



National Public Health  
Service for Wales

Gwasanaeth Iechyd Cyhoeddus  
Cenedlaethol Cymru

NPHS Communicable Disease  
Surveillance Centre

**All Wales**

**Mandatory**  
*Clostridium difficile*  
**Surveillance**

**01/07/05 – 30/06/06**

**September 2006**

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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 3<sup>rd</sup> report of the surveillance scheme and covers the period 01/07/2005 to 30/06/2006

The report contains the following:

1. Tabulated numbers of *C. difficile* and rates per 1000 admissions by NHS Trust in Wales for the period 01/07/2005 to 30/06/2006
2. Tabulated numbers of *C. difficile* and rates per 1000 admissions by patient age and gender for the period 01/07/2005 to 30/06/2006
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 01/07/2005 to 30/06/2006
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 – 30/06/2006.

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 01/07/2005 to 30/06/2006 was 14.03, ranging from 5.09 to 30.09. 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 nephrology (67.00) and geriatric medicine (44.75).

The most recently published data from the mandatory *C. difficile* reporting scheme for hospital Trusts in England are for 2005. 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. The English report is available at: [http://www.hpa.org.uk/infections/topics\\_az/hai/Mandatory\\_Surveillance\\_of\\_Healthcare\\_Associated\\_Infection\\_Report\\_2006.pdf](http://www.hpa.org.uk/infections/topics_az/hai/Mandatory_Surveillance_of_Healthcare_Associated_Infection_Report_2006.pdf). Rates for individual English trusts are available at:

[http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationsPolicyAndGuidanceArticle/fs/en?CONTENT\\_ID=4118344&hk=8JBr5/](http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationsPolicyAndGuidanceArticle/fs/en?CONTENT_ID=4118344&hk=8JBr5/)

A paper version of parts of this report will be distributed to the Medical Directors and Chief Executives of Welsh NHS Trusts.

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

1. The report covers isolates with specimen dates in the period 01/07/2005 – 30/06/2006.
2. Reports of *C. difficile* were obtained by automatic extraction from laboratory information systems via Datastore for all laboratories in Wales that have Datastore. The 2 laboratories without Datastore, provided us with reports on paper or 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 mean is the average rate. 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. Further information about SPC charts is provided on the accompanying sheet.
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: 01/07/2005 – 30/06/2006

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

Trust name	<i>Clostridium difficile</i>	Admissions	Rate/1000 Admissions
All Wales total	2470	176025	14.03
All Wales average	176.43	12573.21	13.74
All Wales median	161.50	11145.50	12.26
All Wales min	12	889	5.09
All Wales max	443	30875	30.09

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

Age group	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
66-75	536	69926	7.67
76-85	1172	74687	15.69
86-95	701	29367	23.87
96+	62	2045	30.32

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

Patient Gender	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
Female	1472	95007	15.49
Male	997	81017	12.31
Unknown	1		

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

<b>Specialty</b>	<b><i>C. difficile</i></b>	<b>Admissions</b>	<b>Rate/1000 admissions</b>
General Medicine	1038	73409	14.14
Geriatric Medicine	465	10390	44.75
General Surgery	183	23187	7.89
Trauma & Orthopaedic	118	17186	6.87
Nephrology	68	1015	67.00
GP Other Than Maternity	62	6155	10.07
Urology	56	8357	6.70
Cardiology	39	7138	5.46
Gastroenterology	32	1944	16.46
Rehabilitation	30	1970	15.23
Others	165		
Unknown	214		

Please do not release the data for NHS Trusts other than your own without permission from their Chief Executive.

# **TREND DATA**

**01/07/05 – 30/06/06**



**All Wales  
Monthly Trend Data**

**01/07/2005 – 30/06/2006**

**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>
2005	July	196	14669	13.36
	August	195	14916	13.07
	September	195	14163	13.77
	October	190	15153	12.54
	November	167	14704	11.36
	December	188	14259	13.18
2006	January	231	15716	14.70
	February	202	14233	14.19
	March	246	14802	16.62
	April	233	14225	16.38
	May	216	14949	14.45
	June	212	14236	14.89

Monthly all Wales rates of Clostridium difficile in inpatients aged over 65 per 1000 admissions, 01/01/2005 - 30/06/2005

