

9.5 *Clostridium difficile*-associated disease in Ireland

New cases of *Clostridium difficile*-associated disease (CDAD) have been notifiable in Ireland since the 4th May 2008 under the category 'acute infectious gastroenteritis' (AIG). A new CDAD case is defined as a patient two years or older, to whom one or more of the following criteria applies:

- Diarrhoeal stools or toxic megacolon, with either a positive laboratory assay for *C. difficile* toxin A (TcdA) and/or toxin B (TcdB) in stools or a toxin-producing *C. difficile* organism detected in stool via culture or other means.
- Pseudomembranous colitis (PMC) revealed by lower gastrointestinal endoscopy.
- Colonic histopathology characteristic of *C. difficile* infection (with or without diarrhoea) on a specimen obtained during endoscopy, colectomy or autopsy)

Recurrent CDAD cases are not notifiable.

There were 2829 notifications of AIG in 2008 of which 1607 (57%) were CDAD cases, giving a national crude incidence rate (CIR) of 37.9 cases per 100,000 population (table 1).

CDAD data from 2008 represents notifications made from the 04th May 2008 (week 19) until the 03rd January 2009 (week 53). The estimated CIR over a 52 week period is also shown in table 1. All cases were laboratory confirmed. Additional information as specified in the CDAD definitions are not currently captured on CIDR.

CDAD predominated in older patients and in females (61%) (figure 1). The over 65 age category has the highest calculated age specific incidence rate (ASIR) of 245 per 100,000.

Patients classified as 'hospital inpatient' had the highest occurrence of cases, accounting for 52.7% of all cases notified. Of the remaining cases, 6% were classified as GP patients, 2.7% hospital outpatient, 1.2% 'other', 0.3% hospital day patient and 27% as either "not specified" or "unknown".

The seasonal trend is indistinguishable at present as the data does not represent a complete annual data set. In addition, identification of seasonal patterns is hindered by late and batch notifications from institutions.

Table 1. CDAD in Ireland by HSE area 2008

HSE Region	No. Cases	CIR* incl. 95% CI	Estimated No. Cases**	Estimated CIR incl. 95% CI**
East	758	50.5 [46.9 - 54.1]	1126	75.1 [70.7-79.5]
Midlands	37	14.7 [10.0 - 19.4]	55	21.9 [16.1-27.6]
Mid West	80	22.2 [17.3 - 27.0]	119	33.0 [27.0-39.0]
North east	36	9.1 [6.2 - 12.1]	53	13.5 [9.8-17.1]
North West	95	40.1 [32.0 - 48.1]	141	59.5 [50.0-69.3]
South East	122	26.5 [21.8 - 31.2]	181	39.3 [33.6-45.0]
South	256	41.2 [36.2 - 46.3]	380	61.2 [55.0-67.3]
West	223	53.8 [46.8 - 60.9]	331	80.0 [71.3-88.5]
Total	1607	37.9 [36.0 - 39.8]	2388	56.32 [54.1-58.6]

*Rates calculated using 2006 census data

**Using the number of notifications over this 35 week period, the estimated CIR for a 52 week period has been calculated

Five *Clostridium difficile* outbreaks and one mixed *C. difficile* and Norovirus outbreak were notified in 2008. (table 2)

Conclusion

- There were 1607 notifications of CDAD in 2008 (35 weeks data). Regional CIR for this period varies greatly in range. This may be due to differences in testing criteria and/or available testing facilities.
- The incidence of CDAD in Ireland is prominent in older age groups. In the over 65 age category (n=1147) ages range from 65 (n=15) to 103 (n=1). Cases aged 82 had the highest number of cases (n=69).
- Healthcare institutions reported the most cases of CDAD (53%). This figure represents the location

of patient at diagnosis only. Enhanced information is required to determine the onset and origin of infection.

- All notified CDAD outbreaks were health-care associated.
- The seasonal trend is indistinguishable at present.

National guidelines for the surveillance, diagnosis, management, and prevention and control of CDAD in Ireland are available for download (<http://www.hpsc.ie/hpsc/A-Z/Gastroenteric/Clostridiumdifficile/>). All healthcare professionals must promote practices known to reduce the incidence of CDAD including antibiotic stewardship and compliance with infection prevention and control measures. These measures are outlined in the National guidelines.

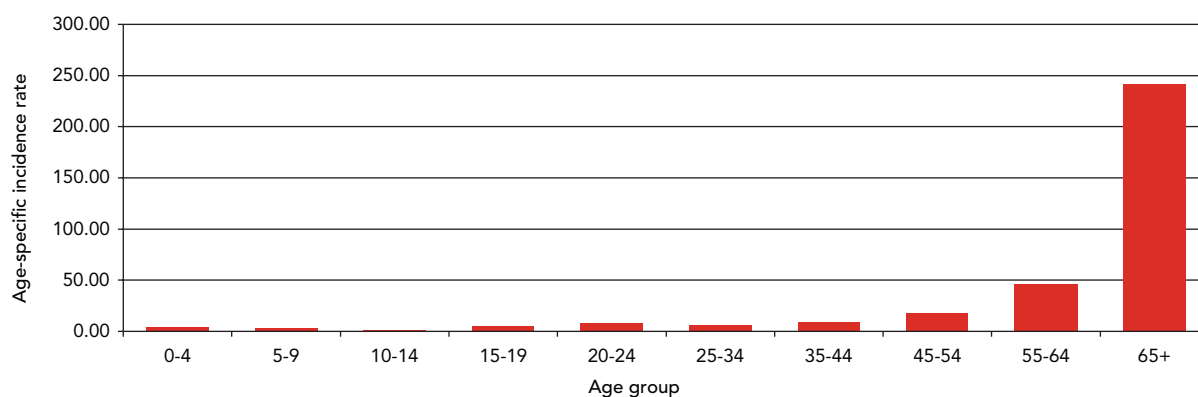


Figure 1: Age-specific incidence rate of CDAD in Ireland, Weeks 19-53 2008, per 100,000 populations

Table 2: *C. difficile* associated outbreaks, Weeks 01 – 53, 2008

HSE Region	Organism/Pathogen	Type	Transmission mode	Location	Number ill
East	<i>C difficile</i>	General	P-P	Hospital	42
South	<i>C difficile</i>	General	Not Specified	Comm. Hosp/Long-stay	8
South	<i>C difficile</i>	General	P-P	Hospital	5
South	<i>C difficile</i>	General	Unknown	Hospital	11
South	<i>C difficile</i> and Norovirus	General	P-P and Airborne	Residential institution	12
West	<i>C difficile</i>	General	Unknown	Hospital	18