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The continuing westward spread of avian influenza (influenza A/H5N1) affecting birds in recent weeks has attracted considerable scientific, political and public concern. This edition reviews some of the latest information from the World Health Organisation and refers to the extensive guidance available on the Health Protection Agency website.

Seasonal influenza, not to be confused with avian influenza, is now circulating in Northern Ireland as is respiratory syncytial virus (RSV). Circulating influenza is predominantly influenza B and seems to be mainly affecting the 0-14 age group. This is also borne out by higher than expected sales of over the counter paediatric cough, cold and antipyretic preparations. This is a new addition to our influenza surveillance programme and its utility will be evaluated after the current influenza season.

Major changes to the childhood vaccination programme have been announced by the DHSSPS to take effect later this year. This includes the introduction of a pneumococcal conjugate vaccine, changes to the MenC vaccination schedule and the introduction of a Hib booster.

The third Healthcare Associated Injections Prevalence Survey has recently commenced involving all constituent parts of the UK and Ireland. The fieldwork is to be completed by mid May.

Lastly this issue contains information on vaccine preventable infections and the regular quarterly vaccination coverage data. Mumps notifications continue to be just above baseline levels. MMR vaccination uptake rates continue to increase and are now at 90.6% which is the highest uptake since April/June 2001. This is excellent news and reflects continuous and strenuous efforts by public health and primary care, working with parents, to achieve this high coverage rate.

Dr Brian Smyth
Regional Epidemiologist

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Avian Influenza

The World Health Organisation (WHO) reports by 21 February 13 countries reporting their first cases of H5N1 infection in birds since the beginning of February and this has included a number of European countries. This is part of a recent pattern of rapid geographical spread of the virus in wild and domestic birds. Details of affected countries can be obtained from the World Organisation for Animal Health (http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm). The situation in these recently affected countries varies greatly. Most European countries with good veterinary surveillance have detected the virus in a small number of wild birds only. In late February France reported H5N1 in a commercial turkey farm.

Since the current outbreak of avian influenza started in south-east Asia in mid 2003, the WHO, by 13 February, has reported 169 human cases of whom 91 have died – a case fatality rate of 54%. Human cases have been reported from Vietnam, Thailand, Indonesia, Cambodia, China, Turkey and Iraq (see http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_02_13/en/index.html). Vietnam is the country most affected and accounts for 93 (55%) cases and 42 deaths.

Given the scale of the outbreaks among poultry the virus does not currently appear to infect humans easily and there have been no reports of sustained human to human transmission. The current phase of alert in the WHO global influenza preparedness plan remains at three indicating no or very limited human to human transmission (http://www.who.int/csr/disease/avian_influenza/phase/en/index.html). The WHO reports that the greatest risk of human cases arises when the virus becomes established in small backyard flocks, which allow continuing opportunities for close human contact, exposures and infections to occur. To date, very few cases have been detected in poultry workers, cullers, or veterinarians. Almost all cases have been linked to close contact to diseased household flocks, often during slaughtering, defeathering, butchering, and preparation of poultry for consumption. No cases have been linked to the consumption of properly cooked poultry meat or eggs, even in households where disease was known to be present in flocks.

The Health Protection Agency has an extensive section on avian influenza on its website (http://www.hpa.org.uk/infections/topics_az/influenza/avian/default.htm) and this website should be consulted regularly in what is currently a fast moving situation. The website details: general and background information; travel advice; an algorithm on the assessment of returning travellers; case definitions and clinical features; and useful links to other national and international agencies.

In Northern Ireland the Regional Virus Laboratory at the Royal Victoria Hospital has a diagnostic service for the diagnosis of human influenza virus infections that includes the current H5 avian influenza strain. A diagnosis, inclusive of a test for H5, can be made within eight hours. Additional confirmation will be available within 24 hours and any positive samples will be referred to the reference laboratory in London to confirm the exact lineage of the H5 strain identified.

If a patient is suspected of avian flu infection and fulfils the HPA case definition, a courier will be arranged to deliver a diagnostic sampling kit which contains the appropriate swabs, transport media and packaging. The courier will return the sample to the Regional Virology Laboratory. Laboratory request forms and the Northern Ireland avian influenza diagnostic algorithm will be available from the CDSC (NI) website (www.cdscni.org.uk).

Reference

(Avian influenza – spread of the virus to new countries. WHO Available at :-
http://www.who.int/csr/don/2006_02_21b/en/index.htm)

Seasonal Influenza

At the time of writing, influenza B and to a lesser extent influenza A is circulating in Northern Ireland. RSV also continues to circulate.

Surveillance monitoring has noted:

- Increased reports of clinical influenza from sentinel general practitioners
- Combined consultation rates for influenza/influenza-like illness are highest for 0-4 years and 5-14 years with the latter showing a marked recent increase. There has been relatively little increase in rates among the adult and elderly populations
- Calls to the out of hours centres are greater than expected with the increases mainly in the 0-14 age group
- Over the counter sales of paediatric cough, cold and antipyretic medicines (as a proportion of total sales) have increased
- Little change in the proportion of deaths due to bronchiolitis, bronchitis, influenza and pneumonia.

The DHSSPS has recently issued guidance on the use of antiviral drugs for the prevention of influenza as influenza A and B are now circulating in the community.

Full details on influenza surveillance can be obtained from the weekly report available from the CDSC (NI) website (www.cdscni.org.uk).

HSS (MD) 05/2006

The Third Healthcare Associated Infections Prevalence Survey

The Healthcare-Associated Infection Surveillance Centre (HISC) is conducting a survey of healthcare associated infections in acute hospitals in Northern Ireland on behalf of the Department of Health, Social Services and Public Safety. A similar survey is also being performed in the rest of the UK and the Republic of Ireland. The survey is being undertaken over a 12 week period from mid-February until mid-May 2006. The lead for the prevalence survey in Northern Ireland is Dr Ed Smyth at the Healthcare-associated Infection Centre (HISC) and Mr Gerard McIlvenny, HISC, is the project manager.

Most acute hospitals in Northern Ireland have already expressed an interest in taking part in the survey.

England, Wales and the Republic of Ireland are also conducting similar studies at the same time and a prevalence survey in Scotland is already underway. The studies have been structured so that the results can be combined to give a UK and Republic of Ireland prevalence rate. Each hospital will be able to access results of data that has been collected at their hospital/trust through a secure web database. In addition the Scottish survey contains a major economic component. It is hoped to be able to utilize the Scottish economic data to extrapolate to other countries taking part in the survey.

A Northern Ireland co-ordinator (Ruth Bailie) has been appointed to assist hospitals with the prevalence survey.

For more information please contact the Northern Ireland co-ordinator:-

Ruth.Bailie@carrick-gateway.co.uk

Changes to the Childhood Vaccination Programme

- Introduction of a pneumococcal conjugate vaccine to protect against pneumococcal infection
- A pneumococcal vaccination catch-up programme
- Amending the Meningitis C vaccination schedule to give two doses of vaccine in the first year of life, and a booster dose in the second year
- The addition of a booster dose of Hib vaccine

The Department of Health, Social Services and Public Safety (DHSSPS) has announced the above changes to the routine childhood immunisation programme which will take place later this year.

Pneumococcal vaccine

The pneumococcal conjugate vaccine protects against seven common strains of pneumococcal bacteria that are responsible for around 82% of invasive pneumococcal disease (IPD) in young children. The vaccine is licensed for use in children from two months of age and has been used in the USA since 2000. Since its introduction in the USA, the incidence of IPD caused by the seven serotypes in the vaccine fell by 94% in children under five years in the first four years of the programme, and also by 62% in individuals aged 5 and over. There have also been significant declines in IPD in individuals who have not been vaccinated, pointing to a more widespread population effect, similar to the UK experience after the introduction of the MenC immunisation programme.

The vaccine will be offered to children at two, four and 13 months of age. There will also be a catch-up programme for children up to two years of age, who are at most risk of pneumococcal infection.

CDSC (NI) monitors IPD through laboratory based surveillance of pneumococcal isolates detected in blood and CSF and will report in the future on the impact of the introduction of this vaccine. The epidemiology of IPD in Northern Ireland was described in an earlier *Monthly Report* http://www.cdscni.org.uk/publications/MonthlyReports/Volume_12_2003/No_5&6.pdf.

MenC vaccine

Since the MenC vaccine was introduced into the UK childhood immunisation programme in 2000 there has been a significant decrease in meningococcal Group C infection. In 2004 only two such reports were received and no Group C infections were reported from Northern Ireland in 2005. A detailed report on the epidemiology of meningococcal infection in Northern Ireland is published annually and is available at http://www.cdscni.org.uk/publications/MonthlyReports/Volume_14_2005/Monthly%20Report%20Vol%2014%20No%207.pdf.

Research has shown that two doses of MenC vaccine provide the same level of protection as three doses in the first year of life. A MenC booster will be offered in the second year of life as a combined Hib/MenC vaccine.

Hib booster

A Hib booster is being recommended in the second year of life to ensure protection against Hib disease is maintained throughout early childhood

(HSS(MD)2/2006)

Childhood Vaccine Preventable Illnesses and the Vaccination Programme

The mumps outbreak in Northern Ireland continues in its downward trend. This edition of the Monthly Report presents statistics up to epidemiological week 4, 2006.

Routine surveillance data are otherwise unremarkable.

Vaccination uptake (COVER) statistics are now available for the quarter ended September 2005 and show MMR1 uptake at 24 months of age, at 90.6%; an increase of 0.2 percentage points on the previous quarter's figure.

Childhood Vaccine Preventable Diseases

Routine information on childhood vaccine preventable diseases is available from three sources:

1. Clinical notifications

Table 5: Notifications of Vaccine Preventable Infectious Diseases, Northern Ireland

Disease	Weeks 1-4, 2006	Cumulative Total to Week 4, 2006	Cumulative Total to Week 4, 2005
Diphtheria	0	0	0
Measles	0	0	5
Mumps	23	23	459
Polio	0	0	0
Rubella	1	1	4
Tetanus	0	0	0
Whooping Cough	2	2	4

*Data provisional

2. Laboratory reports

Table 6: Laboratory Reports of Vaccine Preventable Infectious Diseases, Northern Ireland

Disease	Weeks 1-4, 2006	Cumulative Total to Week 4, 2006	Cumulative Total to Week 4, 2005
Diphtheria	0	0	0
Invasive Hib disease	0	0	0
Measles	0	0	0
Mumps**	1	1	50
Polio	0	0	0
Rubella	0	0	0
Tetanus	0	0	0
Whooping Cough	0	0	0

* Data provisional

** Serologically confirmed by RVL and separate from the salivary antibody testing surveillance programme

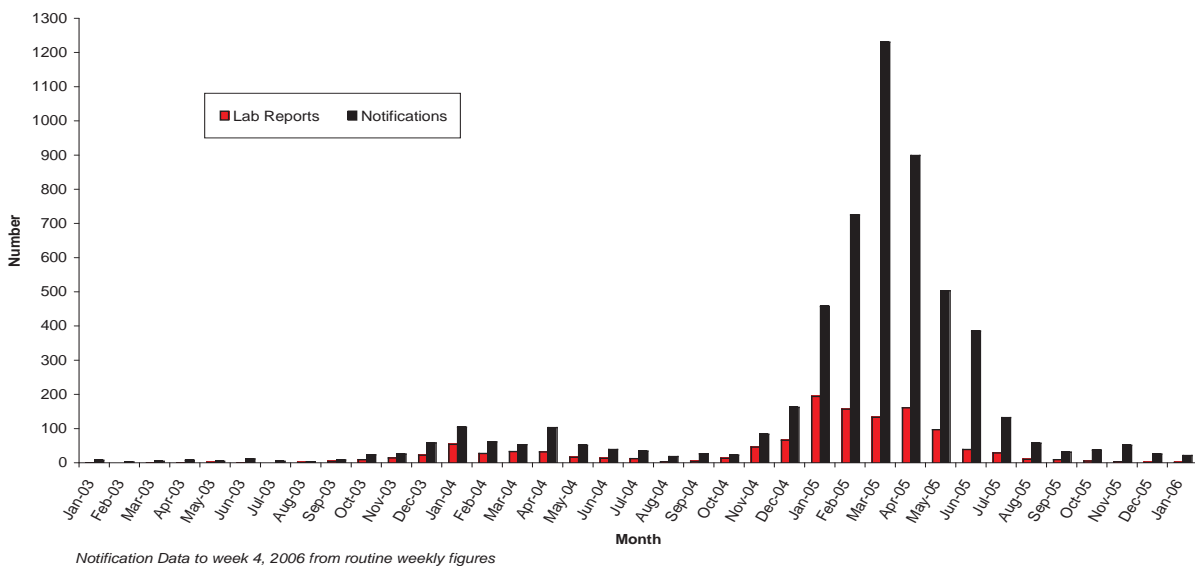
Mumps Outbreak

Summary points at week 4, 2006:

- 4,556 mumps notifications were received to week 52 in 2005, compared with 780 for the same period in 2004
- 23 mumps notifications have been received to week 4, 2006 compared with 459 for the same period in 2005
- 802 laboratory confirmed cases of mumps have been received to week 52, 2005, compared with 343 for the same period in 2004
- 3 laboratory confirmed (Regional Virus Laboratory & Salivary Antibody Testing) cases of mumps have been received

Notifications are continuing to exhibit a downward trend following a peak in March/April 2005.

Fig 1: Epidemic' Curve: Provisional Mumps Laboratory Reports (RVL and Salivary Ab), and Notifications by Month, 2003 - 2006, Northern Ireland



Vaccination Coverage Statistics for Children in Northern Ireland

COVER/Korner statistics now available for quarter July to September 2005:

- **MMR uptake at 24 months increases by 0.2 percentage points to 90.6%**
- **Uptake 95.0% or above for the majority of vaccinations at 12 and 24 months**

The vaccination coverage statistics for Northern Ireland (COVER/Korner Programme) are now available for the third quarter of 2005. The statistics give detailed coverage data and numbers of children in the four Boards in Northern Ireland. The tables below show the coverage data for the children in the four Boards in Northern Ireland and the United Kingdom as a whole.

Table 1: Completed Primary Immunisations by 12 months of age (July - September 2005), Northern Ireland

Board	No of children in cohort	% Coverage at 12 months						
		Dip3	Tet3	Pol3	Pert3	Hib3	MMR	MenC
Eastern	1956	94.20%	94.20%	93.90%	94.10%	95.00%	0.20%	94.80%
Northern	1395	95.50%	95.50%	95.40%	95.50%	95.60%	0.10%	95.60%
Southern	1113	96.50%	96.40%	96.00%	96.30%	96.40%	0.40%	96.60%
Western	921	94.90%	94.90%	94.70%	94.80%	95.20%	0.00%	95.50%
NI Total	5385	95.10%	95.10%	94.90%	95.00%	95.50%	0.20%	95.50%

- Uptake has increased by 0.1 – 0.4 percentage points compared to last quarter
- Uptake remains at 95% or above

Table 2: Completed Primary Immunisations by 24 months of age (July to September 2005), Northern Ireland

Board	No of children in cohort	% Coverage at 24 months						
		Dip3	Tet3	Pol3	Pert3	Hib3	MMR	MenC
Eastern	2140	95.80%	95.80%	95.60%	95.50%	96.00%	88.90%	96.40%
Northern	1418	97.90%	97.90%	97.70%	97.80%	97.70%	91.70%	97.70%
Southern	1192	98.20%	98.20%	98.10%	98.10%	98.00%	92.00%	98.20%
Western	942	97.70%	97.70%	97.60%	97.50%	97.50%	91.20%	97.90%
NI Total	5692	97.10%	97.10%	97.00%	96.90%	97.10%	90.60%	97.40%

- MMR increased by 0.2 percentage points to 90.6%. This is the highest level since April – June 2001
- Uptake of other primary vaccines has increased by 0.4 to 0.9 percentage points compared to last quarter
- With the exception of MMR1, uptake remains at 95% or above

Table 3: Completed Primary Immunisations by 12 and 24 months of age (July to September 2005), UK

Country	% Coverage at 12 months				% Coverage at 24 months				
	Dip3	Pert3	Hib3	MenC	Dip3	Pert3	Hib3	MenC	MMR
England	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Wales	96.20%	96.20%	96.10%	95.40%	97.10%	96.90%	96.80%	96.40%	90.00%
Scotland	94.50%	94.50%	94.30%	94.40%	96.00%	95.30%	95.60%	95.70%	85.00%
UK	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

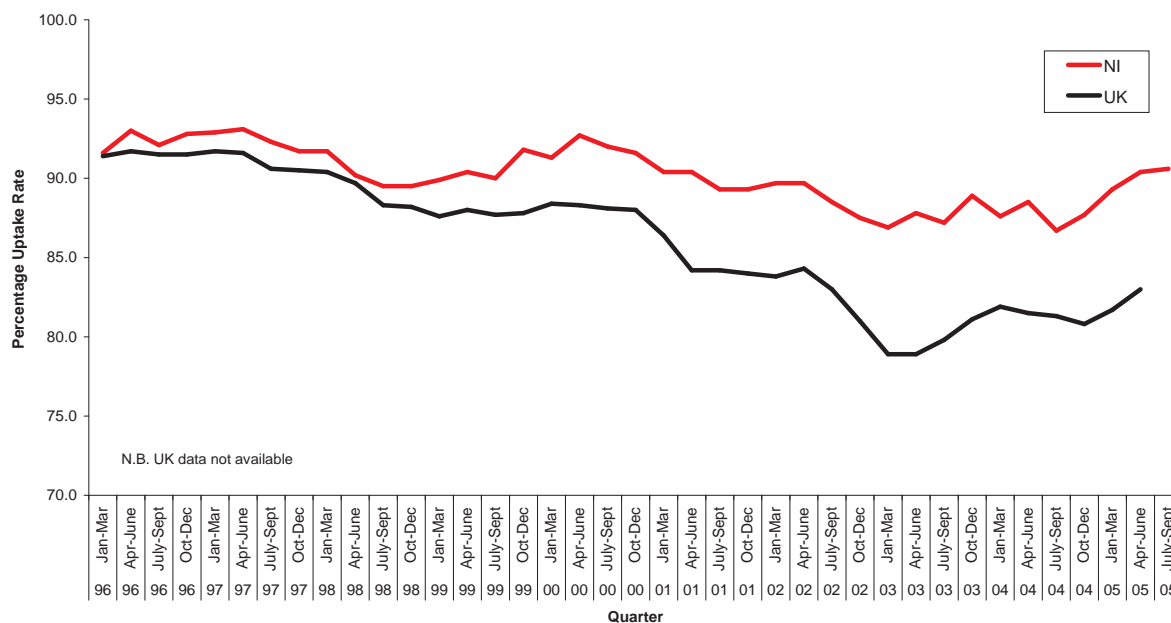
10 of the 31 PCTs in London were unable to submit data this quarter due to problems relating to the implementation of the new CHS. It is planned to publish English and complete London data retrospectively for this quarter when this data becomes available.

Table 4: Vaccine Coverage at 5 years (July - September 2005), Northern Ireland

Board	Dip3	Pert3	Hib3	Dip4	MMR1	MMR2	MenC
Eastern	97.20%	96.60%	96.40%	83.00%	95.00%	81.70%	95.20%
Northern	98.50%	98.30%	97.80%	88.70%	96.70%	87.70%	97.70%
Southern	97.50%	96.90%	96.60%	86.70%	95.70%	85.80%	95.70%
Western	97.80%	97.50%	97.20%	91.60%	96.40%	89.10%	97.30%
NI	97.70%	97.30%	96.90%	86.80%	95.80%	85.40%	96.30%
England	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Wales	95.60%	94.30%	95.30%	83.40%	89.30%	75.30%	94.80%
Scotland	Not Available						
England, Wales & NI	n/a	n/a	n/a	n/a	n/a	n/a	n/a

- Uptake of MMR2 decreased by 1.4 percentage points to 85.4%
- Uptake of Dip4 decreased by 1.8 percentage points
- Uptake of Dip3, Pert3, Hib3, MMR1 and MenC increased by 0.1 – 0.8 percentage points compared to last quarter

Figure 2: MMR Vaccination Uptake Rate at 24 Months, NI & UK, 1996 - 2005



Foodborne and Gastrointestinal Tract Infections: Laboratory Reports, Week 1-4

	Number of Reports received		Cumulative total	
	06/1-4	05/1-4	06/1-4	05/1-4
<i>Campylobacter</i>	24	41	24	41
<i>C. difficile</i> Toxin	117	115	117	115
<i>C. perfringens</i>	3	0	3	0
<i>E. coli</i> O 157	0	1	0	1
<i>Salmonella</i> total	2	2	2	2
<i>S. enteritidis</i> (PT 4)	0	2 (1)	0	2 (1)
<i>S. typhimurium</i> (DT 104)	2	0	2	0
<i>Salmonella</i> other	0	0	0	0
<i>Shigella</i>	0	0	0	0
<i>Cryptosporidium</i>	3	8	3	8
<i>Giardia</i>	1	2	1	2
Adenovirus (faeces)	12	15	12	15
Enterovirus (faeces)	0	0	0	0
Rotavirus	6	8	6	8
Norovirus	10	59	10	59

Comment:

With the exception of *C. difficile* Toxin and *C. perfringens*, laboratory reports of gastrointestinal infections are lower for the initial four-week period of 2006 compared with the same period of 2005. However, it is too early to predict trends.

Positive Blood Cultures: Laboratory Reports, Weeks 01-04

	2006/01-04	2005/01-04	2004/01-04
Gram negative bacteria			
<i>Acinetobacter sp</i>	2	2	2
<i>Aeromonas sp</i>	0	0	1
<i>Brucella sp</i>	0	0	0
<i>Campylobacter sp</i>	0	0	0
<i>Citrobacter sp</i>	0	2	2
<i>Enterobacter sp</i>	3	4	5
<i>Escherichia coli</i>	67	43	60
<i>Escherichia sp</i>	0	1	0
<i>Haemophilus influenzae</i> (all types)	0	0	1
<i>Haemophilus parainfluenzae</i>	0	0	0
<i>Klebsiella sp</i>	11	15	10
<i>Legionella sp</i>	0	0	0
<i>Leptospira</i>	0	0	0
<i>Neisseria meningitidis</i>	3	1	1
<i>Neisseria sp</i>	0	0	0
<i>Proteus sp</i>	9	14	9
<i>Providencia sp</i>	0	0	1
<i>Pseudomonas aeruginosa</i>	8	5	2
<i>Pseudomonas sp</i>	2	6	9
<i>Salmonella sp</i>	0	0	0
<i>Serratia sp</i>	7	8	1
Other gram negative bacteria	2	1	9
Total	114	102	113
Gram positive bacteria			
<i>Corynebacterium sp</i> & Diphtheroids	0	1	1
Staphylococci:			
<i>S. aureus</i>	43	43	57
coagulase negative	21	25	23
Streptococci:			
group A	2	3	1
group B	2	7	8
group C	1	3	0
group D	0	2	3
group F	0	1	0
group G	1	1	2
α- and non-haemolytic	3	4	1
<i>S. pneumoniae</i>	11	8	16
Other Streptococci	0	3	2
Enterococci:			
<i>E. faecalis</i>	10	5	8
<i>E. faecium</i>	9	3	4
Other Enterococci	0	1	3
<i>Listeria monocytogenes</i>	0	0	1
Other gram positive bacteria	0	1	1
Total	103	111	131
Anaerobic bacteria			
Anaerobic cocci	0	1	1
<i>Bacteroides sp</i>	6	5	9
<i>Clostridium sp</i>	4	0	3
Other anaerobic bacteria	0	0	0
Total	10	6	13
Grand Total	227	219	257

Contributing Laboratories

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

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