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Contents

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Hepatitis B Transmission in Care Homes in Belgium and US

Four cases of acute hepatitis B infection have recently been reported from two nursing homes in Belgium associated with the multiple use of blood capillary sampling (fingerstick) devices on diabetic patients.[1]

Three outbreaks of hepatitis B infection associated with poor infection control procedures during blood glucose monitoring have also been reported from care homes for the elderly in the United States.[1] In the first of the three reported outbreaks in the US, two residents died. All 158 residents were investigated. Fifteen cases of acute hepatitis B were found and 15 residents were immune. Of 38 residents whose blood glucose was routinely monitored, 14 had an acute hepatitis B infection. A review of infection control procedures revealed that the glucometer and spring-loaded barrel of the fingerstick device were not cleaned between uses, although a new end cap and lancet were used each time. Insulin and other multi-dose medications were not labelled with patient names or the dates when the vials were opened. An anonymous staff survey revealed that some staff members were observed re-using needles or failing to change gloves between sampling different patients' blood.

In the second outbreak 8/22 residents were identified with acute hepatitis B (three residents refused to be tested). The blood glucose levels of all these residents were sampled daily by nursing staff. None of the seven residents who tested their own blood were infected. In the third home where there was an outbreak all 192 residents were screened. Eleven had acute hepatitis B infection and 16 were immune. None had chronic hepatitis B infection. Eight of the 45 residents whose blood glucose was monitored had acute hepatitis B infection. Poor infection control procedures were found in these homes also.

Information on preventing transmission of hepatitis B virus and other blood-borne viruses in healthcare settings is available at www.cdc.gov/mmwr/preview/mmwrhtml/00000039.htm

Reference

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Mumps Outbreak Continues

The mumps outbreak, which started in October 2004 in Ireland, continues. The median number of mumps notifications from week 1 2004 to week 41 2004 was one. From week 42 2004 to week 52 2004 there were 350 cases of mumps notified to the Health Protection Surveillance Centre (HPSC). The number of cases reported to date this year is 227 (weeks 1 – 12).

An enhanced surveillance system for mumps commenced in October 2004. As of 16 March 2005, 314 enhanced forms have been received at HPSC. Fourteen cases were denotified. Age was reported for 265 cases (265/300). The median age was 20 years, with a range from 0 to 54 years of age. Many of the cases are in third level institutions. Fifty three percent were male, 44% were female, with sex unknown in the remainder of cases. Information on hospital admission was obtained on 185 cases. Seventeen were admitted to hospital. Vaccination status was known on 249 cases. Only 15.7% had received a second dose of MMR, 25.7% had one MMR and 19.7% had no MMR.

It is increasingly recognised that two doses of MMR vaccine are needed to prevent outbreaks of mumps. The outbreak control team, which was convened to deal with this outbreak, have recommended that:

- In institutions where mumps cases are occurring MMR vaccine should be offered to students without a history of two doses of MMR vaccine (and with no history of mumps infection).
- All children should have two doses of MMR vaccine as per the immunisation guidelines.
- Based on a risk assessment, contacts of mumps cases should have MMR vaccine if indicated.

A similar outbreak is ongoing in Northern Ireland and elsewhere in the UK at the moment.[1] In Northern Ireland, 757 mumps notifications were received in the first six weeks of 2005. The median age of cases there is 17.9 years of age. Only 4% of cases where vaccination status is known (643/757) have had two doses of MMR. There were 4891 cases in the first four weeks of 2005 in the UK, compared to 358 notifications for the same period in 2004.[2] The cases are occurring mainly in young adults in their early twenties, and mostly among those in third level institutions.

Reference

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Campylobacteriosis in Ireland, 2003

Introduction

Campylobacteriosis is the commonest bacterial cause of human gastrointestinal illness in Ireland. *C. jejuni* is the predominant species associated with human illness, with the remainder mostly being *C. coli* and *C. lari*. It is primarily a diarrhoeal illness. The diarrhoea is often bloody and frequently associated with acute abdominal pain. Symptoms may subside after a number of days or may persist for weeks. Rarely, long-term sequelae may develop such as reactive arthritis, Reiter's syndrome, or haemolytic uraemic syndrome (HUS) and approximately one in every 1000 cases leads to a severe neurological disorder called Guillain-Barré Syndrome (GBS).

Campylobacteriosis became a notifiable disease in Ireland in January 2004. This review presents data from the fifth year of the Health Protection Surveillance Centre (HPSC) national survey of the incidence of human campylobacteriosis in Ireland.

Methods

The HPSC requested public health doctors and laboratories to provide disaggregated information on all laboratory-confirmed cases of campylobacteriosis diagnosed in 2003. The following minimum dataset was requested: identifier, date of birth/age, sex, address and date of onset/isolation/reporting. In regions where laboratory surveillance systems were in place, this information was requested from their databases. Duplicates were removed where detected. Data were assigned a health board and a county where address was supplied. Analyses were carried out using MS Access and SPSS. Direct methods of standardisation were applied using the Irish population as the standard population. Population data were taken from the 2002 census. Species differentiation of isolates was not requested.

Results

Information on *Campylobacter* was obtained from all health boards. Information on age was missing in 1% of cases and information on gender was incomplete in 5% of cases. Those data without age were not presented in age standardised charts, and data without gender were not presented in age-gender standardised charts.

Incidence

In total, 1568 cases of laboratory-confirmed campylobacteriosis were reported in 2003 in Ireland (including six cases in non-residents). This gives a crude incidence rate (CIR) of 39.9 cases per 100,000 population resident in Ireland (table 1). This compared with a CIR of 34.0 cases per 100,000 in 2002. The number of cases by year since 1999 is shown in figure 1.

Table 1: Number of cases and CIR per 100,000 population of human campylobacteriosis in Ireland by health board, 2003 (excluding non-resident cases)

Health Board	No of cases	CIR - (incl.95% C.I.)
ERHA	544	38.8 [35.6 - 42.1]
Midland	136	60.3 [50.2 - 70.5]
Mid-Western	103	30.3 [24.5 - 36.2]
North Eastern	95	27.5 [22.0 - 33.1]
North Western	52	23.5 [17.1 - 29.8]
South Eastern	213	50.3 [43.5 - 57.0]
Southern	208	35.8 [31.0 - 40.7]
Western	211	55.5 [48.0 - 63.0]
IRELAND	1562	**39.9 [37.9 - 41.9]**

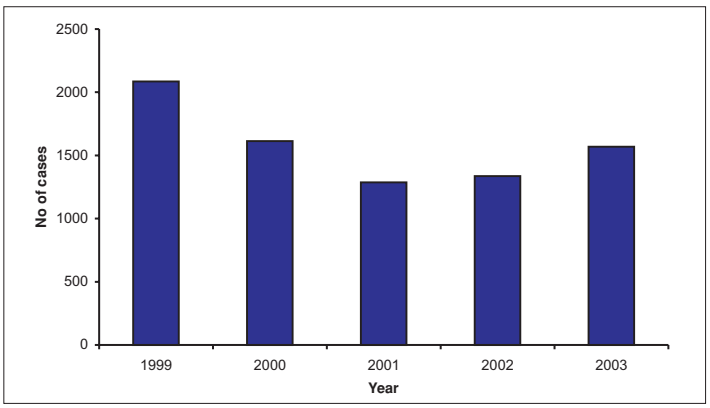

Figure 1. Number of laboratory-confirmed cases of campylobacteriosis in Ireland, 1999-2003

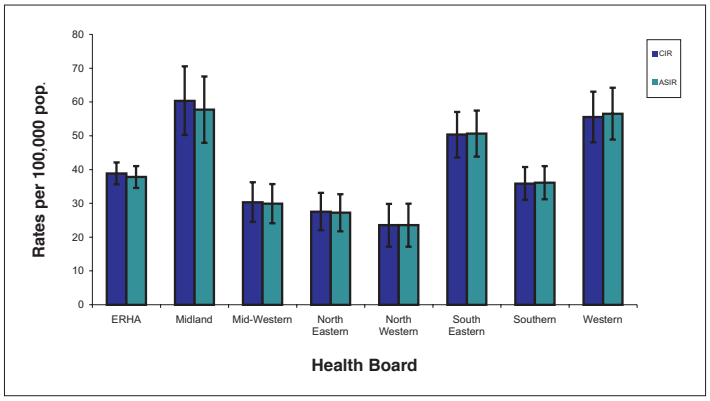

Figure 2: Age standardised incidence rates (ASIR) compared to crude incidence rates (CIR) in each health board, 2003.

Age standardised rates were calculated to allow comparisons to be made between health board regions without the confounding effects of age (figure 2). In 2003, the highest incidence was recorded in the Midland Health Board region (60.3/100,000 population) followed by the Western Health Board (55.5/100,000) with the lowest incidence rate seen in the North Western Health Board (23.5/100,000).

Seasonality

The distribution of cases by month is shown in figure 3. A rise in cases occurred in May 2003, reaching a peak in July 2003. *Campylobacter* is known to have a well-characterised seasonal distribution with a peak seen in early summer each year.

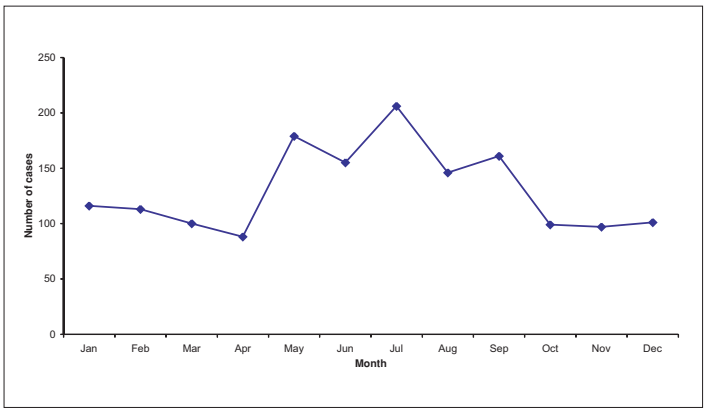

Figure 3: Total cases of campylobacteriosis by month of notification (2003) in Ireland

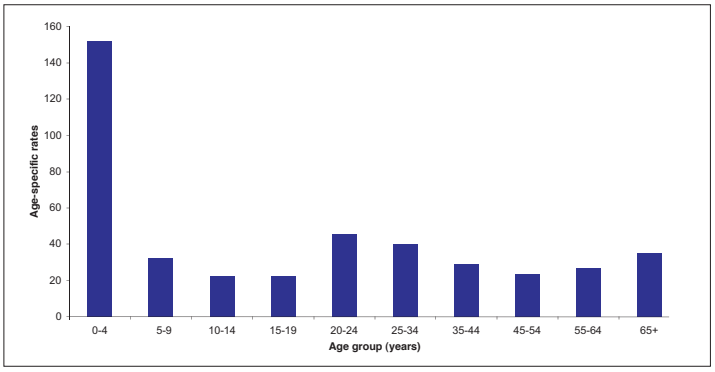

Figure 4: Age-specific incidence rates for campylobacteriosis in Ireland, 2003

Age

When age-specific incidence rates for each age group are examined, it is evident that by far the highest burden of illness is seen in children less than five years of age (figure 4). This was also noted in previous years and is a feature of the illness worldwide.

Gender distribution

The variance in gender distribution that has been noted since 1999 was not as evident from analysis of the data in 2003. Males accounted for 49% of cases and females 46% (5% missing) (Figure 5).

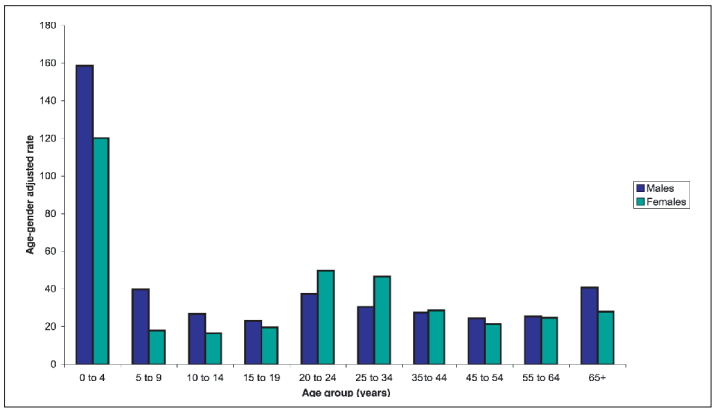

Figure 5: Age-gender adjusted incidence according to age group in 2003

Outbreak data

There were two healthcare-associated outbreaks of campylobacteriosis reported to HPSC in 2003. One occurred in a residential institution with 19 people reported ill. The other occurred in a hospital with six cases of illness. The mode of transmission was not determined in these outbreaks, and no food vehicles were identified during the investigations.

Discussion

The results presented here are from the fifth year of the national survey of the incidence of human campylobacteriosis in Ireland. It is evident from these data that campylobacteriosis remains the greatest cause of bacterial gastroenteric infection in Ireland (3.5 times the number of salmonellosis cases reported in 2003). It should be noted that these are laboratory-confirmed cases and the true burden of illness is probably much higher.

The crude incidence rate (CIR) of campylobacteriosis was seen to increase in Ireland in 2003 (39.9 cases/100,000 persons) compared to 2002 (34.0/100,000). This was the highest rate reported in Ireland since 2000. The increase was most notable in the Midland and Western Health Board regions.

Higher rates were seen in 2003 for Northern Ireland[1] (43.8/100,000), England and Wales[2] (85.4/100,000) and Scotland[3] (87.9/100,000) but these rates represented a decrease from the incidence reported in 2002 for all these countries (*provisional data*).

Some consistent data trends are evolving as the *Campylobacter* data are analysed year on year. The incidence rate of this pathogen is consistently higher in young children and there is a bias towards male cases in almost all age groups. Although this gender bias was not as evident in the 2003 figures. The first Irish case-control study on campylobacteriosis, conducted in the Eastern Regional Health Authority region, has recently been completed and the findings are due to be published in the coming months. It is hoped that the results of this study will identify risk factors for sporadic cases of human campylobacteriosis in Ireland.

Much work needs to be done to provide answers to many of the epidemiological questions posed by the data presented in this report. Detailed typing data of human isolates are needed to be able to examine relationships between *Campylobacter* isolates from food, food animals and humans, and to assist in traceback in outbreak investigations. Information on risk factors is needed to inform public health interventions. In recent years, water has been increasingly featured as a potential source of *Campylobacter* infection internationally, and reports have described associations with swimming in waters contaminated with sewage effluent, drinking of untreated water and consumption of seafood.[4,5] A study in Northern Ireland, revealed significant levels of contamination of untreated surface waters with *Campylobacter spp*.[6]

It is clear that there is a very significant burden of illness caused by this zoonotic agent, with the highest incidence in four years reported in 2003. Efforts by all public health professionals throughout the food chain must continue to aid in our understanding of the complex epidemiology of this globally important pathogen.

Barbara Foley and Paul McKeown, HPSC

Acknowledgements

HPSC wishes to thank all those who provided information for the fifth year of this report on the epidemiology of campylobacteriosis in Ireland, in particular, public health doctors, surveillance scientists, medical microbiologists, medical laboratory scientists and environmental health officers.

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2. Health Protection Agency – CDSC. http://www.hpa.org.uk/infections/topics_az/topics.asp?category=a

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CIDR Update

The CIDR Pilot Implementation Evaluation Group has found that the CIDR system is secure, robust and ready to be implemented nationally.

The group provided feedback and a final report to the CIDR Project Board, following extensive evaluation of the system in the CIDR pilot locations. The report included recommendations on how to best proceed with the project and was accepted by the CIDR Project Board at their meeting in November.

"CIDR has undergone thorough user acceptance testing and has successfully linked up with the Government VPN," according to evaluation group member and specialist in public health medicine in the HSE North East Region, Dr Peter Finnegan.

"Feedback on CIDR training has been very positive and the CIDR Helpdesk has responded very well to any issues which have arisen. CIDR is flexible enough to adapt to the changing structures in the health services but there is still a need for further pilot operation in relation to antimicrobial resistance (AMR) and sentinel sites, as these have not been fully tested during the pilot implementation period," he said.

The evaluation group acknowledged that pilot implementation in laboratories in the North East involved relatively small numbers of notifications. The group also confirmed the need for further development of reports and recommended that the LIMS upload decisions and processes should be individual to each participating laboratory, and will involve work for each laboratory.

Phased roll-out system

The CIDR Project Board has recommended a phased rollout of the system nationally, according to the new head of the CIDR project, Dr Suzanne Cotter.

"We will be asking public health to implement CIDR in one or more of their regions at a time and to manually enter their relevant laboratory records until the laboratories in their area are in a position to do it themselves. Laboratories will eventually implement CIDR on a sequential basis, mirroring public health implementation as closely as possible.

"The board has also suggested that regions and laboratories set up regional implementation committees, which will liaise with the national CIDR implementation team. This process will be enhanced by organisational implementation, readiness questionnaires to help inform on the sequence of events relating to public health, and laboratory participation in CIDR".

"The CIDR implementation plan will be flexible enough to allow operations to continue in the event of unforeseen problems in any area," she added.

Given the logistics involved in providing quality training the CIDR Project Board has decided that the only realistic option is to deliver training centrally at the Health Protection Surveillance Centre (HPSC).

CIDR gets new head

HPSC specialist in public health medicine, Dr Suzanne Cotter has taken over from Dr Derval Igoe as head of the CIDR Project. After more than three years working on the project, Derval has returned to other duties at HPSC.

CIDR receives Innovation Merit Award

CIDR recently received a merit award presented by An Taoiseach, Bertie Ahern in the 'Government to Government' category at the recent Eircom-sponsored Inside Government awards for 'Innovation through Technology 2004'.

Preparation for national CIDR rollout

The CIDR team have attended meetings with a number of HSE regions in preparation for CIDR rollout and are hoping to meet the remainder regions as soon as possible. It is expected that CIDR will be fully rolled out to all regions by early 2006.

John Brazil, Suzanne Cotter, HPSC