Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

December 2005

Volume 6 Issue 12

hpsc EPI-Insight

Disease Surveillance Report of HPSC, Ireland

ISSN: 1393-9548

Contents

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WORLD AIDS DAY, DECEMBER 1st 2005

World AIDS day is commemorated around the globe on December 1st. Throughout the world, people celebrate the progress made in the battle against the epidemic while focusing on the challenges ahead. The World AIDS Campaign (WAC), from 2005 to 2010, is calling on individuals and groups to support the theme *"Stop AIDS. Keep the promise"*. Further information on World AIDS Day 2005 can be accessed on the WAC website at http://worldaidscampaign.info.

According to the latest report published by the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organisation (WHO),[1] the total number of people living with the human immunodeficiency virus (HIV) rose in 2005 to reach its highest level ever, an estimated 40.3 million people. This figure includes an estimated 4.9 million people who acquired HIV in 2005. It is also estimated that the global AIDS epidemic killed 3.1 million people in 2005, of which 500,000 were children. According to the report, the steepest increases have occurred in Eastern Europe and Central Asia (25% increase to 1.6 million since 2003) and East Asia (20% increase to 850,000 since 2003). However, sub-Saharan Africa continues to be the most affected region of the world and is home to 25.8 million people living with HIV. An estimated 2.4 million people died of HIV-related illnesses in this region in 2005, while a further 3.2 million became infected with HIV.

The HIV/AIDS epidemic is affecting women and girls in increasing numbers. Globally, just under half of all people living with HIV are female. Women and girls make up almost 57% of all people infected with HIV in sub-Saharan Africa, where a striking 76% of young people aged 15-24 years living with HIV are female.

Further information on the global HIV and AIDS pandemic can be found on the UNAIDS website at www.unaids.org.

Situation in Ireland

The total number of HIV infections reported in Ireland up to the end of June 2005 was 3,912. The number of HIV infections diagnosed in Ireland increased steadily between 1994 and 2003 (from 75 to 399 cases). Between 2003 and 2004, there was a 10% decrease in the number of cases diagnosed. Detailed reports on HIV and AIDS in Ireland can be accessed on the HPSC website at http://www.hpsc.ie/A-Z/HepatitisHIVAIDSandSTIs/HIVandAIDS/.

To commemorate World AIDS Day 2005, the Department of Genitourinary Medicine and Infectious Disease (GUIDE clinic) in St James's Hospital, in collaboration with the National College of Art and Design, are launching a new website - www.guide2guide.ie.

Reference

1. UNAIDS/WHO. AIDS epidemic update: December 2005. Available at www.unaids.org/epi2005/doc /report.html

Epidemiology of Verotoxigenic *E. coli* in Ireland, 2004

Verotoxigenic *E. coli* (VTEC) are so-called because of their ability to produce one or both of two verotoxins (VT1 and VT2). They are an important cause of gastroenteric illness in Ireland with between 42 and 88 cases of VTEC O157 reported annually between 1999 and 2004.[1] They cause a wide range of symptoms, from mild diarrhoea to haemorrhagic colitis with severe abdominal pain and bloody diarrhoea. Illness is usually self-limiting and resolves after about eight days. A proportion of patients (approx. 9% of symptomatic Irish cases) however, develop haemolytic uraemic syndrome (HUS), a life-threatening complication.

E. coli O157 was the first *E. coli* serogroup to be associated with this distinctive illness but several other verotoxin-producing *E. coli* serogroups have been reported, including O26, O111, O103 and O145. The primary reservoir is believed to be cattle, although VTEC have been isolated from a variety of healthy animal carriers including sheep, horses, goats and wild birds. VTEC can be transmitted through contaminated food, water, the environment, and by direct contact with animal carriers. Person-to-person spread is an important mode of transmission in households, child-care facilities and institutions.

Methods

Since 1999, HPSC, in co-operation with directors of public health in each health board region, have operated an epidemiological surveillance system for VTEC O157. The data reported under this system have formed the basis of the HPSC annual reports on *E. coli* O157 for the last 5 years. Details on how this system operates, and the case definition used, have been outlined in previous reports.[1] In 2004, changes to the infectious disease legislation resulted in all VTEC becoming notifiable (S.I. 707 of 2003), and this report is the first that aims to describe disease caused by VTEC of all serogroups in Ireland. Typing data were provided by the Health Service Executive South West Area Public Health Laboratory at Cherry Orchard Hospital which offers specialist diagnostic and typing services for VTEC.

Data from the enhanced surveillance system in 2003 were also compared with data from the HSE SWA PHL database retrospectively. A composite list of cases from 2003 showed that 88 cases of VTEC O157 and 7 cases of VTEC O26 occurred. The data quoted in this report for 2003 have been updated to reflect the combined data.

Results

Sixty-one confirmed cases of VTEC were notified to HPSC during 2004, an incidence rate of 1.6 per 100,000 population. This was a reduction of 36% on the 2003 figure of 95 cases reported (2.4/100,000) (table 1). Among these 61 cases were 52 cases of VTEC O157 (1.3/100,000), four VTEC O26, two VTEC O111, and one each of VTEC O145, O146, and O Ungroupable.

Table 1. Number and crude incidence rates (CIR) of VTEC and VTEC O157 infection, Ireland 1999-2004

Year	No. of VTEC O157 cases	CIR VTEC O157* (95% CI)	No of all VTEC cases	CIR VTEC* (95% CI)
1999	51	1.4 (1.0-1.8)	N/A	N/A
2000	37(42)§	0.9 (0.6-1.3)	N/A	N/A
2001	50 (52)§	1.3 (0.9-1.6)	N/A	N/A
2002	68 (70)§	1.7 (1.3-2.2)	N/A	N/A
2003†	88	2.2 (1.8-2.7)	95	2.4 (1.9-2.9)
2004	52	1.3 (1.0-1.7)	61	1.6 (1.2-2.0)

*** Data from 1996 census were used to calculate the rate in 1999 while the 2002 census was used to calculate rates from 2000-2004. Rates exclude non-residents.**
† Composite data from 2003 –see methods section.
§ Brackets include non residents

Regional distribution

Regional variation was noted in the numbers of cases reported (table 2), with the highest incidence rates this year in the North Eastern and Western Health Boards. However, the number of cases per region was small, and differences are unlikely to be significant.

Table 2. Number, crude incidence rate (CIR) and age-standardised incidence rate (ASIR) with 95% confidence intervals of confirmed cases of VTEC by health board of residence, Ireland, 2004

Health Board	No. of cases all VTEC	No. of cases VTEC O157	CIR VTEC (95% CI) per 100,000	ASIR VTEC (95% CI) per 100,000
ERHA	12	11	0.9 (0.4-1.4)	0.9 (0.4-1.4)
MHB	2	2	0.9 (-0.3-2.1)	0.9 (-0.4-2.3)
MWHB	6	4	1.8 (0.4-3.2)	1.8 (0.4-3.2)
NEHB	11	10	3.2 (1.3-5.1)	3.1 (1.3-5.0)
NWHB	3	2	1.4 (-0.2-2.9)	1.3 (-0.2-2.8)
SEHB	6	5	1.4 (0.3-2.5)	1.4 (0.3-2.5)
SHB	11	8	1.9 (0.8-3.0)	1.9 (0.8-3.1)
WHB	10	10	2.6 (1.0-4.2)	2.6 (1.0-4.2)
Total	**61**	**52**	**1.6 (1.2-2.0)**	

Age-sex distribution

The highest incidence was recorded in young children which is consistent with previous years. It was notable that all non-O157 VTEC infections reported were in persons less than 15 years or over 65 years. Non-O157 serogroups comprised 30% of VTEC cases reported in children less than 5 years.

Clinical features

Information on symptoms was available for 56 cases, of whom 47 (84%) were reported as symptomatic. Reported symptoms included: bloody diarrhoea in 25 cases (53%), and HUS in four cases (8.5%). All four cases of HUS occurred in children under 10 years of age. Significantly, two of these HUS cases were caused by non-O157 VTEC.

Seasonality of VTEC cases

The largest number of cases in 2004 occurred in the third quarter (46%), very similar to the trend observed in previous years (figure 1). Specifically, all non-O157 cases were reported in quarter 2 and 3.

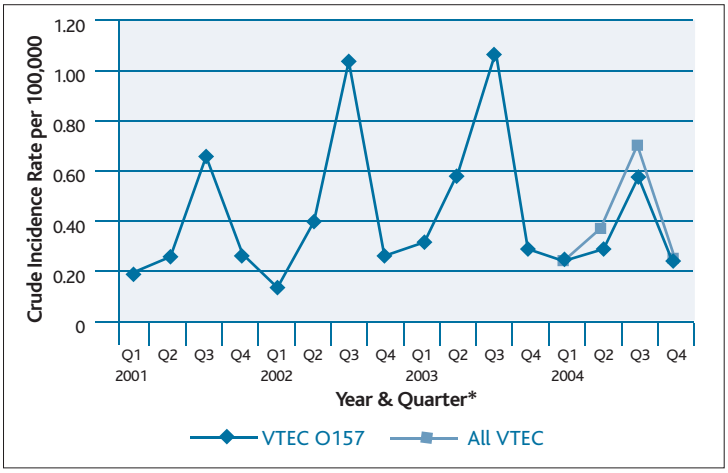

Figure 1. Confirmed VTEC cases by quarter of onset of symptoms, Ireland, 2001-2004

***For asymptomatic cases, the month of onset of associated cases was used. For sporadic cases where date of onset was unknown, date of notification was used.**

Travel-association

Seven cases were travel-associated. The countries visited within 14 days of onset of illness were Spain (2), UK (2), Italy (1), Malaysia (1) and Turkey (1), reflecting to some extent the frequency of travel by Irish people to these destinations.

Table 3. Phage Types of VTEC O157 isolates referred to HSE SWA PHL, Cherry Orchard Hospital in 2004.

Phage type	Number (%)
PT32	30 (58%)
PT8	5 (10%)
PT14	5 (10%)
RDNC	3 (6%)
PT21/28	2 (4%)
PT1	1 (2%)
PT31	1 (2%)
PT34	1 (2%)
PT51	1 (2%)
N/K	3 (6%)
Total	**52 (100%)**

N/K= Not known

Phage typing results

Table 3 shows the phage types of the VTEC O157 strains isolated in 2004. As in previous years, PT32 was the commonest phage type reported, accounting for 58% of the VTEC O157 reported.

Verotoxin profiles of VTEC strains isolated in Ireland, 2004

In 2004, 71% of VTEC O157 strains carried the genes for VT2 while a further 25% carried the genes for both VT1 and VT2 (table 4). In contrast, 56% of non O157 VTEC isolates carried the genes for VT1 only, 22% for VT2 only, and 22% VT1 and VT2. It is notable that strains for all HUS cases (both non-O157 and O157) carried the genes for VT2.

Table 4. Verotoxin typing results for the VTEC isolates referred to HSE SWA PHL, Cherry Orchard Hospital in 2004.

	VT1 only	VT2 only	VT1 and VT2	N/K	Total
O157	0	37	13	2	52
O26	2	0	1	0	3
O111	1	0	1	0	2
O145	0	1	0	0	1
O146	1	0	0	0	1
O Ungroupable	1	1	0	0	2

Outbreaks

In 2004, eight outbreaks were reported. Microbiological and/or epidemiological evidence was obtained in a number of these outbreaks linking human cases with water and/or livestock.

The NEHB reported a cross-health board outbreak of VTEC O157 linked to a sports club. Four confirmed cases were reported, three of whom were admitted to hospital. Drinking water used at the venue, and supplied from an untreated private well, was found positive for the outbreak strain. Epidemiological evidence was also obtained linking infection with water consumption at the venue. Two family outbreaks in the NEHB were also reported as waterborne. Definitive microbiological evidence was obtained linking water from a private well to two confirmed cases in one of these outbreaks.[2] For the second, water from a private well was found positive for *E. coli* and coliforms but no VTEC were isolated.

A third family outbreak (WHB) was reported as being transmitted either by water or by animal contact. Both water from a small group water scheme used by the family, and samples taken subsequently from sheep on the family farm, tested positive for VTEC O157 that were indistinguishable from those isolated from the human cases. While the precise route of transmission is unclear, the group water scheme had experienced problems over a protracted period of time, and was poorly maintained, with the schemes chlorinator non-functional and the water source unprotected.

For the four remaining family/household outbreaks, two were suspected to be due to contact with livestock on family farms, one to person-to-person transmission, and for the remaining outbreak the mode of transmission was unknown.

Discussion

Significant changes were made in 2004 to the reporting of cases of VTEC. Infection caused by enterohaemorrhagic *E. coli* (EHEC) became a notifiable disease on January 1st 2004. For the first time also in this report, typing data from the HSE SWA PHL have been linked with the epidemiological data from HPSC, providing a composite picture of the epidemiology of VTEC in Ireland. As a result, data reported here are more comprehensive for both O157 and non-O157 infections.

Sixty-one VTEC cases were reported in 2004, a rate of 1.6 per 100,000 population. When only VTEC O157 are considered, the rate was 1.3, considerably lower than was reported for Ireland for the last two years. This compares with provisional VTEC O157 incidence rates of 1.1/100,000 in Northern Ireland (CDSC NI personal communication), 4.1/100,000 in Scotland[3] and 1.3 in England and Wales (HPA Colindale, personal communication) in 2004.

Of particular interest are the nine (15%) VTEC infections reported in 2004 that were caused by non-O157 *E. coli* strains. All nine were reported in quarters 2 and 3, in keeping with the seasonal distribution noted both historically and this year for VTEC O157 in Ireland. Although the case numbers were small, non-O157 VTEC cases were reported from 6 of the 8 health board regions, indicating that they were widely distributed throughout the country. All non-O157 VTEC infections reported were in children less than 15 years or adults over 65 years. In fact, non-O157 serogroups comprised 30% of VTEC cases reported in children less than 5 years. In addition, two of the four VTEC-associated HUS cases reported in 2004 were caused by non-O157 VTEC. While these latter two observations presumably reflect a greater degree of screening for non-O157 VTEC in these higher risk groups, it is evident that non-O157 VTEC were an important cause of VTEC infections in Ireland in 2004. It is also notable that while in the past VTEC O26 was the primary non-O157 VTEC reported in Ireland, the range of serogroups reported in 2004 was much greater.

A variety of sources and transmission routes have been demonstrated worldwide for VTEC, including food, water, environmental, and direct animal contact as well as person-to-person transmission. In 2004 in Ireland, two outbreaks, one general and one family, were linked epidemiologically and/or microbiologically with drinking water from private wells, demonstrating the potential of this type of water supply in the transmission of VTEC infection. A private well was also suspected as the route of transmission for a further family outbreak. The general outbreak illustrates the danger that even a small private water supply can pose if it provides water to a large number of people in a short period of time, exposing them to infection if the water is contaminated.

The HPSC established a sub-committee to develop guidance for health professionals regarding human cases of VTEC infection. A report by this sub-committee is due to be published shortly. A one-page guidance note on the management of VTEC disease has already been developed for GPs and is available at www.hpsc.ie/A-Z/Gastroenteric/VTEC/Guidance/.

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Acknowledgements

We wish to acknowledge the co-operation of microbiologists, medical scientists, SMOs, SPHMs, surveillance scientists, infection control nurses, PEHOs, and EHOs in providing the information on which this report is based.

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Influenza Vaccine Uptake in Older People

Introduction

In Ireland, annual influenza vaccination is recommended for a number of at-risk adults and children, including all persons 65 years of age or older. Influenza and its related illnesses remain a major cause of preventable morbidity and mortality in the elderly worldwide. Among the elderly, vaccination is thought to reduce influenza-related morbidity by 60% and influenza-related mortality by 70-80%.[1]

Influenza vaccination (both vaccine and administration) is free for all medical cardholders in Ireland. Since mid-2001, all individuals aged 70 years and older are eligible for a medical card. Approximately 50% of the population aged 65 to 69 years have medical cards (source: Primary Care Reimbursement Service).

In 2004, a study was undertaken in Ireland to measure influenza vaccine uptake among medical cardholders (aged 65 years or older) for the 2003/2004 influenza season.[2] This study has been repeated to determine influenza vaccine uptake among medical cardholders (aged 65 years or older) for the 2004/2005 influenza season.

Methodology

Information was obtained from the Primary Care Reimbursement Service (HSE National Shared Services) on the number of registered medical cardholders 65 years of age and older, as well as the number of patients vaccinated with influenza vaccine (by age group and HSE Health Area) during the 2004/2005-influenza season. Data refer to GP returns received by the Primary Care Reimbursement Service between September 2004 and August 2005. Influenza uptake rates by age group and HSE Health Area were calculated based on the average number of registered patients with medical cards during the time frame.

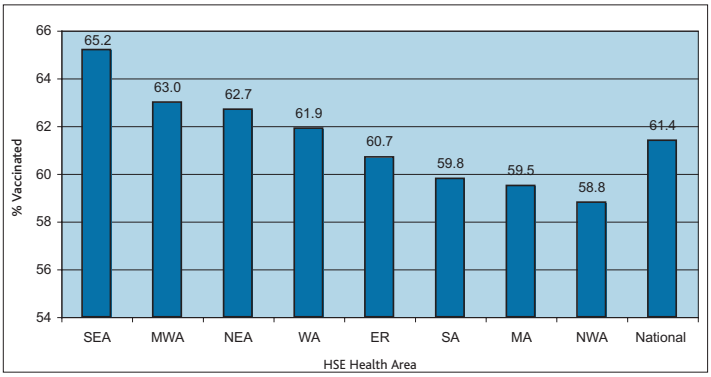

Figure 1. Percentage of medical cardholders (65 years of age or older) who received influenza vaccine during the 2004/2005-influenza season, by HSE Health Area

Results

All data refer to medical cardholders only. The average uptake for influenza vaccination nationally during the 2004/2005 influenza season in those aged 65 years or older was 61.4%. This compares with an average uptake rate of 62.2% during the 2003/2004 season.[2] There was some variation in vaccination coverage between HSE Health Areas (range 58.8%-65.2%) (figure 1).

Nationally, the highest uptake (67.4%) of influenza vaccine amongst the elderly was in those aged 75 years of age or older (ranging from 65.9% - 71.4% across all HSE Health Areas). The lowest national uptake (49.1%) was in the 65-69 year age group (ranging from 44.1% - 54.3% across all HSE Health Areas) (table 1).

Discussion

In Ireland, the average influenza vaccination uptake rate for the 2004/2005-influenza season among medical cardholders aged 65 years of age or older was 61.4%, a slight decrease on the reported uptake rate for the 2003/2004 season of 62.2%.[2] The higher uptake during the 2003/2004 season may have been due to raised awareness following increased media coverage regarding the influenza A/ Fujian strain that circulated during the 2003/2004 season.

Table 1. National average influenza immunisation uptake 2004/2005 season by age group (65 years of age or older)

Age group (years)	65-69	70-74	75+	**Total**
% uptake	49.1	57.6	67.4	**61.4**

A study of various European countries during the 2000/2001 influenza season reported uptake rates ranging from 25%-81%.[3] The World Health Organisation has set a target of 75% for influenza vaccine uptake in those aged 65 years or older, to be reached by 2010. In Ireland the target has been increased from 60% for the 2004/2005 season to 65% for the 2005/2006 season.

Although the vaccine is recommended for all individuals 65 years of age or older in Ireland, it is evident that there is inconsistent uptake amongst this group with only those aged 75 years or older achieving relatively high uptake rates. However, it should be noted that the data for the 65-69 year age group only represent the medical cardholders in this age group and as such do not include 50% of the population in this age group. The uptake in this group is unknown.

Reasons for inadequate vaccination uptake rates, particularly among those aged 65-74 years are unclear. Some studies have reported lack of awareness of self-risk associated with influenza disease, distrust of vaccinations, disbelief in vaccine efficacy, and inadequate strength of recommendations from health professionals as possible reasons for inadequate vaccination uptake.[4 5 6 7]

Key points

- In Ireland, influenza vaccination uptake rates among elderly medical card holders (65 years of age or older) show regional and age group variation.
- Additional studies are needed to identify reasons for non-vaccination uptake among those 65 years of age or older.
- Health professionals should encourage and facilitate access to vaccination for their at-risk patients, including all patients 65 years of age or older.
- Work on increasing awareness within the wider community about the value of influenza vaccine should be supported as part of efforts to increase vaccine coverage.

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Acknowledgements

The authors would like to thank Pamela Doherty of the Primary Care Reimbursement Service (HSE National Shared Services) for data provided for this study. The authors would also like to thank Suzanne Cotter (HPSC) and Anne Sheahan (HSE SA).

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