

IN THE NEWS

Influenza and the recommendations on the use of antiviral drugs

Due to the levels of influenza activity seen in Ireland, antiviral drugs for the treatment and/or prevention of influenza continues to be recommended for at risk patients. A summary of the NICE guidelines is available from the HPSC website: <http://www.hpsc.ie/hpsc/News/MainBody,3362,en.html>. Influenza levels in the South East have increased since the end of December 2008.

Mumps

Numbers of mumps cases have increased 7-fold between 2007 (12 cases) to 2008 (88 cases). Clinicians are asked to please notify Public Health department of clinical cases of mumps. Advise cases to stay off work/out of school for 5 days from onset of symptoms. Ensure close contacts less than 30 years old have had 2 MMRs, if not, advise vaccination. If index case has not had 2 MMRs, advise vaccination, up to two MMR, when better (measles/rubella component of vaccine are still useful). Clinicians are asked to confirm mumps diagnosis by either serology or salivary swab. Salivary swab to be taken 7 days after onset of parotitis. Swabs are available on request from Public Health departments.

MRSA

A new MRSA factsheet entitled 'Advice for those affected by MRSA outside of hospital' is now available to download from the HPSC website. www.hpsc.ie

Lead and Drinking Water

Testing of public water supplies by Water Services Authorities (Local Authorities) is ongoing.

Information on the public health implications of lead in drinking water and a 'Frequently asked questions' document are available on the HSE internet website.

Information is also available on the HSE intranet at:

http://hsenet.hse.ie/HSE_Central/Population_Health/Health_Protection/Drinking_Water/

and in the members section of the ICGP website http://www.icgp.ie/go/library/public_health_alerts

Zoonoses website

The National Zoonoses Committee will help to advance the control of zoonotic diseases in Ireland through its support of regional zoonoses committees, its promotion of information-sharing and linkages between key stakeholders, and its identification and advice on potential zoonotic risks. Its new website is located at www.zoonoses.ie

Newsletter evaluation

Many thanks are extended to those who gave feedback on the annual evaluation of this newsletter. We will endeavour to take on board all comments and continue to expand our content including article suggestions put forward. There were comments made on the fact that there is a hard copy of the newsletter available. Our distribution list is about 50:50, hard copy Vs electronic copy. Unfortunately, unless we are informed of e.mail addresses, we cannot remove people from hard copy lists. If you wish to receive an electronic copy only, please email: siobhain.orourke@hse.ie

Documents published since last newsletter

- The 2006 report on TB epidemiology in Ireland and the 2007 provisional report are now available from www.hpsc.ie
- "Drinking Water and Health – a Review and Guide for Population Health, Health Service Executive". This document is intended as a resource for all HSE staff concerned with drinking water safety. The document is available on the HSE intranet at http://hsenet.hse.ie/HSE_Central/Population_Health/Health_Protection/Drinking_Water/ and http://hsenet.hse.ie/HSE_Central/Population_Health/Environmental_Health/

Reptile associated Salmonellosis in residents in the South East of Ireland 2005 – 2008

In the first half of 2008, four unusual *Salmonella* types occurring in children as young as 3 weeks and 4 months were notified to the Public Health Department at HSE-SE. All had contact with reptiles. This prompted a review which identified five individuals diagnosed with Salmonellosis between 2005 and 2007 who had had contact with reptiles. Most people were not aware of any risk from reptiles. This case series was published by HPSC and by the European Centre for Disease Control and prompted an EU survey of reptile associated Salmonellosis^{1,2}.

Figures from the original article have been updated in this report. The SE Regional Zoonoses Committee is currently working on producing an information leaflet for potential reptile owners.

In general *Salmonella* can be spread through; contaminated food, from the farm, cross-contamination during food preparation, person-to-person transmission, waterborne transmission and numerous environmental and animal exposures. *Salmonella* is a commonly diagnosed bacterial infection (table 1).

Table 1. Human cases of salmonellosis in Ireland 2005-2008

Year	No. of Cases ³	Crude incidence rate (CIR) per 100, 000 population
2005	347	8.2
2006	422	10.0
2007	456	10.8
2008	450	10.6

CIR calculated using 2006 census data

Over 2,460 serotypes of *Salmonella* have been identified in humans and animals worldwide. Sixty five different serotypes were identified by the Irish National Salmonella Reference Laboratory in 2006/2007 of which *S. enterica* Enteritidis and *S. enterica* Typhimurium accounted for 60% of cases of human isolates^{3,4}. Non-invasive, gastrointestinal salmonellosis should not usually be treated with antibiotics.

Exotic reptiles have enjoyed increasing popularity as pets during the last decade. This increase in popularity however has led to an increase in the number of reptile-associated salmonella infections⁵. Reptiles serve as reservoirs of *Salmonella* and can shed *Salmonella* organisms in faecal material. Multiple serotypes of *Salmonella* are frequently associated with a single reptile and the reptiles themselves commonly remain asymptomatic⁶. Reptiles that have been associated with *Salmonella* include turtles, terrapins, tortoises, lizards, iguanas and snakes⁵.

Disease surveillance is a systematic method for the continuous monitoring of diseases in a population in order to detect changes in disease patterns and to implement control measures. Enhanced surveillance can identify risks that are associated with a particular disease.

Currently in Ireland there is no national enhanced surveillance programme for human salmonellosis. However in the HSE South (SE), an enhanced surveillance questionnaire is conducted with each case as part of the public health measures taken to prevent and control the disease. A total of 163 cases of salmonellosis were notified in the South East between 2005 and 2008⁴. Of these, there have been ten episodes (6%) of salmonellosis in nine individuals who had contact with reptiles. The ten episodes are discussed in detail in this article.

Case reports

In each of the following cases, a health care professional, after identifying reptile contact from the enhanced questionnaire, spoke with the family about the risk of salmonellosis associated with reptiles. It was only possible to obtain samples of reptile faecal matter or reptile habitat for case 5 and 7. While the rest of the associations were not definitively proven, all cases had a history of direct or indirect contact with reptiles and all were infected with serotypes previously associated with reptiles. For clarity, direct contact includes touching the reptiles, and cleaning their tanks. Indirect contact includes touching clothes, skin or surfaces that have been in contact with a reptile. Very young children would most likely have indirect contact.

Case 1a and 1b (Two episodes)

Case 1a: In January 2005, an 11 year old male was admitted to hospital with bloody diarrhoea, vomiting, fever, nausea, abdominal pain and haematuria. His stool sample tested positive for *S. enterica* Minnesota. The boy had direct contact with a number of pets including an iguana. The boy's mother and sister were also ill with diarrhoea but recovered quickly and had not been tested for *Salmonella*. Case 1b. Over a year later, in June 2006, **Case 1a** attended his GP with diarrhoea, abdominal pain and headache. A stool sample tested positive for *S. enterica* Monschaui, a different serotype to the one identified the year previously. Apart from the ongoing contact with his animals, possible ingestion of river water during sporting activities sometime before he became ill was also identified as a risk factor.

Case 2

In March 2006, a 15 year old female was admitted overnight to hospital on two occasions with diarrhoea. Stool samples were not taken. In April 2006, the girl spent 3 days in hospital with diarrhoea, abdominal pain and fever. A stool sample taken during this time tested positive for *S. enterica* Enteritidis Phage Type 21. The girl had direct contact with a number of pets including a terrapin, which was bought on March 1st, 2006. No other risk factors for salmonellosis were identified.

Case 3

In March 2006 a 6 month old boy was notified to Public Health with diarrhoea and respiratory symptoms. Laboratory testing confirmed *Salmonella enterica diarizonae*. Because the illness had been ongoing, it was not possible to obtain an accurate food history. The child had indirect contact with the family pets; 2 snakes and a tarantula. One of the snakes had died of unknown causes three weeks before notification of the case. While the mother was a poor historian, no other risk factors were identified.

Case 4

In March 2007, a 4 month old boy became ill with bloody diarrhoea and vomiting. He attended the local out of hours GP service and hospital A&E. A stool sample taken at this time tested positive for *S. enterica* Pomona. The boy had indirect contact with two terrapins which were kept in a tank at home.

Case 5

In September 2007, a 3 week old boy was admitted to hospital for 2 days with diarrhoea. Laboratory testing confirmed *Salmonella enterica arizonae*. The boy had indirect contact with a snake and had also visited a reptile farm recently. A faecal sample from the snake and a sample of the snake's bedding grew *Salmonella enterica diarizonae*. Swabs taken from the snake container grew *Salmonella enterica* serogroup O57.

Case 6

In January 2008, a four month old girl became ill with fever, diarrhoea and vomiting. She was sent to hospital by CareDoc but was not admitted. Laboratory testing confirmed *Salmonella* Infantis. The family had turtles as pets.

Case 7

In February 2008 an 11 month old girl became ill with diarrhoea and vomiting. Laboratory testing confirmed *Salmonella* Thompson. Contacts of the case, one of whom also had diarrhoea and vomiting tested negative for *Salmonella*. The family kept pet turtles. The turtle tank, water and the turtles themselves were tested for *Salmonella*. *Salmonella* Thompson was cultured from the turtle tank.

Case 8

In June 2008, a 23 year old woman presented to her GP with fever, diarrhoea and nausea. Laboratory testing confirmed *Salmonella enterica diarizonae*. Two household contacts were ill with diarrhoea and vomiting prior to the onset of illness in the index case but stool samples were not taken. Case 8 visited pet shops regularly and had dogs, chickens, reptiles, rodents and hamsters at her home.

Case 9

In July 2008, a 2 month old boy was admitted to hospital with diarrhoea, bloody stools and vomiting. Laboratory testing confirmed *Salmonella* Litchfield. The household contained 2 terrapins in a tank which were removed before they could be tested. In August 2007 the boy's mother had been admitted to hospital with diarrhoea and vomiting and *Salmonella* Litchfield had also been isolated from her stool. No reptile contact had been identified at that time.

Table 2: Summary of reptile-associated salmonellosis 2005-2008

Case	Age	Hospitalised	Organism	Associated reptile contact
1 1b	11 years	Yes	<i>Salmonella</i> Minnesota (2005) <i>Salmonella</i> Monschau (2006)	Iguana
2	15 years	Yes	<i>Salmonella</i> Enteritidis	Terrapin
3	6 months	No	<i>Salmonella enterica</i> subsp <i>diarizonae</i>	Snakes
4	4 months	Yes	<i>Salmonella</i> Pomona	Terrapins
5	3 weeks	Yes	<i>Salmonella enterica</i> subsp <i>arizonae</i>	Snake, reptile farm
6	4 months	No	<i>Salmonella</i> Infantis	Turtles
7	11 months	No	<i>Salmonella</i> Thompson	Turtles
8	23 years	No	<i>Salmonella enterica</i> subsp <i>diarizonae</i>	Reptile of unknown type
9	2 months	Yes	<i>Salmonella</i> Litchfield	Terrapins

Discussion

This article is based on recently published material^{1, 2}. Nine episodes of salmonellosis occurred in children, with five episodes resulting in illness severe enough to require hospitalisation. Six episodes of salmonellosis occurred in infants less than one year of age, probably as a result of indirect reptile-contact (such as parents holding reptiles in their hands or around their necks and then handling their children). The ongoing nature of chronic *Salmonella* shedding by reptiles is strongly indicated by case 1, who had two episodes of salmonellosis a year apart with serotypes that are rarely found in humans. This is further supported by case 9 who was diagnosed with *Salmonella* Litchfield a year after a household contact had been diagnosed with the same serotype.

These cases emphasise the need for public education aimed at preventing reptile-acquired salmonellosis. Potential reptile owners, young reptile owners and carers who own reptiles should be particularly targeted. At present, there are no such guidelines in Ireland.

The South East Regional Zoonoses Committee is at present drawing up an information leaflet based on the CDC recommendations (<http://www.cdc.gov/healthypets/animals/reptiles.htm>). This leaflet should be available in 2009. *References from this article are available upon request.*

Statutory Notification of Infectious diseases

The table below shows cases of infectious diseases notified in the HSE/SE area only under Infectious Disease (Amendment No.3) Regulations 2003 (S.I. No. 707 of 2003).

With the exception of STI, TB, Staphylococcus aureus bacteraemia, E. coli infection (invasive) and Enterococcal bacteraemia, data has been extracted from CIDR (computerized infectious disease reporting). For STI figures please see back page (this issue) Clinical notifications are notifications received directly from clinicians. Laboratory notifications are those received from the clinical director of a diagnostic laboratory. STI figures are shown for clinical notifications only.

Disease	2006 Cases	2007 Cases	2008 Cases	2008 Notification Source*	
				Lab	Clinical
Acute infectious gastroenteritis ³	255	418	478	461	268
Bacterial meningitis (not otherwise specified)	9	10	3	3	8
Brucellosis	2	0	0	0	0
Campylobacter infection	197	174	182	179	80
Cryptosporidiosis	61	79	66	125	130
E. coli infection (invasive)	122	125	165	165	0
Enterococcal bacteraemia	38	31	55	55	0
Enterohaemorrhagic E. coli	9	9	23	56	119
Giardiasis	6	9	9	4	21
Haemophilus influenzae disease (invasive)	4	5	3	6	12
Hepatitis A Acute	2	4	7	7	13
Hepatitis B Acute	10	2	7	75	170
Hepatitis B Chronic	42	56	48		
Hepatitis C	42	44	49	51	98
Influenza	26	32	32	30	58
Legionellosis	0	0	0	0	0
Leptospirosis	5	4	2	2	5
Listeriosis	0	1	0	0	0
Malaria	4	9	10	10	17
Measles	5	7	7	2	30
Meningococcal disease	24	18	27	25	133
Mumps	22	12	88	51	348
Noroviral infection	66	125	76	71	13
Paratyphoid	0	1	0	0	0
Pertussis	6	9	4	3	13
Rubella	1	2	6	0	8
Salmonellosis	33	37	43	84	136
Shigellosis	0	2	4	3	7
Staphylococcus aureus bacteraemia	93	81	91	91	0
Streptococcus group A (invasive)	4	10	8	8	23
Streptococcus pneumoniae (invasive)	70	84	94	96	134
Tetanus	0	0	1	0	6
Toxoplasmosis	1	8	4	4	2
Tuberculosis	51	29	35	‡	35
Typhoid	1	0	1	2	2
Viral encephalitis	1	1	0	0	0
Viral Meningitis	15	6	9	6	11
Total	1227	1444	1637		

† Provisional data

* Cases may be notified from a clinical source or a lab source or from both sources (multiple notifications included). Therefore figures for clinical and lab notifications may not equal the total number of cases.

‡ Since May 1st 2008 acute infectious gastroenteritis also now include Clostridium difficile cases

§ Although TB is also notified by the lab, this information is not quantified



There were no notified cases of tetanus, diphtheria, acute anterior poliomyelitis, anthrax, cholera, ornithosis, plague, rabies, smallpox, typhus, viral haemorrhagic disease, or yellow fever.

Immunisation uptake in the HSE-SE and in Ireland

Immunisation uptake rates for children at 12 months and 24 months of age.

	BCG	% Uptake at 12 months of age			Hib3	Polio3	MenC3
		D3	P3	T3			
HSE SE Q2 2008	92	87	87	87	87	88	87
CW/KK	93	84	84	84	84	84	84
TS	94	91	91	91	91	91	92
WD	90	86	86	86	86	86	86
WX	92	90	90	90	90	90	88
National Q2 2008	93	88	88	88	88	88	87
HSE SE Q2 2007	92	85	85	85	85	85	85

	D3	% Uptake at 24 months of age			Pol3	MenC3	MMR1
		P3	T3	Hib3			
HSE SE Q2 2008	91	91	91	91	91	90	86
CW/KK	90	90	90	90	90	90	88
TS	94	94	94	93	94	92	87
WD	89	89	89	89	89	88	82
WX	93	93	93	92	92	91	87
National Q2 2008	93	93	93	93	93	92	89
HSE SE Q2 2007	89	89	89	89	89	88	85

Uptake of primary immunisations in the South East at 12 months of age increased by 2 - 3% for Q2 2008 compared with the same period in 2007. For children aged 24 months of age in the South East in Q2 2008, uptake of MMR1 increased 1% compared with Q2, 2007. The uptake rate for other vaccines at 24 months increased by 2%, over the same time period. The target uptake rate of $\geq 95\%$ has not been achieved by any LHO in the South East.

Infectious Disease Notification: contact information

Medical practitioners and Clinical directors of diagnostic laboratories are required to transmit a written or electronic notification of a notifiable infectious disease to a Medical Officer of Health (the Infectious Diseases (Amendment) Regulations, 2000 (S.I. No 151 of 2000))

Printed copies of 'Case definitions for Notifiable diseases' which include a booklet of standard notification forms are available from regional public health department offices, to which notifications should be returned.

Notifications can be phoned: 056 7784142, faxed: 056 7784599 or posted to: Public Health Department, HSE South (SE), St Canice's hospital, Lacken, Dublin Road, Kilkenny.

Sexually transmitted Infection HSE South (SE) 2008

	Clinical notifications ¹		Laboratory notifications ²	
	2007	2008 ³	2007	2008
Ano-genital warts ³	6	316	0	0
Chlamydia trachomatis infection	65	125	610	775
Herpes simplex virus	6	22	26	24
<i>Neisseria gonorrhoeae</i>	3	4	24	26
<i>Trichomonas vaginalis</i>	2	1	9	10
Syphilis	7	5	17	21
Non specific urethritis	0	127	0	0
Total clinical notifications	89	600	686	856

¹ 2008 data now also includes notifications from the STI clinic. In 2007 notifications were from GPs and hospital clinicians only.

² Since lab isolates are anonymised, numbers may contain duplicates.

³ Ano-genital warts are reported clinically only.

This report is produced with the data provided by the Senior Medical Officers, Environmental Health Officers, Waterford Regional Hospital Laboratory, Hospital Clinicians, Regional STI Clinics and General Practitioners.

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