

Transmit

Health protection service bulletin

Foreword

This month's Transmit is issued rather later than normal due to the exceptional workload during the *Pseudomonas aeruginosa* incidents in NNU. Much was learnt during this time and work continues to improve systems accordingly.

RQIA completed a review of the PA incidents and their final report is available at www.rqia.org.uk. One of the recommendations of the review was that the health protection service should issue a weekly bulletin.

In this issue is a report on the incidents managed by the Emergency Preparedness and Environmental Hazards team. These incidents are very varied and may pose a considerable hazard to the public if not managed appropriately.

Also included is an update on pertussis, a disease which has markedly increased in the last few months. Pertussis is generally a mild disease in older children and adults and patients may not present, but pose a risk to infants who can suffer very severe disease. It is increasingly important that babies are protected by vaccination as early as possible.

While 2011/12 has been a very mild flu season, late outbreaks in nursing homes were a reminder of the importance of vaccination of both residents and staff.

The news item on malaria is a reminder of the importance of awareness of risk, bite avoidance and prophylaxis. Risk level of malaria and their hazards to travellers varies over time in different countries so up to date information is vital.

Routine reports on Listeriosis, Brucellosis and gastrointestinal tract infections complete this issue.



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Emergency Preparedness and Environmental Hazards

The PHA has responsibility for leading on health protection in NI. This includes leading public health emergency response and the Emergency Preparedness and Environmental Hazards (EmPEH) Team leads on this on behalf of the PHA. This specialist team trains key staff, plans for and responds to a wide range of acute and chronic public health emergencies and environmental hazards. The four person team is located within all 4 PHA offices across NI allowing for a rapid response to any acute or chronic emergency that may occur anywhere in Northern Ireland. The team also works closely with all PHA's key first responding partners, in particular emergency services, health and social care Trusts, District Councils and other scientific and environmental partners. The Team has responded to a wide range of incidents in recent times.

Chemical Incidents

Exposure to toxic materials and chemicals can lead to serious illness and death. The EmPEH team has assisted with a range of post incident responses. The role has specifically centred on working closely with first responder partners who have attended the incidents to risk assess the specific health impacts of the chemicals and toxic materials involved.



This allows for an early robust response to reduce the risk of contamination for other individuals, particularly first responders and the people living and working in the area. This innovative work resulted in a joint workshop being led by PSNI and PHA in October 2011. The workshop attended by key responders from the emergency services and others has helped build capacity and readiness amongst first responders.

Gas Leaks

The EmPEH Team has also provided the public health response to five gas leaks that have resulted in members of the public being exposed to a range of toxic fumes. For example the Team respond to incidents at swimming pools when members of the public may have been exposed to chlorine gas. Advice is given to emergency service colleagues on the immediate response. Longer term advice is also made available to GP colleagues in the event patients present to their GP practices with symptoms of chlorine gas exposure. Advice includes presentation symptoms, clinical treatment guidance and further actions that a GP might want to consider.



Genmar Companion

The Genmar Companion is a cargo ship that was carrying 54,000 tons of crude oil and got into difficulties in the Irish Sea in December 2011. The difficulties resulted in a crack occurring in the ship's hold. It was agreed to remove the crude oil to avoid an environmental disaster. The high level co-ordination of the process and the multi-agency group overseeing it was chaired by the Secretary of State's Representative for Maritime Salvage and Intervention. PHA staff from the EmPENH Team were invited onto this multi-agency scientific advice team. The EmPENH Team offered specific public health advice to the key partners involved in the removal of the crude oil. In Public Health Emergencies on land it is the responsibility



Phosphine in Ship's Holds

Phosphine capsules are used to fumigate many ships' holds to reduce vermin. On most occasions, due to the ventilation within ships, it does not pose a risk to humans. However on occasion it does. The EmPENH Team responded to one such incident in Belfast Port in April 2011 and were able to offer timely public health advice. As a result of the advice no one was exposed to the phosphine gas. Further to this a HP Consultant from the EmPENH Team spoke at a conference regarding the risks of phosphine gas, the clinical presentation symptoms and how to reduce the risks of adverse health effects.



Planning & Training

To enhance PHA's preparedness and readiness the EmPEH has produced a number of robust and flexible plans. These plans allow the PHA to respond effectively to acute or chronic public health emergencies or environmental hazards that occur in Northern Ireland. To enhance this planning, the EmPEH Team has also led on and continues to lead the development and delivery of specialised training programmes for Health and Social Care staff.

How to contact the EmPEH Team

To inform of incidents and to activate the respective plans contact through the PHA Dutyroom during working hours and the on-call HP Doctor through NIAS Control out of hours.

Duty room updates

Increase in Pertussis Activity

Since the beginning of 2012 there has been a marked increase in the number of Pertussis cases in Northern Ireland. By 22nd May 2012 there had been 71 confirmed cases. This compared with only 13 confirmed cases in the whole of last year. A similar rise had been seen in England, Wales and Scotland and other parts of the developed world have also reported outbreaks in recent years, for example in 2010 California had an outbreak with 9,154 cases, the most in 63 years, and 10 infants died. These outbreaks have often occurred despite high immunisation rates and in Northern Ireland we have uptake rates for the primary vaccines of over 97% by one year of age.

If we have such high uptake rates why are we continuing to get Pertussis outbreaks? A significant proportion of the reported cases are occurring in infants either too young to have been immunised at all i.e. under 2 months or too young to have had all three primary doses i.e. between 2 and 4 months. What is believed to be happening is that they are catching it from older children or adults.

Pertussis vaccine gives good protection for several years but then the immunity from it starts to wane, so that by the time people are teenagers or young adults they are no longer immune. In this age group Pertussis tends to be less serious and often goes undiagnosed – people notice they have a cough that persists longer than normal, but often aren't sick enough to go to their GP. However they are still infectious and can pass it on to babies too young to be vaccinated. This is particularly worrying as this group are those most at risk of complications.

It is encouraging that there have been very few cases in infants and young children who have been fully vaccinated, which shows that the vaccine does give good protection.

Notification and Public Health Management

It is important to suspect Pertussis in older children and adults as well as young children. If you do suspect a case then please ensure that it is notified to the Duty Room on 028 9055 3997 or 9055 3994.

Notification is essential because it enables us to take action which may contribute to reduction in the number of cases of Pertussis and especially to help protect young infants.

Please notify us of:

1. Any patient in whom you suspect Pertussis infection.
2. Any patient who has had an acute cough for more than 14 days without an apparent cause plus one or more of the following:
 - Paroxysms of coughing;
 - Pertussive vomiting;
 - Respiratory whoop
3. Any patient who has been in contact with a suspected case and who may have been coughing for less than 14 days but whose symptoms are strongly suggestive of Pertussis.
4. Any possible cluster of Pertussis cases with whom your patient is linked.

Investigation

If you see a patient in whom you suspect Pertussis please take a throat swab which should then be sent as a dry swab (not placed in gel). This should be sent to the Virology Laboratory with a request for Pertussis PCR (this can be sent via your local laboratory).

Immunisation

It is important to ensure that all infants receive their immunisations in a timely manner so that they are protected at the earliest opportunity. The pre-school booster is also important not only to boost protection in that child but also to prevent them from passing Pertussis on to vulnerable young infants.

Antibiotic treatment of the patient is recommended if you see the patient within 3 weeks of onset of symptoms. The antibiotic of choice is Azithromycin and the dosage along with alternatives are shown in the Table on page 7. The need for prophylaxis for close contacts will be assessed by the Duty Room team following notification and discussed with you

Clinical Management

See Table below:

Age group	Azithromycin	Erythromycin	Clarithromycin	Co-trimoxazole*
<1 month	UNDER 6 MONTHS 10mgs/kg once a day for 5 days	Not preferred due to association with hypertrophic pyloric stenosis If the only drug available 12.5mg/kg every 6 hours for 7 days	Not preferred in this age group	Not recommended for infants below 6 weeks
1 month – 2 years	Infants and children \geq 6 months Day 1 10mgm/kgm once daily (max 500mgm)	125mg every 6 hours for 7 days	Under 8 kgms 7.5mg/kg twice a day for 7 days 1-2 yrs: 62.5mg twice a day for 7 days	6 weeks – 5 months: 120mg twice a day for 7 days
2-8 years	Days 2 – 5 5 mgm/Kgm Once daily (max 250mgm)	250 mg every 6 hours for 7 days	3-6 yrs: 125 mg twice a day for 7 days 7-9 yrs: 187.5mg twice a day for 7 days	6 months – 5 years: 240mg twice a day for 7 days
Children > 8 years		250-500mg every 6 hours for 7 days	\geq 10 yrs: 250 mg twice a day for 7 days	6-12 years: 480mg twice a day for 7 days
Adults	Day 1 500mg once daily Day 2 – 5 250 mgm Once daily	250 – 500 mg every 6 hours for 7 days	250mg twice a day for 7 days	960mg twice a day for 7 days

Flu outbreaks in nursing and residential homes

To date this season there have been nine influenza A (H3) outbreaks in nursing and residential homes reported to the PHA. These occurred in April and May, very late in the season. This reflects the rise in flu A seen during this period in the general population, although overall consultation rates and isolations were low. Flu vaccine uptakes were high, but protection will have waned in the months after vaccination, and protection afforded by vaccination is not as good in this age-group. Nonetheless there were few hospitalisations in patients affected by the outbreaks. Vaccination of staff is very important to reduce outbreaks.

When an outbreak is reported to the duty room, the home will generally be visited by a health protection nurse, and appropriate investigations and infection control measures advised. Antiviral treatment and prophylaxis will be advised as per NICE and HPA guidance

News and Links

Best practice on Screening for MRSA colonisation and PHA-led study on MRSA

DHSSPS recently issued a letter (<http://www.dhsspsni.gov.uk/hss-md-12-2012.pdf>) with a reminder of policy outlined in 'Best practice on Screening for MRSA colonisation' (HSS MD 12/2008) and information on a PHA-led short study on MRSA which will inform the development of MRSA policy in Northern Ireland.

The MRSA study will be conducted over the coming months and will require Trusts to work closely with PHA to gather and report information in four specific areas:

1. MRSA colonisation rates in different specialties/patient groups;
2. root cause analyses (RCA) undertaken for MRSA infections;
3. MRSA decolonisation requirements and practices, and
4. blood culture guidance and practice.

HPA reports 22 per cent increase in malaria cases returning from the Indian sub-continent

New figures from the Health Protection Agency (HPA) show that despite a five per cent decrease in malaria infections reported in 2011 (1,677) compared to 2010 (1,761), cases among travellers returning from the Indian-subcontinent increased by 22 per cent, from 274 cases in 2010 to 334 cases in 2011.

The increase in cases from the Indian-subcontinent in 2011 is largely due to a doubling of cases of *Plasmodium vivax* malaria acquired in Pakistan.

The most common type of malaria reported in the UK is the potentially fatal falciparum malaria, which is usually acquired in West Africa. This type of malaria continues to account for the majority of cases (1,149) reported in the UK, but in 2011, a quarter of cases (416) were caused by vivax malaria, which is more commonly acquired in India and Pakistan. This proportion has increased from 20 per cent in 2010 and may indicate travellers are unaware of the risk of malaria in the Indian-subcontinent, where vivax malaria is more prevalent.

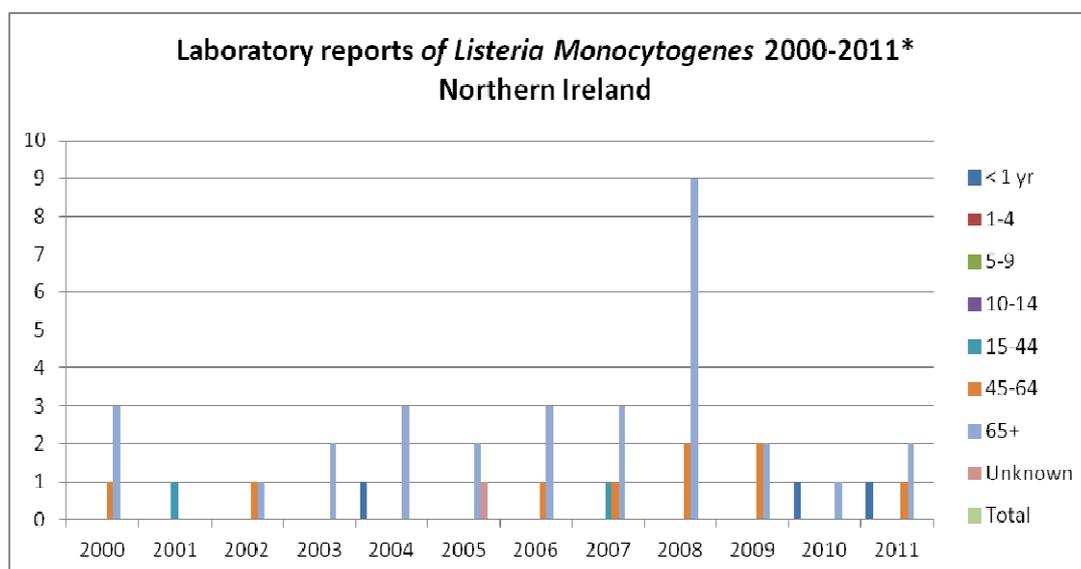
In 2011, eight deaths from malaria were reported, six from falciparum malaria acquired in Africa and two from vivax malaria

Routine Reports

Listeria monocytogenes

Listeriosis is a bacterial disease which usually presents as meningo-encephalitis and/or septicaemia in newborns and adults; although some adults experience only mild gastrointestinal symptoms.

In pregnant women it may cause a severe illness and miscarriage/foetal death. Those at highest risk are neonates, the elderly, immunocompromised individuals, pregnant women and their fetuses and alcoholic cirrhotic or diabetic adults. The case fatality rate can range from 20-30%.



**Data provisional*

After a general decline in the 1990s the number of cases of Listeriosis has increased since 2000 in Europe, predominately in immuno-compromised persons over 60 years of age. Listeriosis remains an uncommon diagnosis in Northern Ireland with between one and six cases reported annually since 2000, with the majority aged 60 years or older except in 2008 when there was a small outbreak involving 7 persons.

Listeria monocytogenes is widespread in the environment and can be found in raw food, soil, vegetation, sewage and in the faeces of many animals, birds and fish. Up to 10% of the population may be carriers of the organism and do not become ill.

The majority of cases are believed to be foodborne. *Listeria monocytogenes* has been found in a range of chilled ready-to-eat foods such as pre-packed sandwiches, pate, baste, butter, soft mould-ripened cheeses, cooked sliced meats and smoked salmon.

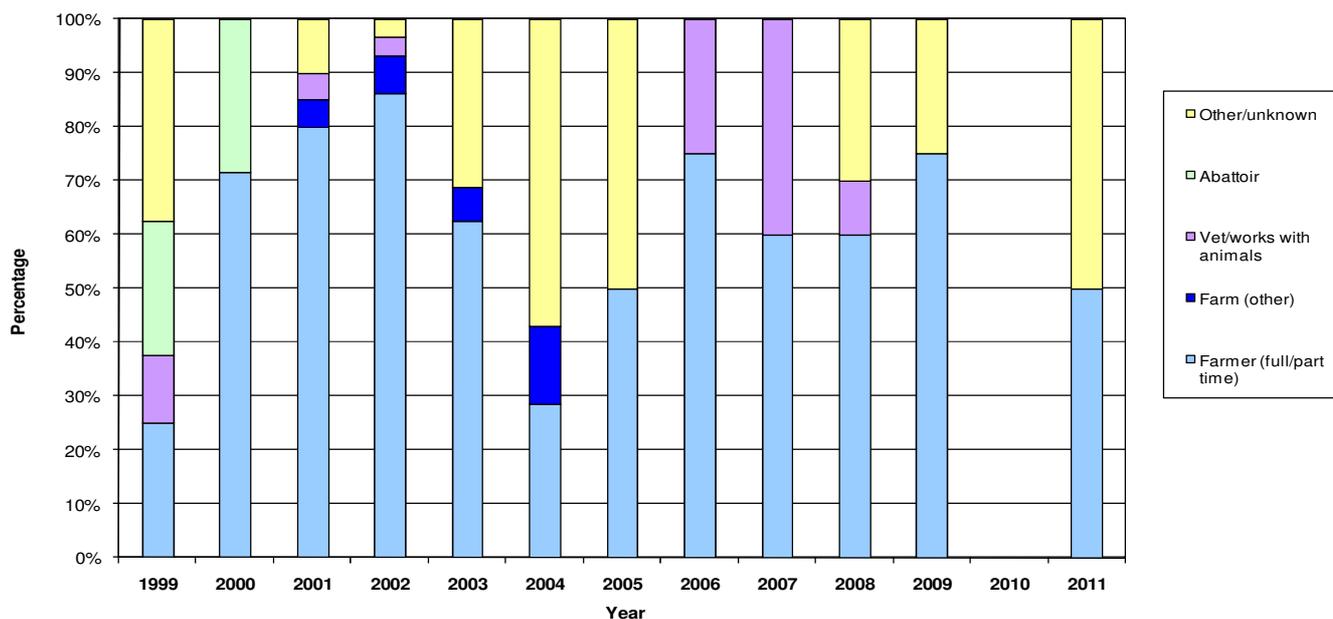
Human Brucellosis in Northern Ireland

During 2011 there were two (provisional) new cases of human brucellosis reported to PHA (NI), both of which were linked to farming. There were no cases reported in 2010.

Of the 128 cases reported between 1999 and 2011 the majority are thought to be as a result of occupational exposure. Farming is still the most likely exposure risk.

According to the occupation or exposure risk information available, 72% (n=92) of cases were linked to farms, with an additional 5% (n=6) being people who work with animals, for example as vets or animal trainers, 4% (n=6) of cases had worked in an abattoir although there have been no reports from this occupation/risk group since 2000, 3% (n=4) were not connected to an agricultural activity and for the remaining 16% (n=20) of cases the occupation was not known.

Figure A: Proportion of cases of Human Brucellosis reported to CDSC (NI) by occupation/risk group, 1999-2011, Northern Ireland

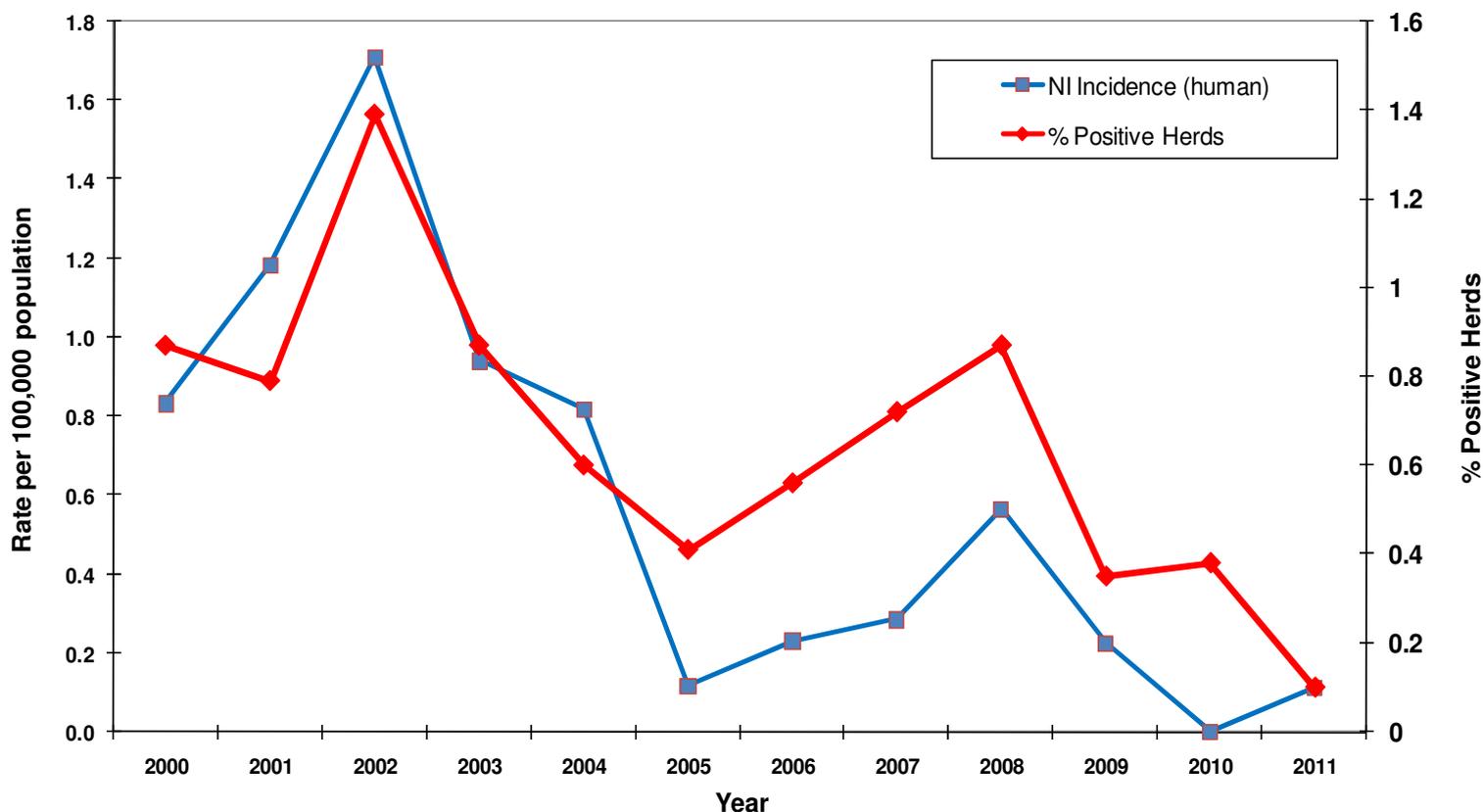


Note: There were no cases in 2010

The majority of cases reported to PHA (NI) since 1999 have been from the Southern area, 66%, followed by the Northern area, 16%, Western area, 15% and the remaining 3% from the eastern area of the province.

The information provided by DARDNI for 2011 recorded 21 seropositive herds. This is a significant decrease (72%) compared with the same period in 2010 when 74 seropositive herds were reported. A total of 0.10% of herds tested seropositive in 2011 compared with 0.38 in 2010

Incidence of Brucella sp in humans and percentage of positive herds in Northern Ireland, 2000-2011



Although the 2009 and 2010 figures show a downward trend in reported disease, the need for vigilance, amongst farmers, abattoir workers and General Practitioners in affected areas, remains.

More information and advice on bovine brucellosis can be found in the DARDNI website at <http://www.dardni.gov.uk/index/animal-health/animal-diseases/br.htm>

Table**Foodborne and Gastrointestinal Tract Infections**

Provisional Laboratory Reports, weeks 27-39 2010-2011, weeks 01-39 2010-2011

	Number of reports received		Cumulative total	
	2011 weeks 27-39	2010 weeks 27-39	2011 weeks 01-39	2010 weeks 01-39
<i>Campylobacter</i>	356	365	909	824
<i>C. difficile</i> Toxin	163	182	536	534
<i>C. perfringens</i>	4	12	15	29
<i>E. coli</i> O 157	36	44	47	62
<i>Salmonella</i> total	58	83	139	145
<i>S. enteritidis</i> (PT 4)	15 (0)	22 (1)	32 (4)	40 (3)
<i>S. typhimurium</i> (DT 104)	21 (0)	25 (0)	52 (14)	44 (4)
<i>Salmonella</i> other	22	36	55	61
<i>Shigella</i>	2	0	5	4
<i>Cryptosporidium</i>	24	29	111	108
<i>Giardia</i>	7	7	23	14
Adenovirus (faeces)	37	12	168	91
Enterovirus (faeces)	8	16	21	39
Rotavirus	37	31	627	586
Norovirus	138	16	346	559

Further information for health professionals and other agencies:

Health protection duty room
Public Health Agency
12-22 Linenhall Street
Belfast
BT2 8BU

Tel: 028 9055 3994 or 028 9055 3997

Email: pha.dutyroom@hscni.net

