



National Public Health
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

01/07/07 - 30/06/08

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Index

	Page
Introduction	3
Notes for Interpretation of <i>C. difficile</i> Data	5
Tabulated Report, Surveillance Period: 01/07/07 – 30/06/08	6
Monthly Trend Data, 01/07/07 – 30/06/08	8
• All Wales, Monthly Trend Table and SPC Chart	9
Numbers of <i>C. difficile</i> in hospital inpatients aged 2 and over, 01/01/08 – 30/06/08	12

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 7th report of the surveillance scheme and covers the period 01/07/2007 to 30/06/2008.

The report contains the following:

1. Tabulated numbers of *C. difficile* and rates per 1000 admissions by NHS Trust in Wales for the period 01/07/2007 to 30/06/2008.
2. Tabulated numbers of *C. difficile* and rates per 1000 admissions by patient age and gender for the period 01/07/2007 to 30/06/2008.
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 01/07/2007 to 30/06/2008.
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 to 30/06/2008.

Additionally for 2008, numbers of *C. difficile* in inpatients aged 2 to 65 have also been provided.

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 01/07/2007 to 30/06/2008 was 17.75, ranging from 8.2 to 27.8. The rate for the equivalent period last year was 16.16. The all Wales rate was above the upper control limit for January to April of 2008.

Rates in females aged over 65 were higher than in males 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* in the over 65s, the highest rates were in nephrology (72.62) and geriatric medicine (60.03).

For the first 6 months of 2008, numbers of *C. difficile* from inpatients aged 2 to 65 represented 20% of the total numbers of *C. difficile* from hospital inpatients.

The most recently published data from the mandatory *C. difficile* reporting scheme for hospital Trusts in England are for up to March 2008 and are available from the HPA website

<http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1191942126522?p=1191942126522>

Data from the Scottish *C. difficile* surveillance scheme has been reported up to March 2008 and are available on the Health protection Scotland website (<http://www.hps.scot.nhs.uk/haic/sshaip/wrdetail.aspx?id=38358&wrtype=6>).

This report will also 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 01/07/2007 to 30/06/2008.
2. Reports of *C. difficile* were obtained by automatic extraction from laboratory information systems via Datastore for all laboratories in Wales that have Datastore. One laboratory provided us with an electronic file from their laboratory system.
3. Reports from hospital inpatients aged over 65 have been included for the period 01/07/2007 and 30/06/2008.
4. Reports from hospital inpatients aged 2 to 65 have been included for the period 01/01/2008 and 30/06/2008.
5. All faecal consistencies have been included to ensure comparability between laboratories, since at this time very few laboratories were able to provide faecal consistencies.
6. 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.
7. 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.
8. Rates by Trust include numerator and denominator data from all hospitals in the Trust.
9. 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.
10. The median is the rate in the middle of all the rates, when ordered from lowest to highest.
11. 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 has been provided previously.
12. Data represents *C. difficile* diagnosed in a Trust; the *C. difficile* was not necessarily acquired in that Trust.
13. 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: 01/07/2007 – 30/06/2008

Table 1. All Wales Rates per 1000 Admissions

	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
All Wales Rate	3072	173116	17.75
All Wales min	17	836	8.22
All Wales max	669	31482	27.78
All Wales average	219.43	12365.43	16.58
All Wales median	184.5	11429	16.28

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

Age Group	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
66-75	703	67504	10.41
76-85	1411	71107	19.84
86-95	894	32367	27.62
96+	64	2138	29.93

Table 3. All Wales Rates per 1000 Admissions by Patient Gender

Patient Gender	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
Female	1851	92918	19.92
Male	1219	80191	15.20

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

Specialty	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
General Medicine	1392	68842	20.22
Geriatric Medicine	452	7529	60.03
General Surgery	202	23238	8.69
Trauma & Orthopaedic	173	19787	8.74
Nephrology	113	1556	72.62
Gp Other Than Maternity	61	4981	12.25
Gastroenterology	49	2706	18.11
Urology	38	8334	4.56
Cardiology	38	7144	5.32
Rehabilitation	29	4637	6.25
Others	235		
Not Known	290		

MONTHLY TREND DATA
01/07/07 – 30/06/08

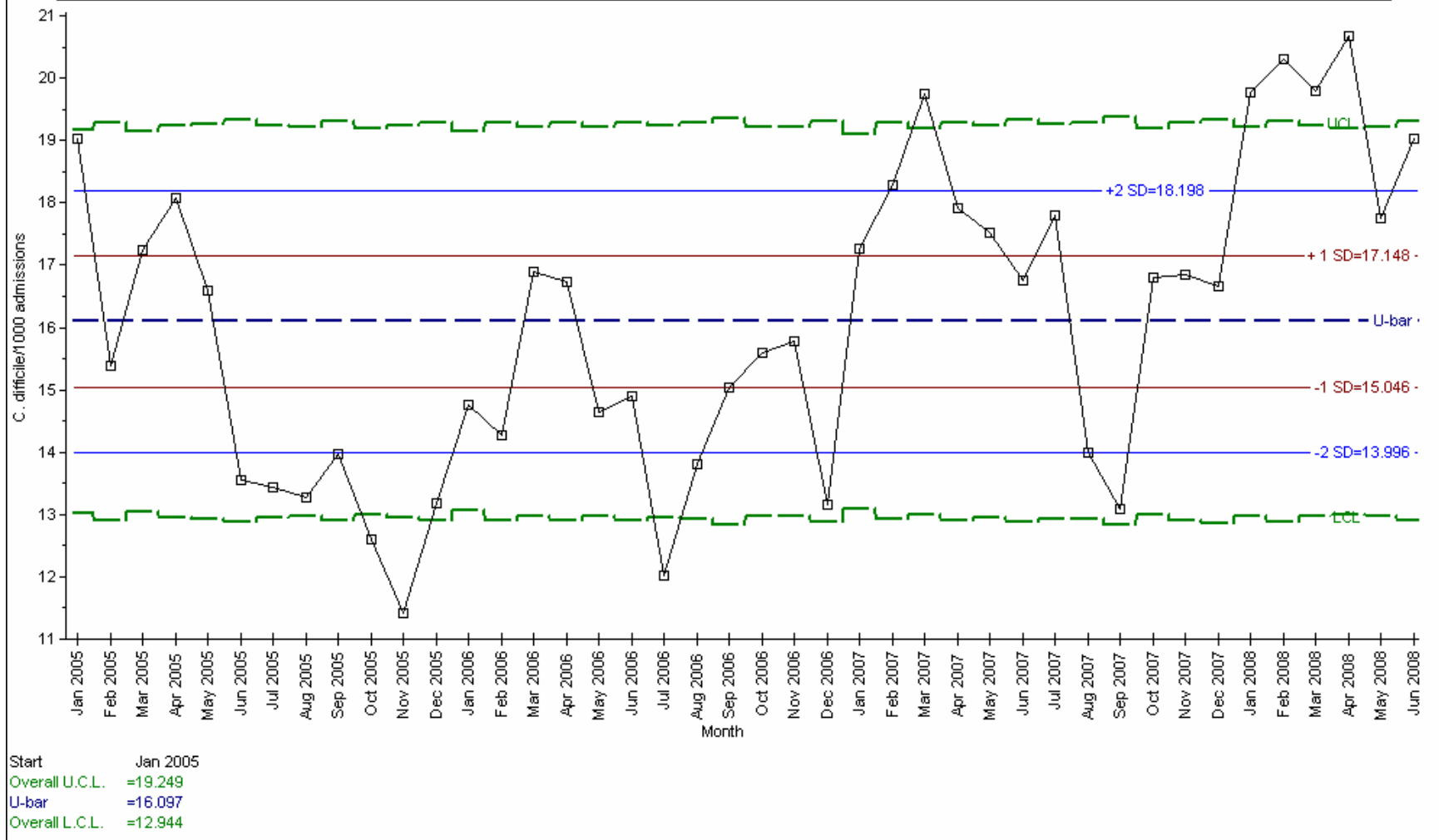
All Wales

Monthly Trend Data 01/07/07 - 30/06/08

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

Year	Month	No. <i>C .difficile</i>	No. Admissions	Rate/1000 Admissions
2007	7	258	14502	17.79
	8	201	14357	14.00
	9	177	13535	13.08
	10	253	15062	16.80
	11	240	14244	16.85
	12	230	13805	16.66
2008	1	293	14822	19.77
	2	284	13987	20.30
	3	292	14756	19.79
	4	312	15092	20.67
	5	263	14819	17.75
	6	269	14135	19.03

Monthly rates of Clostridium difficile in inpatients aged over 65 per 1000 admissions in over 65s in Wales, 01/01/05 - 30/06/08



**Numbers of *Clostridium difficile* in hospital inpatients aged 2 and over in Wales,
01/01/08 – 30/06/08**

	Numbers of <i>C. difficile</i>		
	Age 2 - 65	Age >65	Total
All Wales	439	1713	2152