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# ***CLOSTRIDIUM DIFFICILE***

## **MANDATORY SURVEILLANCE REPORT**

01/10/09 – 30/09/10

**ALL WALES**

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## Index

	<b>Page</b>
Introduction	3
Notes for Interpretation of <i>C. difficile</i> Data	5
Tabulated Report, Surveillance Period: 01/10/09 - 30/09/10	6
Monthly Trend Data, 01/10/09 - 30/09/10	8
• All Wales, Monthly Trend Table, SPC and 12 Month Moving Average Charts	9
Numbers of <i>C. difficile</i> in hospital inpatients aged 2 and over, 01/10/09 – 30/09/10	13

## 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 12<sup>th</sup> report of the surveillance scheme and covers the period 01/10/2009 to 30/09/2010. The report contains:

1. Tabulated numbers of *C. difficile* and rates per 1000 admissions by Health Board in Wales for the period 01/10/2009 to 30/09/2010.
2. Tabulated numbers of *C. difficile* and rates per 1000 admissions by patient age and gender for the period 01/10/2009 to 30/09/2010.
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 01/10/2009 to 30/09/2010.
4. Tabulated monthly numbers and rates of *C. difficile* per 1000 admissions for all Wales, by Health Board and by major acute hospital for the period 01/10/2009 to 30/09/2010.
5. Monthly rates of *C. difficile* per 1000 admissions for all Wales, by Health Board and by major acute hospital, presented in the form of statistical process control charts (explained in the notes for interpretation) from 01/01/2005 to 30/09/2010, although some of the Health Boards SPC are only provided from 01/04/2008.
6. Numbers of *C. difficile* in inpatients aged 2 to 65 by Health Board in Wales for the period 01/10/2009 to 30/09/2010.

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 01/10/2009 to 30/09/2010 was 14.54, ranging from 8.17 to 25.73. The all Wales rate was above the upper control limit in January and February 2010 and below the lower control limit in July and September 2010. Provisional data from October to December 2010 suggest that the rate has remained below the lower control limit.

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 (48.87) and geriatric medicine (30.57).

In the period 01/10/2009 to 30/09/2010, numbers of *C. difficile* from inpatients aged 2 to 65 represented 16% of the total numbers of *C. difficile* from hospital inpatients.

Data from the English *C. difficile* surveillance scheme has been reported up to November 2010 and is available on the HPA website: [http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1179746015058](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1179746015058)

Data from the Scottish *C. difficile* surveillance scheme has been reported up to September 2010 and is available on the Health Protection Scotland website: <http://www.hps.scot.nhs.uk/haic/sshaip/wrdetail.aspx?id=46771>

Data from the Northern Ireland *C. difficile* surveillance scheme has been reported up to September 2010 and is available on the Public Health Agency Northern Ireland website <http://www.cdscni.org.uk/publications/QuarterlyReports/CdiffSept10.pdf>

This report will also be distributed to the Welsh Assembly Government, Medical Directors and Chief Executives of Health Boards.

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

1. The report covers isolates with specimen dates in the period 01/10/2009 to 30/09/2010.
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 Health Board include numerator and denominator data from all hospitals in the Health Board.
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 Health Boards are presented in the form of statistical process control charts. SPC charts assume that rates within a Health Board/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 Health Board/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 Health Board/hospital; the *C. difficile* was not necessarily acquired in that Health Board/hospital.
11. Health Boards/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: 01/10/2009 - 30/09/2010**

**Table 1. All Wales Rate per 1000 admissions**

	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
<b>All Wales Rate</b>	2541	174738	14.54
<b>All Wales min</b>	15	739	8.17
<b>All Wales max</b>	638	41486	25.73
<b>All Wales average</b>	317.6	21842.3	14.39
<b>All Wales median</b>	277	22132.5	13.29

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

<b>Age Group</b>	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
66-75	543	65643	8.27
76-85	1079	70139	15.38
86-95	844	36189	23.36
96+	75	2767	27.11

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

<b>Patient Gender</b>	<i>C. difficile</i>	Admissions	Rate/1000 Admissions
Female	1555	94035	16.55
Male	986	80702	12.22

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

<b>Specialty</b>	<b><i>C. difficile</i></b>	<b>Admissions</b>	<b>Rate/1000 Admissions</b>
General Medicine	1114	70151	15.88
Geriatric Medicine	292	9604	30.40
General Surgery	167	22403	7.45
Trauma & Orthopaedic	108	18747	5.76
Nephrology	82	1678	48.87
Urology	62	8144	7.61
Cardiology	49	8801	5.57
Rehabilitation	40	4458	8.97
GP Other Than Maternity	39	4496	8.67
Gastroenterology	36	3438	10.47
Others	209		
Not Known	343		

# Trend Data



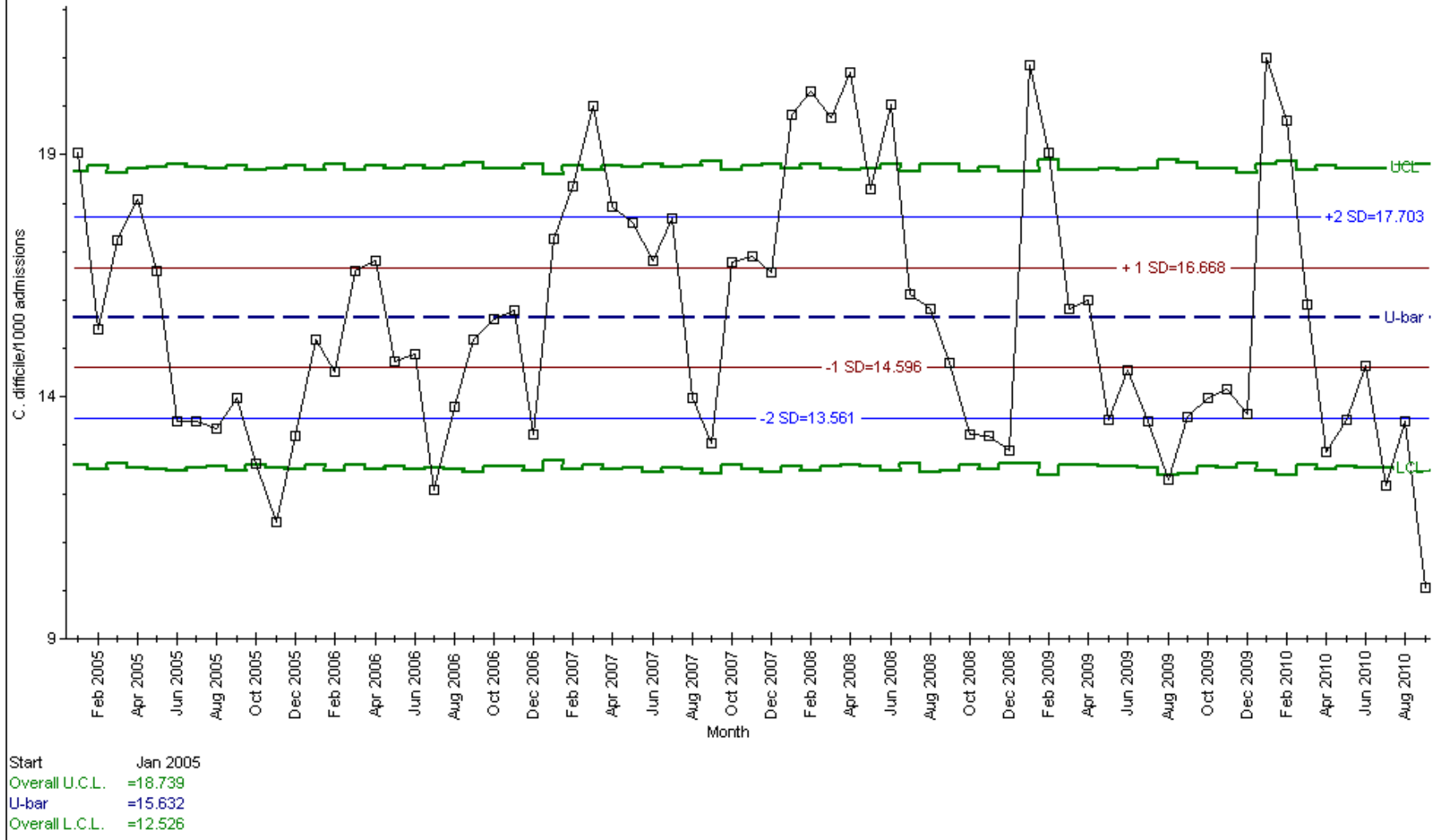
**All Wales**

**Monthly Trend Data  
01/10/09 - 30/09/10**

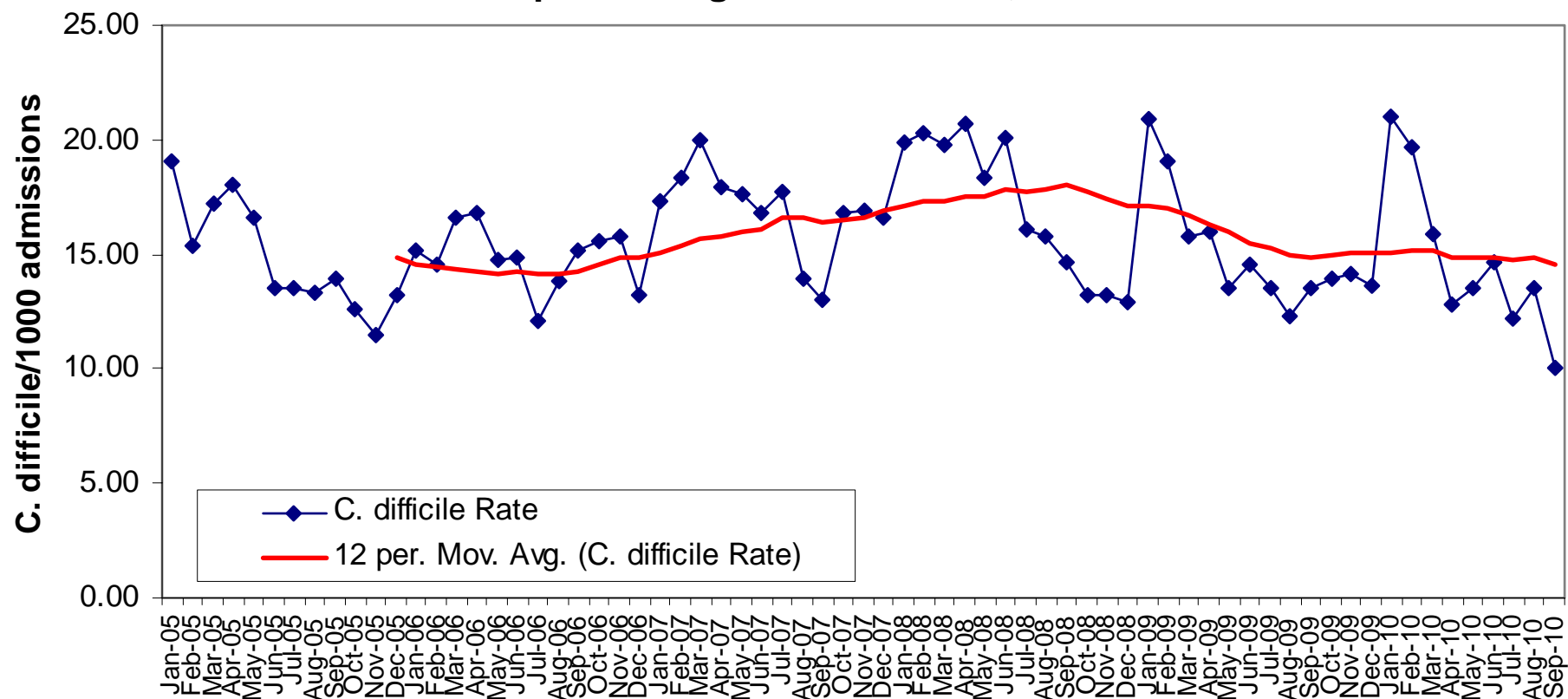
**Number of *C. difficile* reports in hospital inpatients aged over 65 and rate per 1000 hospital admissions by month in Wales**

<b>Year</b>	<b>Month</b>	<b>No. <i>C. difficile</i></b>	<b>No. Admissions</b>	<b>Rate/1000 Admissions</b>
2009	10	208	14881	13.98
	11	208	14706	14.14
	12	213	15615	13.64
2010	1	294	14004	20.99
	2	264	13404	19.70
	3	240	15095	15.90
	4	184	14323	12.85
	5	200	14791	13.52
	6	215	14696	14.63
	7	179	14707	12.17
	8	194	14386	13.49
	9	142	14130	10.05

Monthly rates of Clostridium difficile in inpatients aged over 65 per 1000 admissions in over 65s in Wales, 01/01/05 - 30/09/10



**Monthly rate and 12 month moving average rate of *C. difficile* per 1000 admissions in inpatients aged >65 in Wales, 01/01/05 - 30/09/10**



**Numbers of *Clostridium difficile* in hospital inpatients aged 2 and over in Wales, 01/10/09 – 30/09/10**

	<b>Numbers of <i>C. difficile</i></b>		
	<b>Age 2 - 65</b>	<b>Age &gt;65</b>	<b>Total</b>
<b>All Wales</b>	483	2541	3024