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Service for Wales
Gwasanaeth Iechyd Cyhoeddus
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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)

Abertawe Bro Morgannwg University NHS Trust

Mandatory *Clostridium difficile* Surveillance

01/07/08 – 30/06/09

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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 9th report of the surveillance scheme and covers the period 01/07/2008 to 30/06/2009. The data in this report is from before the establishment of the new Health Boards, therefore the old NHS Trust names have been used. The report includes the following:

1. Tabulated numbers of *C. difficile* and rates per 1000 admissions by NHS Trust in Wales for the period 01/07/2008 to 30/06/2009.
2. Tabulated numbers of *C. difficile* and rates per 1000 admissions by patient age and gender for the period 01/07/2008 to 30/06/2009.
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 01/07/2008 to 30/06/2009.
4. Monthly rates of *C. difficile* per 1000 admissions for all Wales and for the major acute hospitals for the period 01/01/2005 to 30/06/2009, presented in the form of statistical process control charts (explained in the notes for interpretation). Trust SPC charts have also been provided for the same period for those trusts which did not change configuration in 2008.
5. Numbers of *C. difficile* in inpatients aged 2 to 65 by NHS Trust in Wales for the period 01/07/2008 to 30/06/2009.

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 01/07/2008 to 30/06/2009 was 15.46, ranging from 8.41 to 25.07. The all Wales rate was above the upper control limit for January 2009. The rate for the equivalent period last year was 17.86 per 1000 admissions.

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 (52.46) and geriatric medicine (41.19).

In the period 01/07/2008 to 30/06/2009, numbers of *C. difficile* from inpatients aged 2 to 65 represented 18% of the total numbers of *C. difficile* from hospital inpatients.

Data from the English *C. difficile* surveillance scheme has been reported up to June 2009 and are available on the HPA website:

http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/119573375076

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Data from the Scottish *C. difficile* surveillance scheme has been reported up to June 2009 and are available on the Health Protection Scotland website: <http://www.hps.scot.nhs.uk/ewr/article.aspx> .

Data from the Northern Ireland *C. difficile* surveillance scheme has been reported up to June 2009 and are available on the CDSC Northern Ireland website <http://www.cdscni.org.uk/publications/QuarterlyReports/CdiffJun09.pdf> .

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 01/07/2008 to 30/06/2009.
2. Reports of *C. difficile* were obtained by automatic extraction from laboratory information systems via Datastore.
3. 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, when ordered from lowest to highest.
9. Monthly trend data for Wales, for major acute hospitals and for some Trusts are presented in the form of statistical process control charts. SPC charts assume that rates within a Trust/hospital 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/hospital (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.
10. Data represents *C. difficile* diagnosed in a Trust/hospital; the *C. difficile* was not necessarily acquired in that Trust/hospital.
11. Trusts/hospitals 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: 01/07/2008 – 30/06/2009

Table 1. Rates per 1000 Admissions by NHS Trust

Trust name	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
ABMU NHS Trust	344	36624	9.39
All Wales Rate	2744	177489	15.46
All Wales min	19	834	8.41
All Wales max	585	36624	25.07
All Wales average	305	19721	15.64
All Wales median	273	20669	14.48

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

Age Group	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
66-75	619	68597	9.02
76-85	1236	71986	17.17
86-95	828	34380	24.08
96+	61	2526	24.15

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

Patient Gender	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
Female	1592	95165	16.73
Male	1151	82313	13.98

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	1151	69683	16.52
Geriatric Medicine	361	8764	41.19
General Surgery	208	22801	9.12
Trauma & Orthopaedic	138	20292	6.80
Nephrology	95	1811	52.46
GP Other Than Maternity	67	4933	13.58
Rehabilitation	63	4135	15.24
Urology	58	8180	7.09
Gastroenterology	40	3629	11.02
Cardiology	36	7545	4.77
Others	200		
Not Known	327		

MONTHLY TREND DATA
01/07/08 - 30/06/09

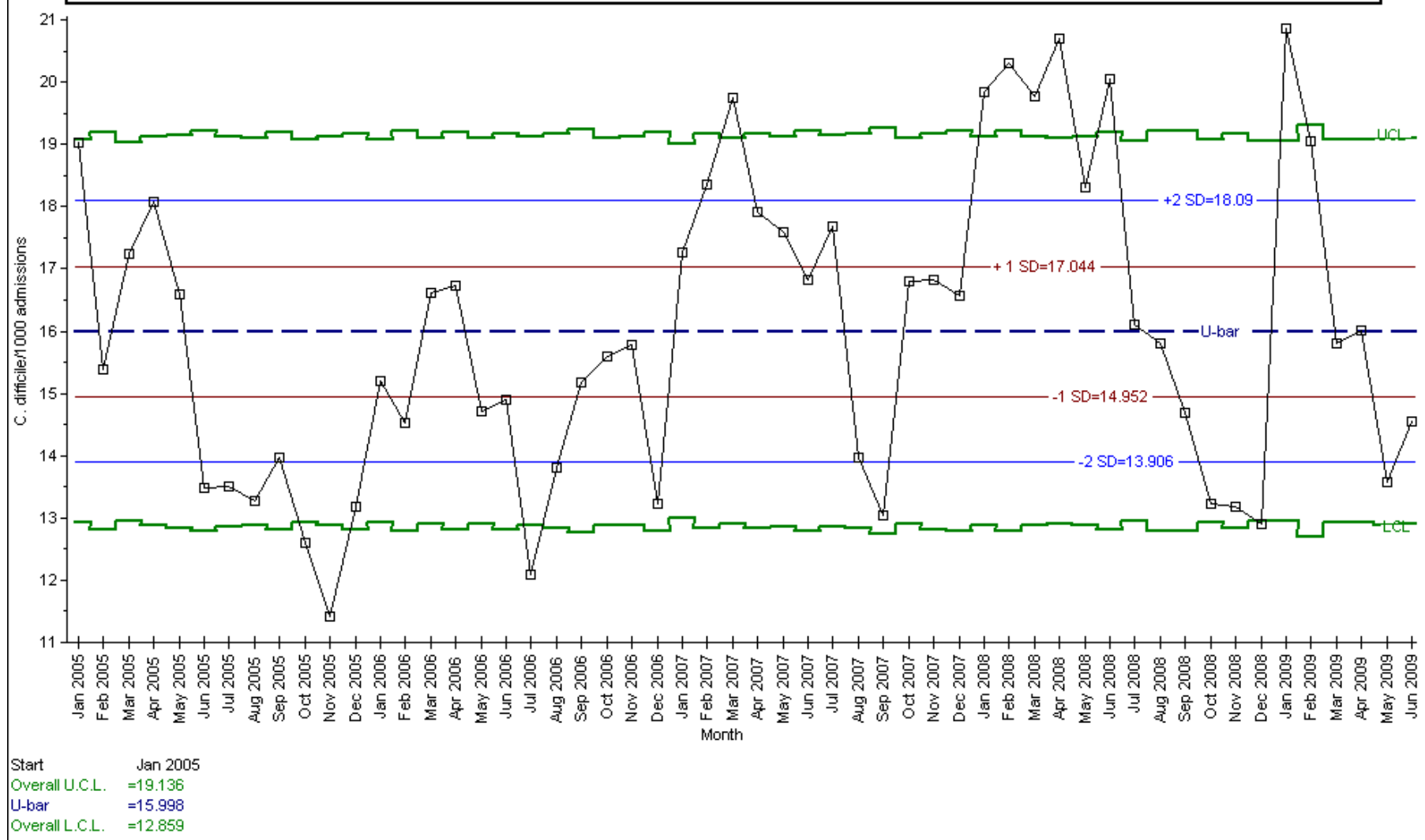
All Wales

Monthly Trend Data 01/07/08 - 30/06/09

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
2008	7	248	15392	16.11
	8	220	13918	15.81
	9	206	14014	14.70
	10	202	15282	13.22
	11	190	14411	13.18
	12	200	15512	12.89
2009	1	322	15432	20.87
	2	252	13231	19.05
	3	240	15182	15.81
	4	244	15245	16.01
	5	202	14876	13.58
	6	218	14994	14.54

Monthly rates of Clostridium difficile in inpatients aged over 65 per 1000 admissions in over 65s in Wales, 01/01/05-30/06/09



ABMU NHS Trust

Monthly Trend Data
01/07/08 - 30/06/09

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

Year	Month	No. <i>C. difficile</i>	No. Admissions	Rate/1000 Admissions
2008	7	36	3057	11.78
	8	17	2670	6.37
	9	26	2706	9.61
	10	24	2945	8.15
	11	21	2953	7.11
	12	15	3081	4.87
2009	1	37	3197	11.57
	2	32	2766	11.57
	3	40	3337	11.99
	4	33	3352	9.84
	5	21	3178	6.61
	6	42	3382	12.42

**Numbers of *Clostridium difficile* in hospital inpatients aged 2 and over in Wales,
01/07/08 – 30/06/09**

Trust	Numbers of <i>C. difficile</i>		
	Age 2 - 65	Age >65	Total
ABMU NHS Trust	102	344	446
Cardiff and Vale NHS Trust	162	585	747
Cwm Taf NHS Trust	29	161	190
Gwent Healthcare NHS Trust	90	537	627
Hywel Dda NHS Trust	52	273	325
North Wales NHS Trust	103	579	682
North West Wales NHS Trust	31	226	257
Powys Local Health Board	2	20	22
Velindre NHS Trust	31	19	50
Total	602	2744	3346