Communicable Disease Update

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IN THE NEWS

Pandemic (H1N1) 2009 in Ireland

In Ireland, the cumulative number of lab confirmed human cases of Influenza A/(H1N1) reported to Health Protection Surveillance Centre is as follows: From April 2009 to Thursday 17th October there have been 2,192 reported laboratory confirmed cases, 325 of these have been hospitalised, 26 admitted to ICU, and 8 cases have resulted in death. As clinicians are only testing people with severe illness or those who are hospitalised, the number of laboratory confirmed cases significantly underestimates the actual number of cases in the community.
For Week 42, the sentinel GP influenza-like illness (ILI) consultation rate was 158.8 per 100,000. This rate is the highest IL rate reported since sentinel influenza surveillance began in 2000.

For ongoing up to date figures go to the weekly report found in the HPSC website at http://www.hpsc.ie/hpsc/A-Z/EmergencyPlanning/AvianPandemicInfluenza/SwineInfluenza/Surveillance%20Reports/

Updates on the situation and answers to frequently-asked-questions can be found on: http://www.icgp.ie/go/courses/influenza_a_h1n1_

H1N1 – clinical notes

- The clinical symptoms of influenza are similar, in the early stages, to many other infectious diseases, including other respiratory disease and meningococcal disease/septicaemia. The incidence of meningococcal disease is increased during seasons when there is an increase in influenza.

- A small number of patients with Pandemic (H1N1) 2009 with no underlying medical conditions have become seriously ill with viral pneumonia or acute respiratory distress syndrome. Such patients often deteriorate or show no improvement 3-5 days from onset of symptoms. It is worthwhile considering anti-viral treatment for patients who are not in the 'at-risk' category but who present initially with severe flu-like illness. In addition, patients who did not have severe flu-like symptoms initially but who deteriorate or show no improvement after 3 days or so should also be considered for anti-viral treatment.

- Secondary bacterial infection, in particular with Streptococcus pneumonia, is present in a number of patients who become very unwell with H1N1 influenza. Guidance documents on the management of secondary bacterial infection in adults and in children are available on the HPSC website. In addition, unvaccinated patients who are at increased risk of pneumococcal infection (see 'Immunisation Guidelines for Ireland, 2008') should be offered vaccination with the relevant pneumococcal vaccine.

- Women who present with flu-like illness up to 6 weeks post-partum should be treated with anti-virals, as their immune state post partum is similar to the pregnant state. These women will also be included in the 'at risk' group for priority vaccination.

H1N1 - vaccination

The most up-to-date information on the Pandemic (H1N1) 2009 vaccine and the vaccination campaign can be found at:
http://www.immunisation.ie/en/HealthcareProfessionals/
or http://www.hse.ie/eng/services/swineflu/vaccine/

Measles outbreak

On 22nd October 2009, the HSE Health Protection Surveillance Centre issued a press release urging parents to protect their children against measles following an outbreak of the disease in three HSE regions. Measles can be a serious and potentially fatal illness and children who have not been vaccinated are particularly at risk of measles during this time. The outbreak in the HSE South, HSE Southeast and the HSE West, is predominantly affecting young children and teenagers from the Traveller Community. Since January, 63 cases of measles have been notified nationally, 12 of whom were hospitalised. This compares with a total of 55 for all of 2008

Surgical Site Infection (SSI) Surveillance

Surgical site infection surveillance (SSIS) is now in its third year in Wexford General Hospital (WGH). This robust system expanded to include surveillance data on SSIs on patients attending the hospital for a Caesarian section delivery in 2009. It is hoped that this system will allow WGH to compare their rates internationally and contribute to positive patient outcomes. WGH are currently introducing post discharge surveillance which will enable the hospital to monitor the post discharge surgical wound infections for up to 30 days following surgery. The co-operation of GPs, practice nurses, public health nurses and patients are integral to the success of this initiative.

Sexually transmitted infections (STI)

In the first nine months of 2009, the STI Clinic has diagnosed five cases of recent infection of syphilis in men who have sex with men (MSM) acquired in Ireland and five new cases of HIV infection (possibly acquired in Ireland). In the same time period there have been 47 laboratory confirmed cases of gonorrhoea, of whom 20 cases were seen at the STI clinic, 25 cases seen by GPs and 2 cases seen in A&E. The average age of those presenting with gonococcal infection was 25 years with a male to female ration of 4:1. A linked cluster has not been identified although compliance with testing among contacts identified at the STI clinic has been poor.

Newsletter evaluation

This newsletter contains the annual CDU newsletter evaluation. We will endeavour to take on board all comments and continue to expand our content including article suggestions put forward. Please provide an email address in your returned evaluation if you wish to receive it electronically.

Tuberculosis in the South East of Ireland

The bacterial infection, tuberculosis (TB) is a serious infectious disease which can occur in any site in the body. From 1999-2008, 77% of all TB cases have been pulmonary (infection of lung parenchyma or tracheo-bronchial tree). Of the remaining extra-pulmonary TB cases, 50% were either in lymph (extra thoracic) or pleural sites. Since 1991, the number of cases of Tuberculosis (TB) per 100,000 population in Ireland has fallen from 18.2 to 11.3 (2007 data) but continues to present a medical challenge. Fall in the number of overall cases can result in loss of awareness of TB as a possible diagnosis, particularly in the younger age group. This in some cases can result in a delay in diagnosis. One of the presenting features of TB is a persistent cough. The general advice is that for patients with a persistent cough, lasting longer than three weeks that do not respond to normal treatment, a chest x-ray should be considered. This is particularly important if the patient's occupation exposes either a large number of people or a vulnerable group to TB. The standard investigation for pulmonary TB is chest X-ray, and if possible three early morning sputum samples for AFB and TB culture.

Prior to commencement of treatment the identification of the tubercle bacillus by direct smear microscopy of sputum is the primary indicator of infectivity (AFB test). The following factors also suggest an increased risk of airborne infection; cavitation on the chest X-ray; the presence of a cough; the presence of a large volume of watery sputum; forceful exhalations (e.g. singing, shouting); prolonged duration of respiratory symptoms; and the presence of tuberculous laryngitis. Droplet nuclei may be generated from procedures that produce aerosols from infected soft tissues.

Key point

Early diagnosis is essential: notification of tuberculosis should not await result of positive cultures if the history and other clinical findings are suggestive of tuberculosis.

In the South East, within the last five years, there have been a number of TB cases where a delay in presenting for medical care or a delay in diagnosis has resulted in extensive contact tracing being required. This has resource implications not only for the Department of Public Health but also for the Radiology Departments within the South East. One such case resulted in a cluster of five cases of TB and fourteen persons being treated for latent (not active infection) TB; another resulted in sixty five persons being followed for latent TB- either by treatment with INAH for six months or follow up chest x-rays. Failure of identified contacts to comply with contact tracing resulted in a large extended cluster of cases over a number of years in an urban area.

Patient profile in the South East:

Analysis of TB cases diagnosed in the South East during two five year periods, namely 1999-2003 and 2004-2008, showed a number of similarities:

- the overall number of TB cases remained fairly constant n=177 Vs n=181
- the mean age was approximately 47 years, with a median range of 46-44 years,
- the male: female ratio was relatively consistent at 1.6 :1
- pulmonary cases accounted for about 77% cases
- around 72% cases were TB culture positive on laboratory testing
- the percentage distribution of cases in the Local Health Office (LHO) remained relatively stable with Waterford continuing to account for 35-41% of cases in the two time periods; Wexford accounting for only 11%-15% of cases in the two periods and some variation in Carlow/Kilkenny and South Tipperary
- indigenous (born in Ireland) TB cases tended on average to be older than non-indigenous cases (51.6 years Vs 34.2 years)
- indigenous TB cases were more likely to be AFB positive (60.8% of pulmonary cases Vs 44% in non indigenous cases)
- indigenous TB cases were more likely to be culture positive than non-indigenous cases (76% Vs 59%).

The main differences between these two time periods include

- an observed upward trend in cases among the non-indigenous population, from 18% of all cases in the earlier period to 28% in the second period
- At time of diagnosis 60% pulmonary cases were AFB positive in the earlier time period and 53% in the later period.
- With regard to LHO (local health office) burden, Waterford LHO had the highest (45%) percentage of non-indigenous cases of TB in the 1999-2003 period but South Tipperary LHO had the highest percentage (37%) in the 2004-2008 period.
- Data on country of origin of non-indigenous TB cases was only available from 2002. So, from 2002-2003 non-indigenous cases were mainly from Africa, the UK and the Indian subcontinent, whereas from 2004-2008 they were from the Indian subcontinent, Africa, Eastern Europe and Southeast Asia. These countries represent 83% of all non-indigenous cases.

TB Management and Treatment including prevention of multi-drug resistant TB.

National guidelines, due to be published shortly, will recommend an initial four drug regimen (Rifampicin, INAH, pyrazinamide and ethambutol) for the first two months of treatment, followed by two drugs for a minimum of a further four months. Sensitivity results of culture positive cases should be checked before stepping down to a two drug regime. Waterford Regional microbiology laboratory send culture positive TB samples to the Microbiology lab Cork University Hospital (CUH) for sensitivity testing. Sensitivity results are available within two months of CUH receiving the culture positive sample.

Before commencing a patient on TB treatment, consideration must be given to the benefits of a **Direct Observation Therapy (DOTS)** programme to ensure compliance with treatment. In TB control, good case management is essential, not alone for providing patient care, but to prevent the emergence of drug resistance due to poor compliance. There are many interacting multiple factors that interfere with the patient's

adherence to treatment. Factors that prevent compliance can be (i) patient related: such as conflicting health beliefs, mental illness, alcohol and/or drug dependence, failure to keep appointments, (ii) health professional related: such as failure to ensure that patient knows how to access anti-tuberculosis medication, failure to realise the need for continued support for the patient while on medication due to length of treatment period (minimum of six months) and difficulties in communication where the patient is non English speaking.

The clinician should assess the patient as soon as possible and if considering a DOTS programme a multidisciplinary approach is required. The programme will need to be arranged before discharge of the patient into the community. The team should include medical team, director of public health nursing, public health senior medical officer and hospital pharmacist. Here in the South East, the DOTS programme is carried out by the public health nursing service. This programme is very challenging and resource intensive, yet for some cases essential if treatment is to be effective and drug resistance prevented.

Drug resistance

The following information highlights the need for vigilance with both patient treatment compliance and correct drug treatment regimens. From 1999- 2008, 15 isolates were found to be resistant to first line drugs (Rifampicin, INAH, pyrazinamide and ethambutol) (pyrazinamide resistance in M. bovis not included as it is inherent in M. bovis species). The ten indigenous cases included five with mono resistance to INAH, and one each with mono resistance to streptomycin or pyrazinamide. However of concern were two isolates of M. bovis with resistance to both rifampicin and INAH, and one multidrug resistant MTB (resistant to Rifampicin, INAH, pyrazinamide and ethambutol). Five of the six non-indigenous cases had isolates of MTB resistant to INAH, two of which had additional resistance to Streptomycin. The remaining non-indigenous case had an M.bovis isolate resistant to INAH.

Anti-Tuberculosis Drug Access

In the South East there is a designated pharmacist in each acute hospital with responsibility for dispensing anti-tuberculosis medication. Hospital Pharmacy dispenses anti-TB medication both for inpatients and outpatients.
The prescription should contain the following information:

- Name and Address of patient;
- Prescription Date;
- Prescription details – Drug, strength, dose, frequency, duration of Treatment (bearing in mind a prescription is valid for a maximum of 6 months);
- Signature of prescriber (and contact number/bleep)

Prior to discharge, on receipt of prescription, hospital pharmacy will dispense a minimum of one month supply of anti-TB medication. For further supplies, patients will receive a prescription from the clinician and bring it directly to hospital pharmacy for dispensing.

Public Health Contact tracing

The purpose of contact tracing is twofold, to find the source of infection (if recently infected) and to establish if contacts have been infected. As a rule of thumb a contact is a person who has spent eight hours cumulative contact within conversational distance of an infectious case. This is done by interviewing close contacts initially, usually the family, and offering them a mantoux test or/and chest X-ray. If close contacts are found to be infected, the screening process is widened to include more casual contacts including work or school colleagues. Where an infectious case has not been in isolation throughout their hospital stay some hospital patients and Health Care Workers may require being included as close contacts. In 2006-2007, 859 people were identified as contacts of TB cases. Of these contacts, all had mantoux testing/and or chest X-rays, 21 commenced INAH prophylaxis and 13 new TB cases were identified.

Conclusion

TB is a serious infectious disease and a delay in diagnosis has implications, not only for the person and their contacts but also on HSE services. Where a patient presents with a persistent cough which has not responded to normal treatment a chest X-ray should be considered.

Key points

- Early diagnosis essential
- Initial four-drug regimen for all
- Patient compliance with treatment/DOTS
- Prevention of drug resistance a key public health priority
- TB drugs available from acute hospital pharmacies

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 TB, data has been extracted from CIDR (Computerized Infectious Disease Reporting).

Disease	2007 week 1-38 Cases	2008 week 1-38 Cases	2009[1] week 1-38 Cases
Acute infectious gastroenteritis[2]	403	418	596
Bacterial meningitis *(not otherwise specified)*	7	2	5
Brucellosis	0	0	0
Campylobacter infection	138	129	147
Chlamydia trachomatis[3]	NA	410	476
Creutzfeldt Jacob disease	0	0	1
Cryptosporidiosis	67	54	54
Enterohaemorrhagic E. coli	7	16	25
Giardiasis	8	8	1
Gonorrhoea[3]	NA	16	48
Haemophilus influenzae disease *(invasive)*	4	3	3
Hepatitis A Acute	3	4	3
Hepatitis B Acute	1	7	7
Hepatitis B Chronic	38	37	33
Hepatitis C	28	34	27
Herpes Simplex *(gential)*[3]	NA	14	22
Influenza *(non-A/H1N1)*	31	20	25
Influenza *(A H1N1)*[4]	NA	NA	70
Legionellosis	0	0	0
Leptospirosis	3	2	3
Listeriosis	1	0	1
Malaria	7	9	2
Measles	5	3	18
Meningococcal disease	15	18	12
Mumps	10	54	294
Noroviral infection	104	62	57
Paratyphoid	0	0	3
Pertussis	8	3	2
Rubella	2	5	2
Salmonellosis	29	30	26
Shigellosis	1	4	2
Streptococcus group A *(invasive)*	8	5	6
Streptococcus pneumoniae *(invasive)*	69	63	66
Syphilis[3]	NA	9	24
Tetanus	0	1	0
Toxoplasmosis	7	2	0
Trichomoniasis[3]	NA	5	8
Tuberculosis	21	21	29
Typhoid	0	1	1
Viral encephalitis	1	0	2
Viral Meningitis	4	9	12
Total	**1030**	**1478**	**2113**

1 Provisional data

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

3 STI data shown is from laboratory only and does not contain data for ano-genital warts or non-specific urethritis. NA= data not available prior to 2008

4 Influenza A/H1N1 was only notifiable from April 2009

Immunisation uptake in the HSE-SE and in Ireland

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

	%Uptake at 12 months of age						
	BCG	D_3	P_3	T_3	Hib_3	$Polio_3$	$MenC_3$
HSE SE Q1 2009	**95**	**90**	**90**	**90**	**90**	**90**	**89**
CW/KK	94	88	88	88	88	88	88
TS	93	90	90	90	90	90	89
WD	97	89	89	89	89	89	89
WX	96	91	91	91	91	91	90
National Q1 2009	**95**	**88**	**88**	**88**	**88**	**88**	**87**
HSE SE Q1 2008	92	87	86	87	86	86	86

	%Uptake at 24 months of age						
	D_3	P_3	T_3	Hib_3	Pol_3	$MenC_3$	MMR_1
HSE SE Q1 2009	**92**	**92**	**92**	**91**	**91**	**91**	**88**
CW/KK	92	92	92	92	92	92	91
TS	91	91	91	89	90	89	87
WD	89	89	89	89	89	89	85
WX	93	93	93	93	93	92	90
National Q1 2009	**93**	**93**	**93**	**93**	**93**	**93**	**90**
HSE SE Q1 2008	89	89	89	89	89	88	86

Uptake of immunisations in the South East at 12 months of age increased by between 3 – 4 % for Q1 2009 compared with the same period in 2008. For children aged 24 months of age in the South East in Q1 2009, immunisation uptake rates increased by between 2-3% compared with Q1, 2008. The target uptake rate of ≥ 95% was achieved by Waterford and Wexford LHOs for BCG with an uptake rate of 97% and 96% respectively at 12 months of age.

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

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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