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Service for Wales  
Gwasanaeth Iechyd Cyhoeddus  
Cenedlaethol Cymru

Infection and Communicable Disease Service  
Gwasanaeth Heintiau a Chlefydau Trosglwyddadwy

Welsh Healthcare Associated Infections Programme (WHAIP)  
Rhaglen Heintiau sy'n Gysylltiedig a Gofal Iechyd Cymru (RHGGIC)

# All Wales

  

## Mandatory

### *Clostridium difficile*

## Surveillance

**01/01/06 - 31/12/06**

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## Introduction

Mandatory surveillance of *Clostridium difficile* in inpatients aged over 65 with diarrhoea in Welsh hospitals was introduced by the Welsh Assembly Government in January 2005. This is the 4<sup>th</sup> report of the surveillance scheme and covers the period 01/01/2006 to 31/12/2006.

The report contains the following:

1. Tabulated numbers of *C. difficile* and rates per 1000 admissions for the period 01/01/2006 to 31/12/2006.
2. Tabulated numbers of *C. difficile* and rates per 1000 admissions by patient age and gender for the period 01/01/2006 to 31/12/2006.
3. Tabulated numbers of *C. difficile* and rates per 1000 admissions for the 10 hospital specialties with the highest number of reports of *C. difficile* for the period 01/01/2006 to 31/12/2006.
4. Monthly rates of *C. difficile* per 1000 admissions for all Wales and for individual Welsh Trusts presented in the form of statistical process control charts (explained in the notes for interpretation) for the period 01/01/2005 – 31/12/2006.

The National *C. difficile* Standards Group Report to the Department of Health (Journal of Hospital Infection, Vol. 56 (suppl. 1), February 2004) states that the diagnosis of *C. difficile* Associated Diarrhoea (CDAD) requires the detection of *C. difficile* toxins in diarrhoeal stool samples. Therefore, surveillance in Wales is restricted to *C. difficile* in inpatients with diarrhoea. However, very few laboratories are currently able to provide us with information on faecal consistency. To ensure comparability between sites, data from all positive *C. difficile* results from inpatients aged over 65 regardless of faecal consistency, have been presented.

The total *C. difficile* rate per 1000 admissions in inpatients aged over 65 in Wales for the period 01/01/2006 to 31/12/2006 was 14.84, ranging from 6.48 to 32.78. There has been a small rise in the rate compared to 2005 (14.64). Eight trusts showed a decrease in their rate of *C. difficile* between 2005 and 2006 and six Trusts showed an increase. There was no significant difference in the rates in males and females and rates increased with increasing age. The highest numbers of *C. difficile* were reported from the specialties of general medicine and geriatric medicine. In the 10 specialties with the highest numbers of *C. difficile*, the highest rates were in geriatric medicine (58.95) and nephrology (58.88).

Summary data from the mandatory *C. difficile* reporting scheme for hospital Trusts in England for 2006 was released in April from the Health Protection Agency (<http://www.hpa.org.uk>). Rates for English hospital Trusts are not directly comparable with Welsh data because the English surveillance scheme covers *C. difficile* results from the community as well as from hospital inpatients and the denominator data used is bed days in the 65+ age group. Bed day data are not available by patient age group for Wales, therefore admissions in the over 65s have been used as denominator data. Data for individual trusts in England are available at: [http://www.hpa.org.uk/infections/topics\\_az/hai/Mandatory\\_results.htm](http://www.hpa.org.uk/infections/topics_az/hai/Mandatory_results.htm).

## Notes for Interpretation of *C. difficile* Data

1. The report covers isolates with specimen dates in the period 01/01/2006 to 31/12/2006.
2. Reports of *C. difficile* were obtained by automatic extraction from laboratory information systems via Datastore for all laboratories in Wales that have Datastore. For the 2 laboratories without Datastore, 1 provided us with paper reports and the other with an electronic file from their laboratory system.
3. Only reports from hospital inpatients aged over 65 have been included. All faecal consistencies have been included to ensure comparability between laboratories, since at this time very few laboratories were able to provide faecal consistencies.
4. Reports of *C. difficile* have been deduplicated: any positive *C. difficile* reports occurring within 28 days of another positive *C. difficile* report from the same patient have been excluded from the data set.
5. The denominator data used are admissions to Welsh hospitals aged over 65. The data was obtained from the Health Solutions Wales database, PEDW, and is specific to the time period of the report.
6. Rates by Trust include numerator and denominator data from all hospitals in the Trust.
7. Laboratories should test specimens for *C. difficile* using either an immunoassay detecting both toxin A and toxin B, or a neutralised cell toxicity assay. One laboratory is currently only testing for toxin A, therefore this may have resulted in a small number of *C. difficile* cases not being identified.
8. The median is the rate in the middle of all the rates.
9. Monthly trend data for Wales and for individual Trusts are presented in the form of statistical process control charts. SPC charts assume that rates within a Trust will be largely similar over time. They allow the distinction between natural variation (rates that fall within the limits) and special cause variation, where something unusual is occurring in a Trust (rates that fall outside the limits). A rate that falls outside the control limits and also certain patterns in the Trend data should lead to a search for the explanation for the situation, which has resulted in the outlier rate or pattern. This could be the result of either a true high or low rate of *C. difficile* or due to reporting biases e.g. incomplete reporting or over-reporting.
10. Data represents *C. difficile* diagnosed in a Trust; the *C. difficile* was not necessarily acquired in that Trust.
11. Trusts vary in their case mix. Differences in numbers of patients with increased vulnerability to *C. difficile* may contribute to differences in rates in different locations.

## *Clostridium difficile* surveillance in hospital inpatients aged >65

**Surveillance Period: 01/01/2006 – 31/12/2006**

**Table 1. Rates per 1000 admissions by NHS Trust**

Trust name	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
<b>All Wales total</b>	<b>2584</b>	<b>174162</b>	<b>14.84</b>
All Wales min	14	937	6.48
All Wales max	488	31207	32.78
All Wales average	184.57	12440.14	14.36
All Wales median	160.00	11452.50	12.61

**Table 2. All Wales Rates per 1000 admissions by Patient Age Group**

Age group	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
66-75	538	69009	7.80
76-85	1253	73070	17.15
86-95	728	30003	24.26
96+	65	2080	31.25

**Table 3. All Wales Rates per 1000 admissions by Patient Gender**

Patient Gender	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
Female	1533	94080	16.29
Male	1051	80081	13.12

**Table 4. All Wales Rates per 1000 admissions by Hospital Specialty for the 10 specialties with the highest number of *C. difficile* reports**

Specialty	<i>C. difficile</i>	Admissions	Rate/1000 admissions
General Medicine	1062	70855	14.99
Geriatric Medicine	537	9110	58.24
General Surgery	182	23212	7.84
Trauma & Orthopaedic	139	17702	7.85
Nephrology	59	1002	58.88
GP Other Than Maternity	48	5638	8.51
Urology	48	8310	5.78
Cardiology	43	7168	6.00
Rehabilitation	40	2943	13.59
Haematology	29	1636	17.73
Others	172		
Unknown	225		

# **TREND DATA**

**01/01/06 – 31/12/06**

**All Wales  
Monthly Trend Data**

**01/01/2006 – 31/12/2006**

**Number of *C. difficile* reports in hospital inpatients aged over 65 and rate per 1000 hospital admissions by month in Wales**

<b>Year</b>	<b>Month</b>	<b>No. <i>C .difficile</i></b>	<b>No. Admissions</b>	<b>Rate/1000 Admissions</b>
2006	1	232	15716	14.76
	2	203	14233	14.26
	3	250	14802	16.89
	4	238	14225	16.73
	5	219	14949	14.65
	6	212	14236	14.96
	7	177	14722	12.02
	8	198	14347	13.80
	9	206	13696	15.04
	10	231	14860	15.55
	11	233	14757	15.79
	12	185	13619	13.58



Monthly rates of Clostridium difficile in inpatients aged over 65 per 1000 admissions in over 65s in Wales, 01/01/2005 - 31/12/2006

