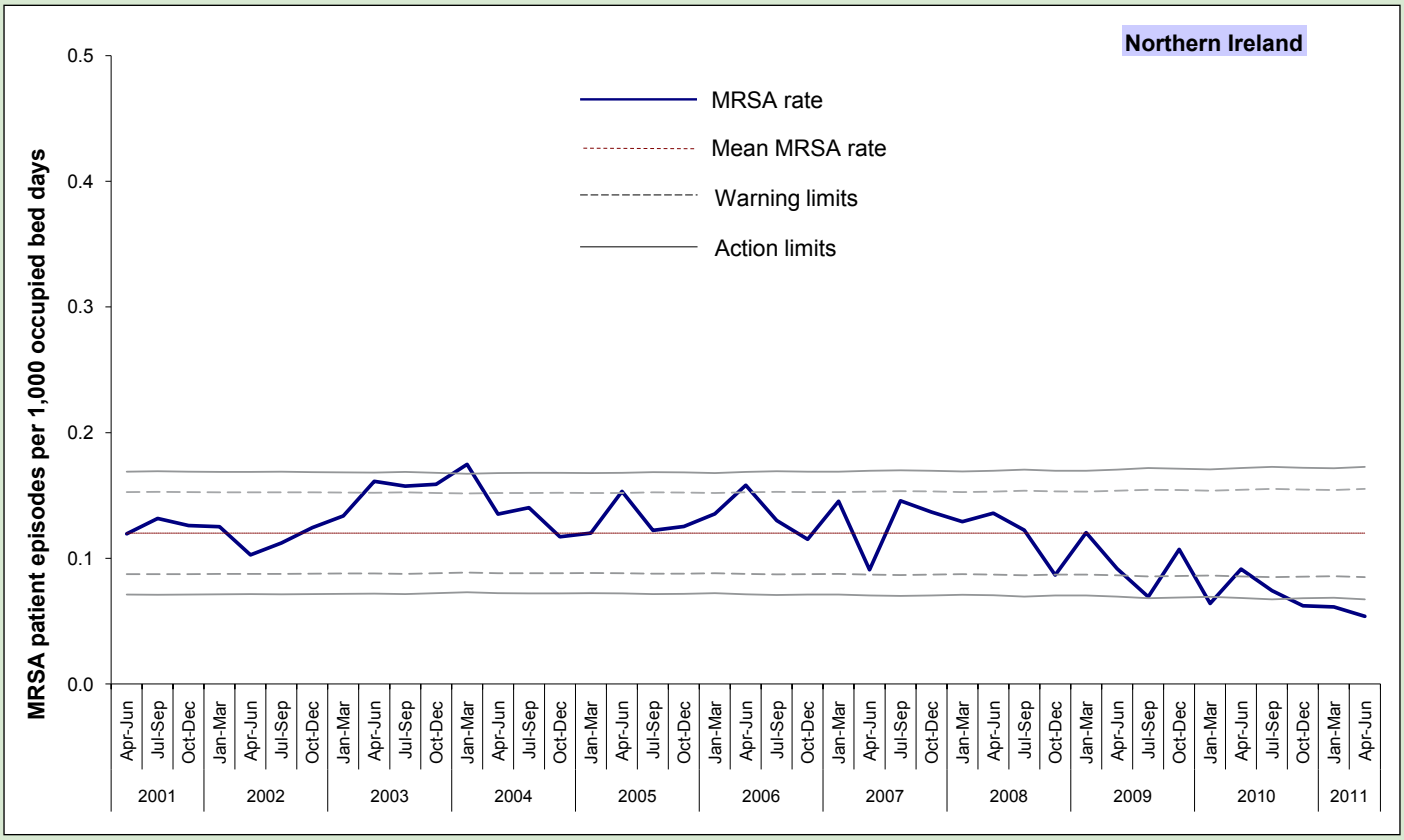
MRSA

- The number of MRSA bacteraemias decreased by 16%, from 25 reports in quarter one to 21 reports in quarter two.
- The MRSA rate decreased by 11%, from 0.061/1,000 occupied bed days in quarter one to 0.054/1,000 occupied bed days in quarter two.
- The Western Health and Social Care Trust (HSCT) reported no episodes of MRSA in quarter two. This is the first time a Trust has achieved this record over a three month period since SA surveillance commenced in Northern Ireland.
- The overall percentage of SA bacteraemias reported as MRSA decreased by approximately 5.6%, from 28.7% in quarter one to 23.1% in quarter two.
- Two of the five HSCTs saw a decrease in MRSA rates during quarter two. Regarding the three HSCTs that saw an increase, when the MRSA rates for quarter two were compared to quarter two in previous years, using 95% confidence intervals, there was no statistically significant change.

Table 11: Quarterly number and rate of MRSA bacteraemias, January–June 2011

	Jan-Mar 2011		Apr-June 2011	
	Episodes	Rate	Episodes	Rate
Belfast HSCT	12	0.079	4	0.026
Northern HSCT	5	0.067	8	0.121
South Eastern HSCT	2	0.035	6	0.106
Southern HSCT	1	0.017	3	0.055
Western HSCT	5	0.077	0	0.000
Northern Ireland total	25	0.061	21	0.054

Figure 4: Statistical process control chart for quarterly MRSA rates in Northern Ireland



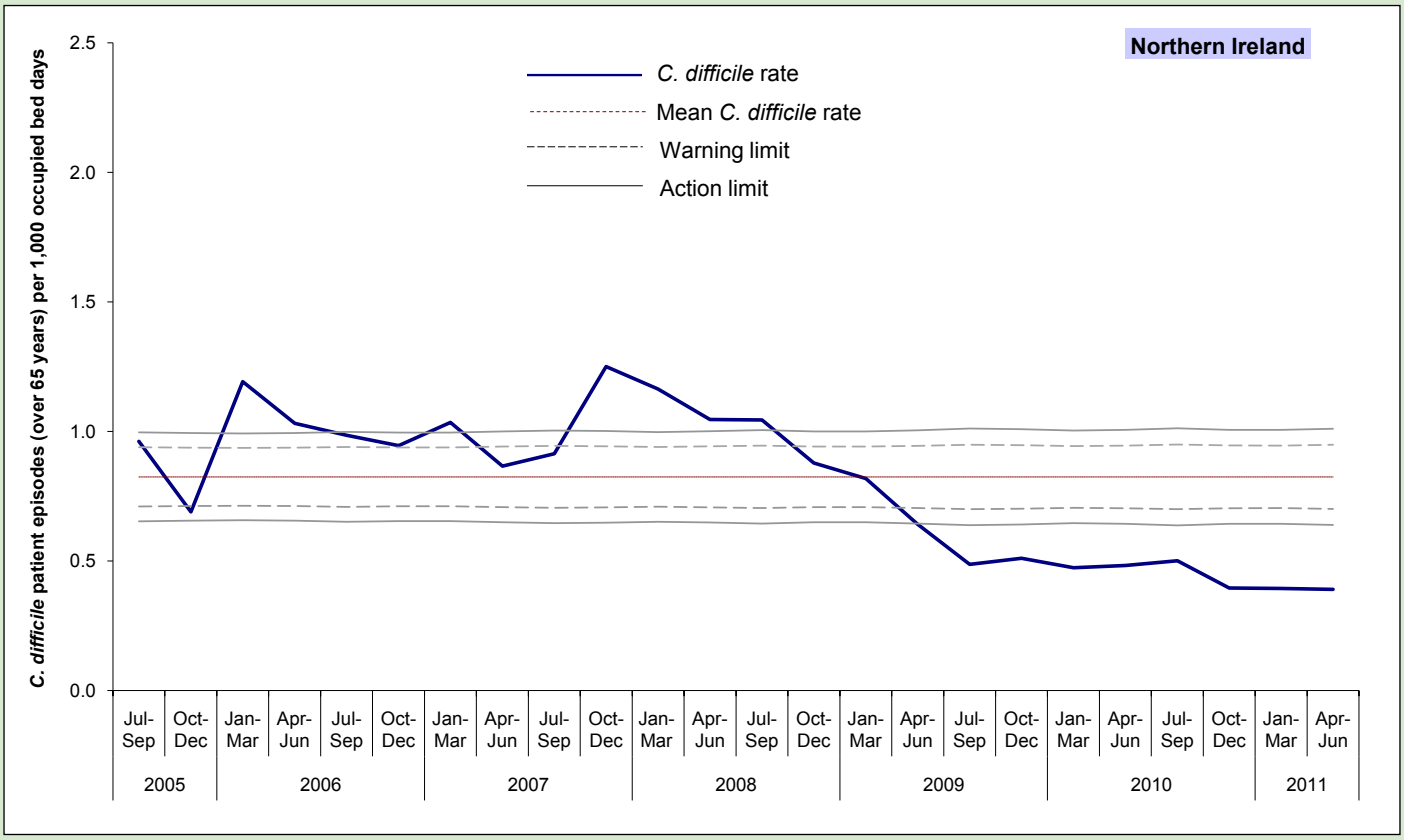
Clostridium difficile infections (CDI)

- CDI reports for hospital inpatients aged 65 years and over decreased by 6% (five episodes) during quarter two. CDI rates decreased by 1% during quarter two.
- CDI reports for community patients aged 65 years and over decreased by 26% (16 episodes) during quarter two.
- Total CDI reports for hospital inpatients and community patients combined, aged two years and over, decreased by 8% (15 episodes) during quarter two.
- CDI reports for hospital inpatients aged 65 years and over fell by 17% between the 2009/10 and 2010/11 financial years.

Table 12: Quarterly number and rate of CDI reports among hospital inpatients aged two years and over, January–June 2011

	Jan-Mar 2011		Apr-June 2011	
	Episodes	Rate	Episodes	Rate
Belfast HSCT	49	0.323	54	0.357
Northern HSCT	22	0.295	20	0.303
South Eastern HSCT	30	0.528	17	0.302
Southern HSCT	5	0.084	10	0.184
Western HSCT	18	0.278	20	0.323
Northern Ireland total	124	0.304	121	0.311
Northern Ireland community total	69	-	57	-

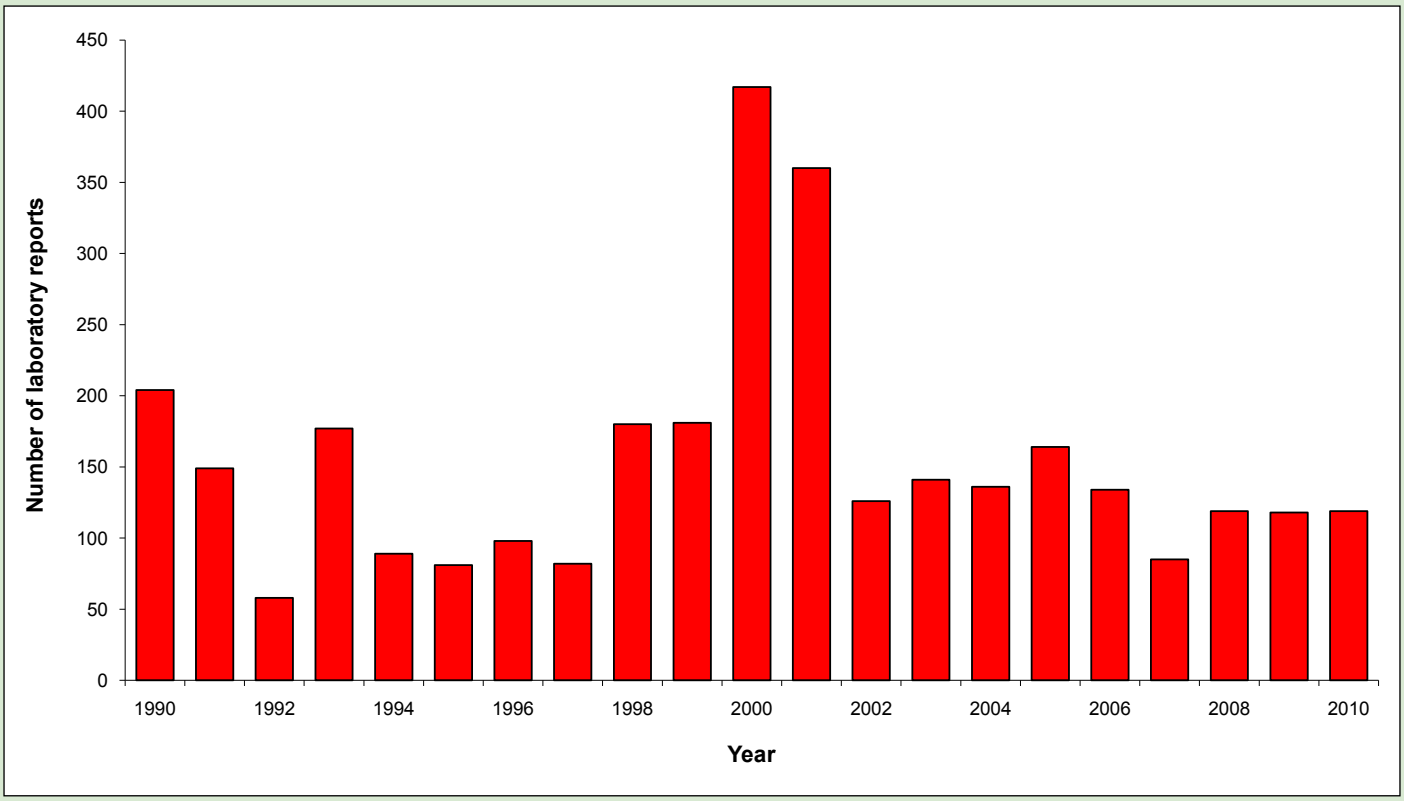
Figure 5: Statistical process control chart for quarterly *C. difficile* rates among inpatients in Northern Ireland aged 65 years and over



Cryptosporidium 2010

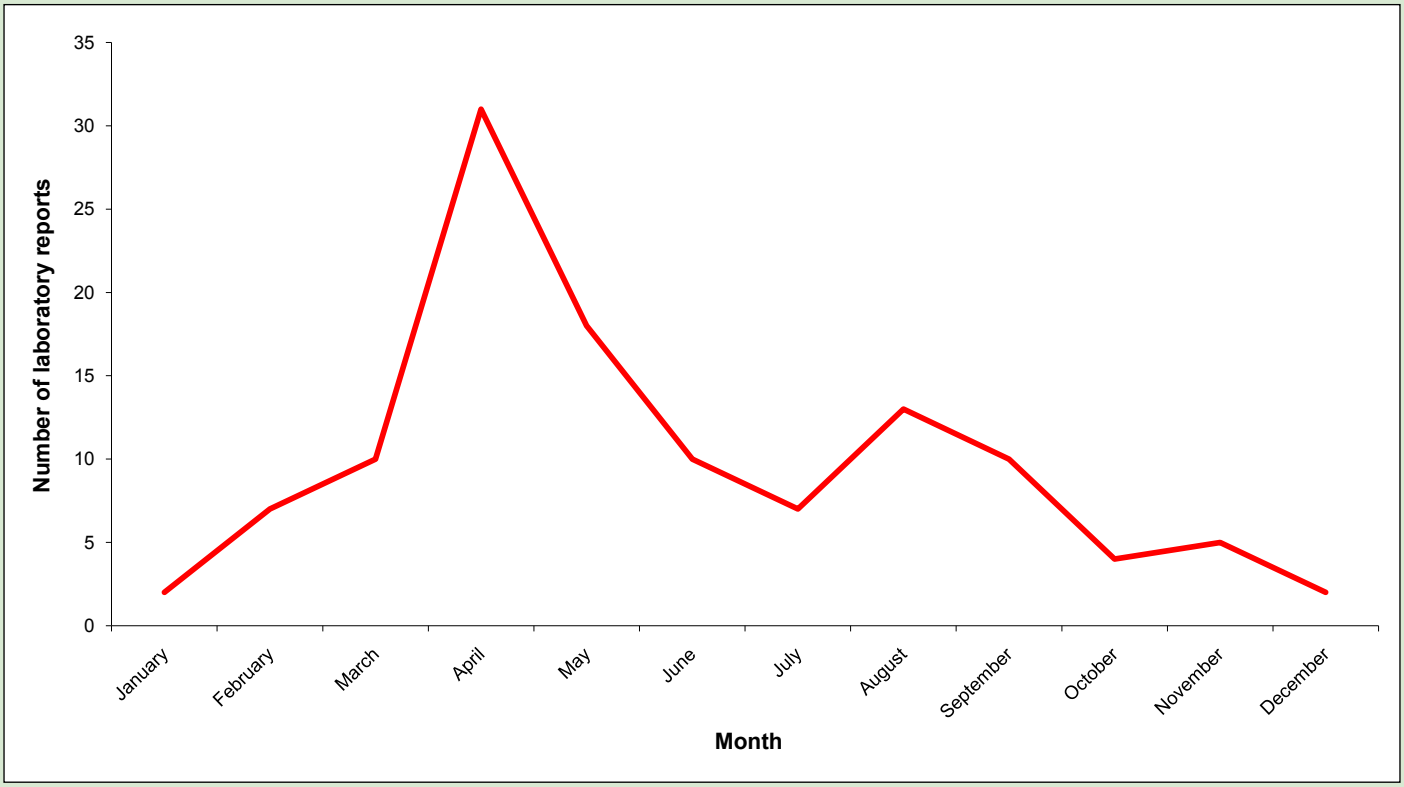
The numbers of *Cryptosporidium* sp isolates have varied from 58 in 1992 to 417 in 2000. In the years 2000 and 2001, there were three major outbreaks of cryptosporidiosis, which were all water-related. Between 2002 and 2010, laboratory reports of *Cryptosporidium* sp averaged 128 per annum. In 2010, 119 reports were received.

Figure 6: Laboratory reports of *Cryptosporidium*, 1990–2010, Northern Ireland



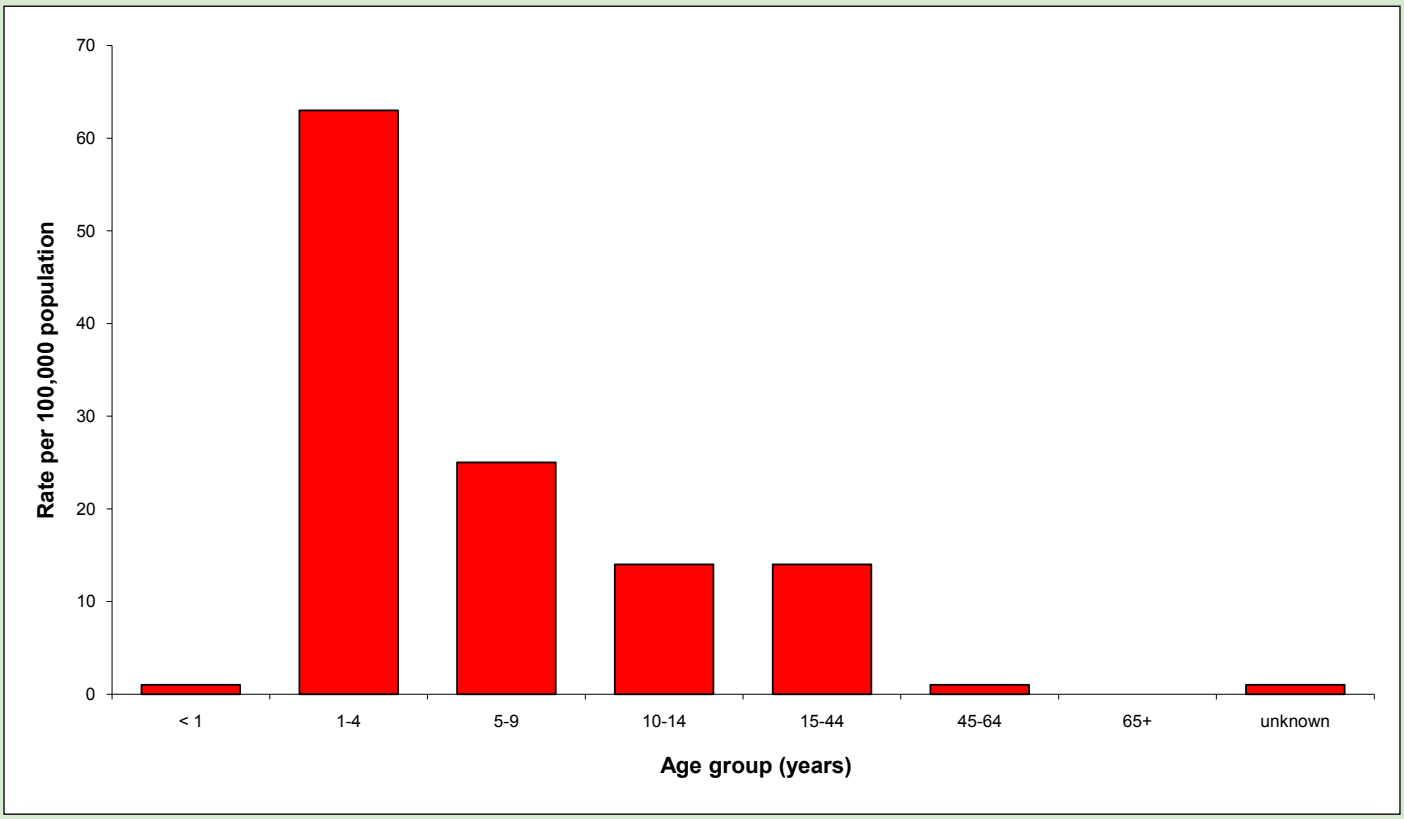
Cryptosporidium reporting follows a seasonal pattern, as shown in Figure 7. There is a large peak in spring, with another smaller peak later in the year, and 2010 follows this trend.

Figure 7: Laboratory reports of *Cryptosporidium* by month, 2010, Northern Ireland



The rates of laboratory reported cryptosporidiosis in 2010 per 100,000 population were highest in the under 10 years age groups (under 1 year = 1/100,000; 1–4 years = 63/100,000; 5–9 years = 25/100,000). Incidence across the other age groups (15–44, 45–64 and over 65 years) ranged from 0 to 14 reports per 100,000 population (Figure 8).

Figure 8: Laboratory reports of *Cryptosporidium*, age-specific rate per 100,000 population, 2010, Northern Ireland

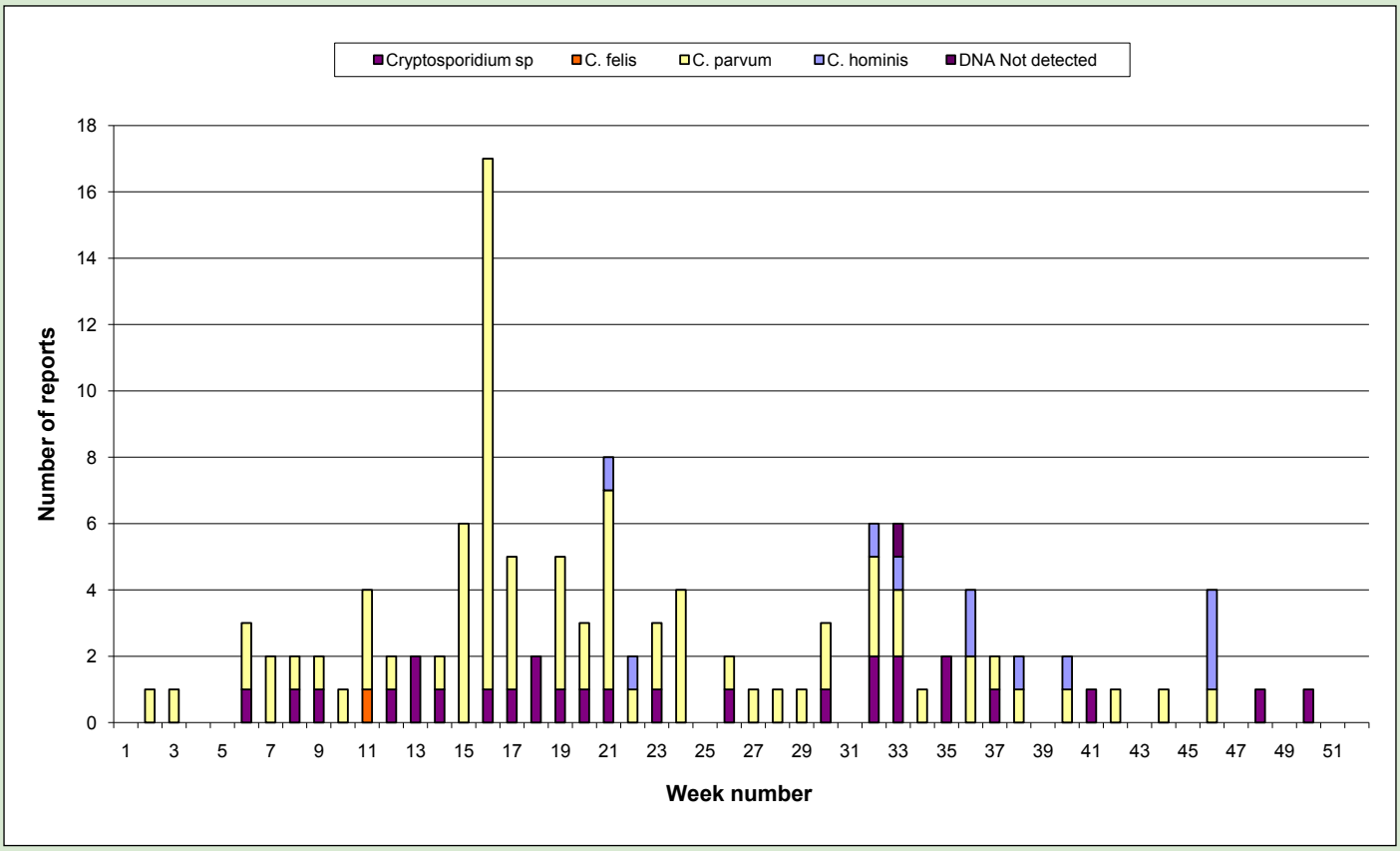


Since January 2008, positive samples from Northern Ireland have been sent to the UK Cryptosporidium Reference Laboratory in Swansea for genotyping. This has provided information on the proportion of cases of cryptosporidiosis that are due to *C. parvum* or *C. hominis*. Previously, genotyping was only undertaken in outbreak situations.

At least two species of *Cryptosporidium* cause human infection. *C. hominis* (formerly genotype 1) has a narrow host range, almost exclusively associated with infection in humans. *C. parvum* (formerly genotype 2) has a broad host range of animals and humans.

Figure 9 shows the proportion of cases that were speciated. Out of the total of 119 cases, 91 (76%) were genotyped. Of those samples typed, the largest group was *C. parvum*, with 79 (87%). *C. hominis* and *C. felis* made up 12% and 1% respectively.

Figure 9: Laboratory reports of *Cryptosporidium*, by species, 2010, Northern Ireland



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