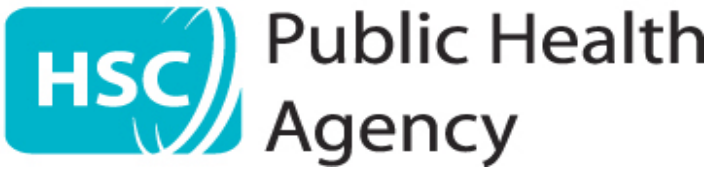


C. difficile surveillance

Quarter Ending March 2010

Surveillance of *C. difficile* infection (CDI)

- **CDI numbers for hospital in-patients aged 65 years and over decreased by 3% (decrease of 3 episodes) during Quarter 1 compared to Quarter 4 2009 (Figure 2a). CDI Rates have decreased by 6% during Quarter 1.**

- **CDI reports for community patients aged 65 years and over decreased by 26% (decrease of 12 episodes) during Quarter 1 2010 compared to Quarter 4 2009 (Figure 1; Appendix A).**

- **Total CDI reports, for both hospital inpatients and community patients aged 2 years and over, have continued to decline during Quarter 1 2010 (Table 2; Appendix A).**

- **CDI reports for hospital in-patients aged 65 years and over fell by 47% between the 2008/09 and 2009/10 financial years (Appendix F).**

C. difficile reporting

- Reports of *C. difficile* are obtained directly from each diagnostic laboratory through the routine laboratory surveillance programme and cross referenced with the HCAI web-based surveillance system.
- Line listings of *C. difficile* cases are returned to the diagnostic laboratories who confirm the totals and the break-down of patients by source (hospital inpatient/community) according to the information provided on laboratory request forms.
- The data in this report therefore represents CDI episodes that have been validated by the diagnostic laboratories. It is possible that these numbers may change and any updates will be reflected in the next quarterly surveillance report.
- The total number of *C. difficile* episodes for hospital in-patients aged 65 years and over (CDI episodes contributing to performance targets) is presented for each Health & Social Care Trust, by financial year, in Appendix F.

January – March 2010

All CDI episodes for patients aged 65 years and over (inpatient and community)

- During Quarter 1 2010, 144 episodes of CDI were reported in persons aged 65 years and over compared to 159 episodes in the previous quarter (9% decrease, 15 reports; Figure 1).
- This quarter's CDI figures are lower than those reported during the same period in previous years, and are the lowest recorded for this Quarter 1 since reporting began in 2005 (Figure 1).
- Of these 144 episodes, 110 were known to have been a hospital in-patient in one of the listed hospitals (Appendix A Table 1) at the time their sample was taken.
- The remaining 34 isolates reported were from 'community' samples which may include: GPs, nursing homes and other non-acute settings. This figure represents a decrease in the proportion of CDI reports from the 'community' of 29% (46/159 episodes) in Quarter 4 compared with 24% (34/143) this quarter.

Inpatient episodes for patients aged 65 years and over

- There has been a decrease of 3 cases (3%) in the number of in-patient CDI cases reported in this quarter (110) compared to the previous quarter (113) (Figure 2a).
- Comparing the Quarter 1 2010 (110 episodes) to the same quarter in 2009 (198 episodes) and 2008 (291 episodes), a decrease in the number of CDI in-patient cases is noted between each year (44% and 62% decrease respectively; Figure 2b).
- For a breakdown of CDI rates by Trust/hospitals see Figures 4 and 5.

Community episodes for patients aged 65 years and over

- Community episodes of CDI have decreased by 12 (26%) this quarter when compared to Quarter 4 2009 - 34 episodes reported this quarter compared to 46 reports in Quarter 4 (Figure 1 and Appendix A).
- The number of 'community' episodes in this quarter (34 cases) is lower than the number reported in the same quarter in 2009 (a reduction of 71 cases; 52% decrease; Figure 1). Currently, community isolates are identified by the location of the patient at the time the specimen was taken. Therefore, this number may include patients who have had a recent healthcare interaction.

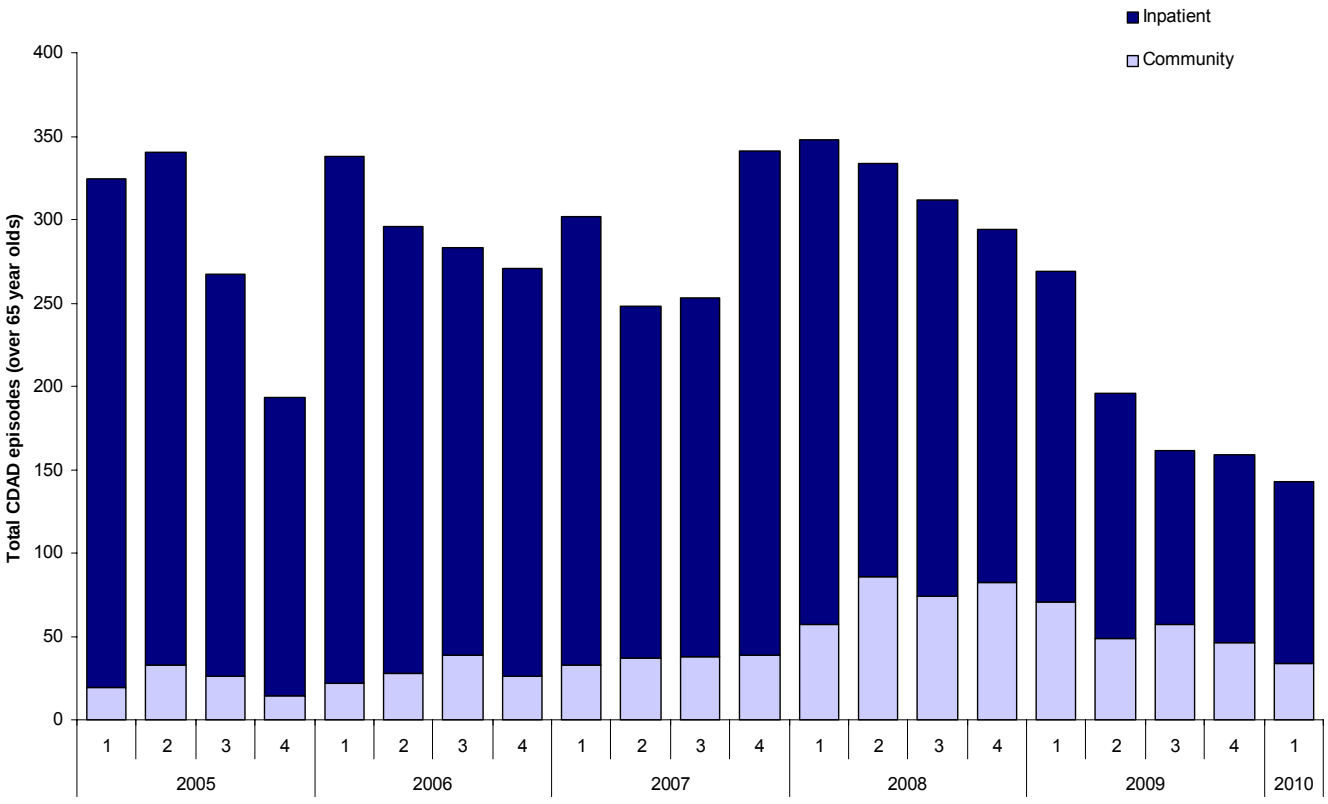


Figure 1: Total CDI reports, inpatient and community, in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2010.

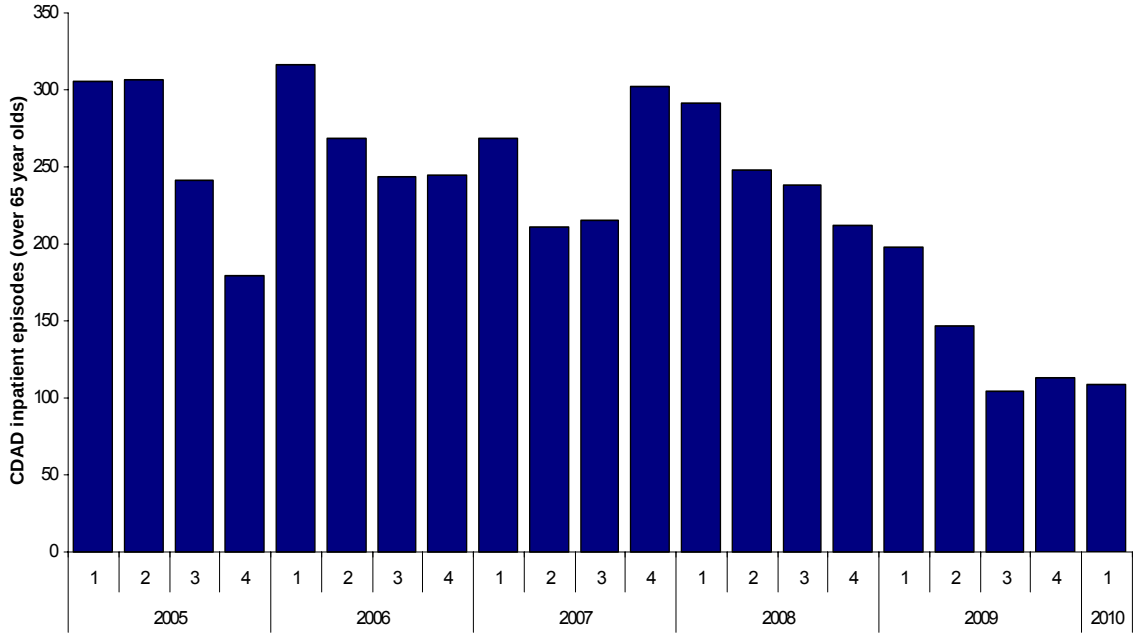


Figure 2a: Total CDI 'Inpatient' reports, Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2010.

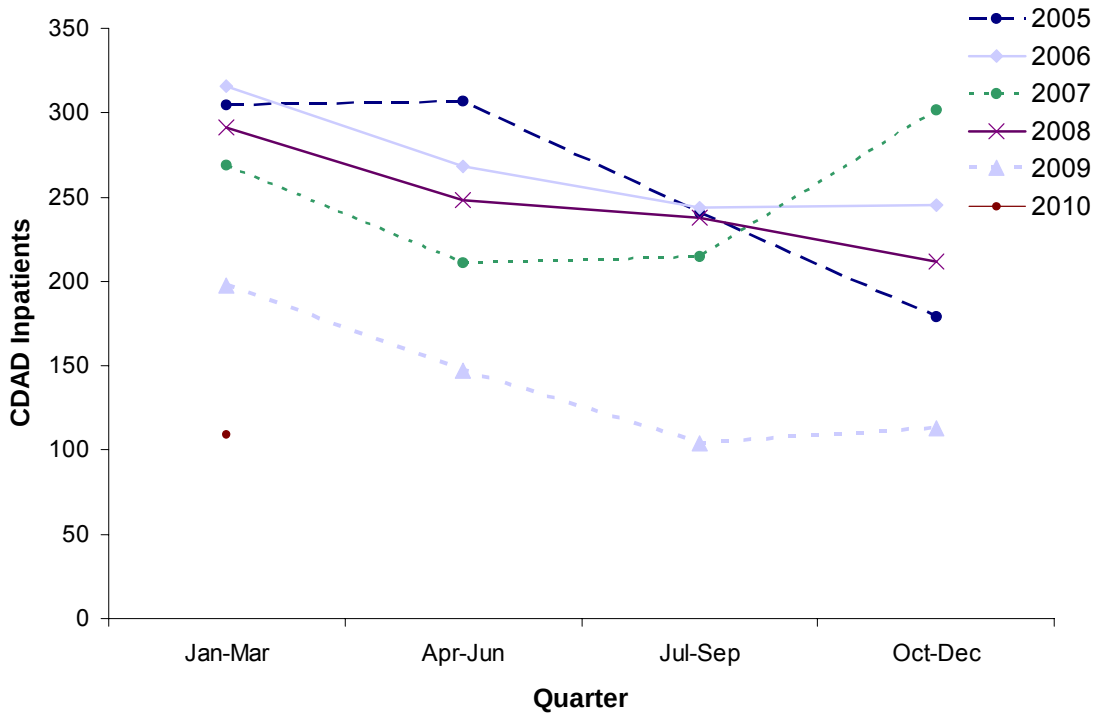


Figure 2b: Total CDI 'Inpatient' reports, Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2010.

All CDI episodes for patients aged 2 years and over (inpatient and community)

- During this quarter, 171 episodes of *C. difficile* associated disease were reported in persons aged 2 years and over. This represents a 12% decrease from the previous quarter (195 episodes). Of the 171 episodes, 84% were in those aged 65 years and over (includes inpatient and community).
- 129 patients were known to have been a hospital inpatient in one of the listed hospitals in Appendix A, Table 2 at the time their sample was taken (Figure 6). Of these 129, 84% were patients aged 65 years and over.
- The remaining 42 isolates reported in patients aged 2 years and over were from 'community' samples which may include: GPs, nursing homes and other such non acute settings. Of these 42, 81% occurred in patients aged 65 years and over. Currently, community isolates are identified by the location of the patient at the time the specimen was taken. Therefore, this number may include patients who have had a recent healthcare interaction.
- For a breakdown of episodes in individuals aged 2-64 years see Appendix A Table 3.

Rates of *C. difficile* in hospital inpatients

- All Trusts provide appropriate denominator data (bed occupancy for patients ≥ 65 years) on a regular basis, making the calculation of *C. difficile* rates possible for their constituent hospitals (Figure 5). Notes on this denominator are included in Appendix C.
- To determine the rate of *C. difficile* infection in individuals aged 2 years and over (Figure 6), the most appropriate denominator data is all age bed occupancy determined using the KH03a return (number of occupied beds) obtained from DHSSPS on a quarterly basis.
- KH03a bed day data was not available for the NI Cancer Centre; therefore, the figures used are based on an estimate generated using Quarter 1 bed day data for this hospital from 2005 – 2008. The bed day information will be updated when it becomes available.

Clarification of episode definitions

- Due to ongoing queries regarding the assignment of CDI episodes to particular Trusts, supplementary information reflecting situations that may arise and resulting actions applied is outlined in Appendix E.

Statistical Process Control charts

- SPC charts allow the distinction to be made between natural variation and "special cause variation" where something unusual may be occurring. Further details on SPC charts can be found in appendix D. Trends in CDI rates since July 2005 are shown for each Health & Social Care Trust in appendix B.
- In Northern Ireland this quarter, the rate of *C. difficile* patient episodes has remained below the lower action limit of the SPC chart. This indicates a significant reduction in the number of *C. difficile* patient episodes not explained by natural variation (Figure 3). This decrease is driven by reductions across all Trusts, with continued significant reductions in the Belfast, Southern and South Eastern Trusts (Appendix B).

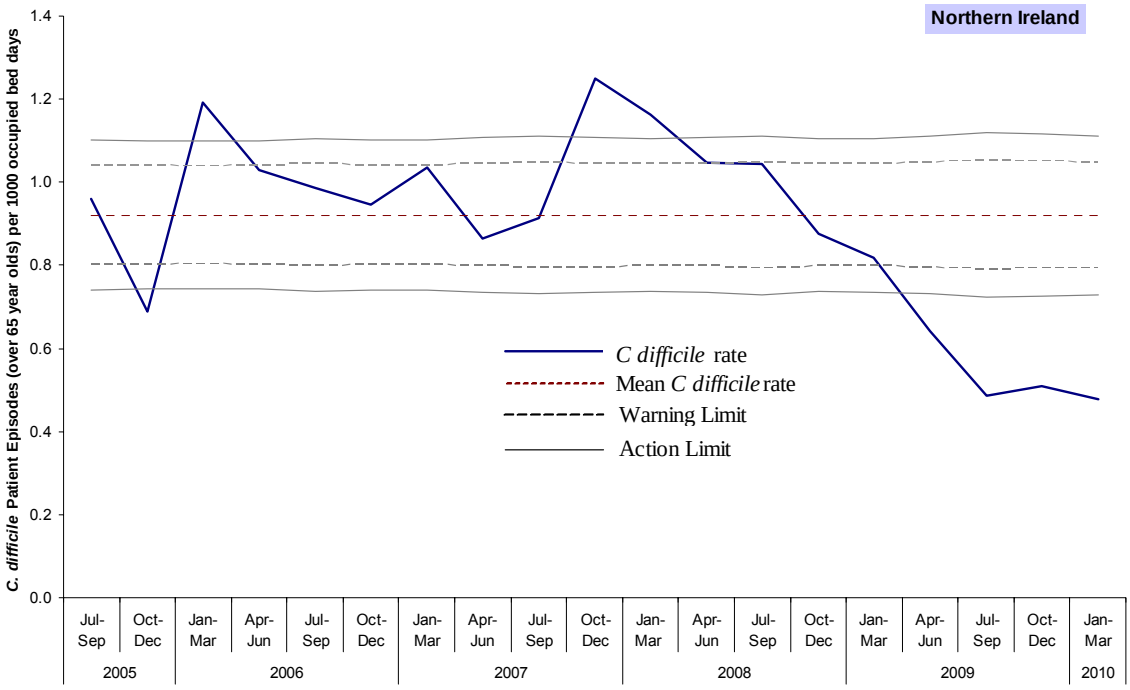


Figure 3: Statistical Process Control chart for quarterly *C difficile* rates in inpatients aged 65 years and over, in Northern Ireland (For Trust level see Appendix B).

Ribotype surveillance

- On 1st April 2009, a *C. difficile* ribotyping service was established in Northern Ireland. Establishment of the NI Ribotyping Service has been facilitated by integration of the Belfast Trust laboratory service into the *Clostridium difficile* Ribotyping Network for England (CDRN).
- Trusts are now requested to send all CDI positive isolates to the Royal Victoria laboratory, where they are recorded, cultured and ribotyped. The samples sent for ribotyping are matched against validated CDI episodes from CoSurv on a quarterly basis.
- Table 1 presents validated ribotype data for Northern Ireland for Quarters 2, 3 and 4 2009 (April – December 2009). Provisional ribotype data for Quarter 1 2010 is also presented.

- Data in Table 1 is presented by ribotype and not by patient episode. Please note that one patient may have more than one CDI ribotype identified.

- The most prevalent ribotype in Northern Ireland this quarter is ribotype 078 (16.8%), followed by ribotype 014 (13.2%). The proportion of 027 ribotypes remains low (2.5%) when compared to circulating ribotypes in England, with little change from the previous quarter (1.5%).

- Validated descriptive data, for October – December 2009, summarising the age, gender, Trust and source description of ribotypes 001, 078, 027 is presented in Table 2.

Table 1. A summary of *C. difficile* ribotypes, and the percentage contribution to the overall total, reported in Northern Ireland during routine surveillance, July 09 – March 2010. ***Figures are provisional.**

Ribotype	April-June 2009		July-September 2009		October-December 2009		January-March 2010*	
	Number	%	Number	%	Number	%	Number	%
001	29	11.11	18	8.82	15	7.69	25	12.69
002	10	3.83	12	5.88	11	5.64	5	2.54
014	-	-	19	9.31	17	8.72	26	13.20
015	5	1.92	13	6.37	15	7.69	9	4.57
027	6	2.30	4	1.96	2	1.03	5	2.54
078	44	16.86	26	12.75	32	16.41	33	16.75
106	18	6.90	9	4.41	9	4.62	6	3.05
Other	48	18.39	21	10.29	24	12.31	27	13.71
Not groupable**	44	16.86	37	18.14	22	11.28	36	18.27
Not on ribotype list	23	8.81	21	10.29	16	8.21	n/a	n/a
Not grown***	34	13.03	24	11.76	32	16.41	25	12.69
Total	**261**	**-**	**204**	**-**	**195**	**-**	**197**	**-**

** 'not groupable' do not match existing profiles
******* 'not grown' represents isolates which have no ribotype information supplied, with at least 6 weeks since the date of the specimen.
n/a = data have not been matched to validated CDI records. This data will be available in the next report.

Following validation of Quarter 4 2009 data (October to December), a total of 16 validated episodes of CDI were found not to have been sent for ribotyping to the NI Ribotyping Service. Validated figures for Quarter 1 2010 (January to March) are not yet available.

Table 2 Validated descriptive data for *C. difficile* ribotypes 001, 078, 027 in Northern Ireland, October - December 2010.

	001		078		027	
Age						
min, max	36, 94		50, 97		67,87	
median	84		83		77	
Sex	n	%	n	%	n	%
Female	9	60.0	23	71.9	1	50.0
Male	6	40.0	9	28.1	1	50.0
Trust	n	%	n	%	n	%
Belfast	9	60.0	7	21.9	0	0.0
Northern	4	26.7	15	46.9	2	100.0
Southern	0	0.0	1	3.1	0	0.0
South Eastern	1	6.7	6	18.8	0	0.0
Western	1	6.7	3	9.4	0	0.0
Total	15		32		2	
Source	n	%	N	%	n	%
Inpatient	11	73.3	19	59.4	0	-
Community*	4	26.7	13	40.6	2	100.0

*community specimens include A+E, outpatients, GP and specimens taken in psychiatric facilities.

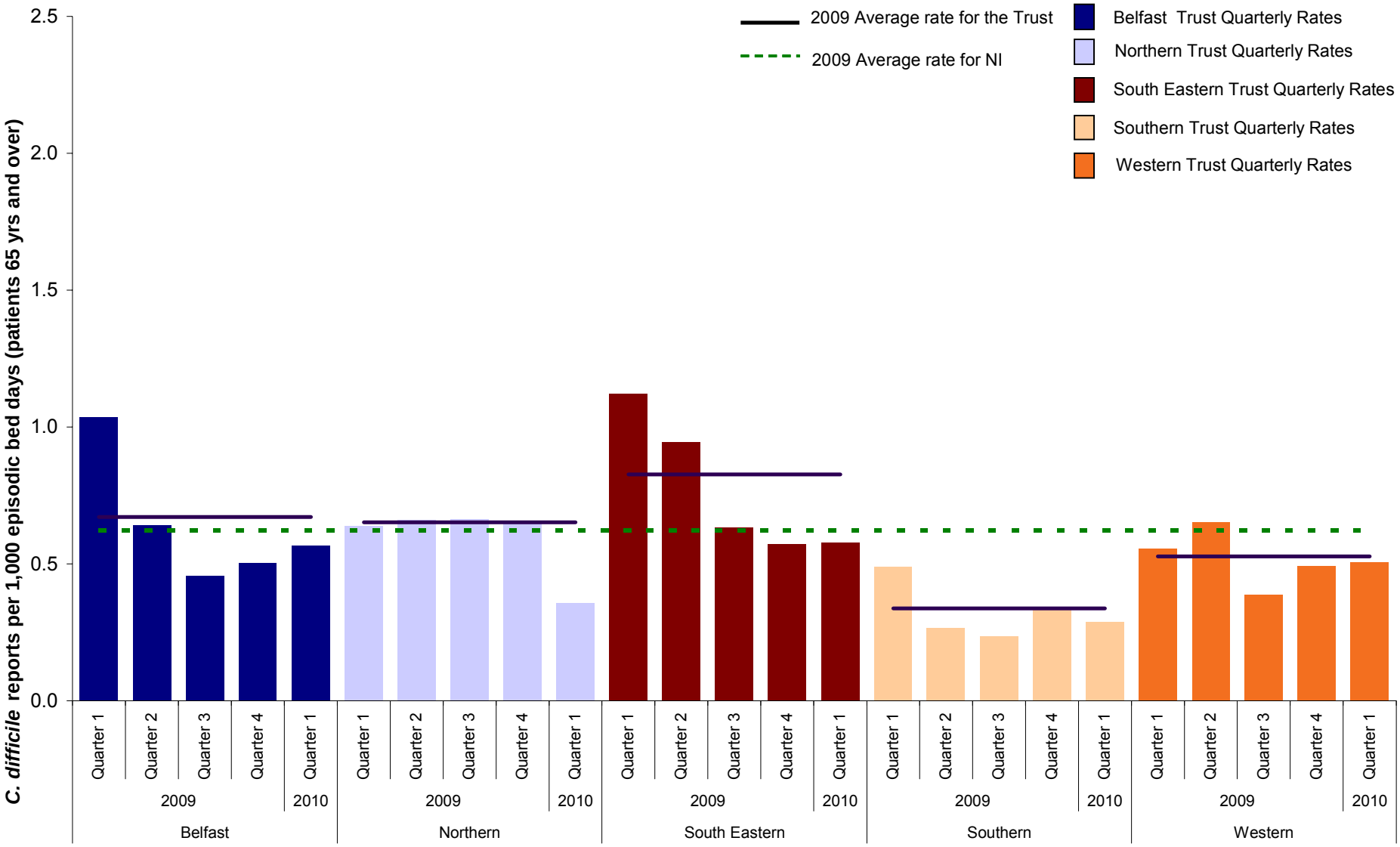


Figure 4: Quarterly rates of *Clostridium difficile* by Trust 1 January 2009 – 31 March 2010, compared with annual NI and Trust rates for 2009; inpatients ≥ 65 years.

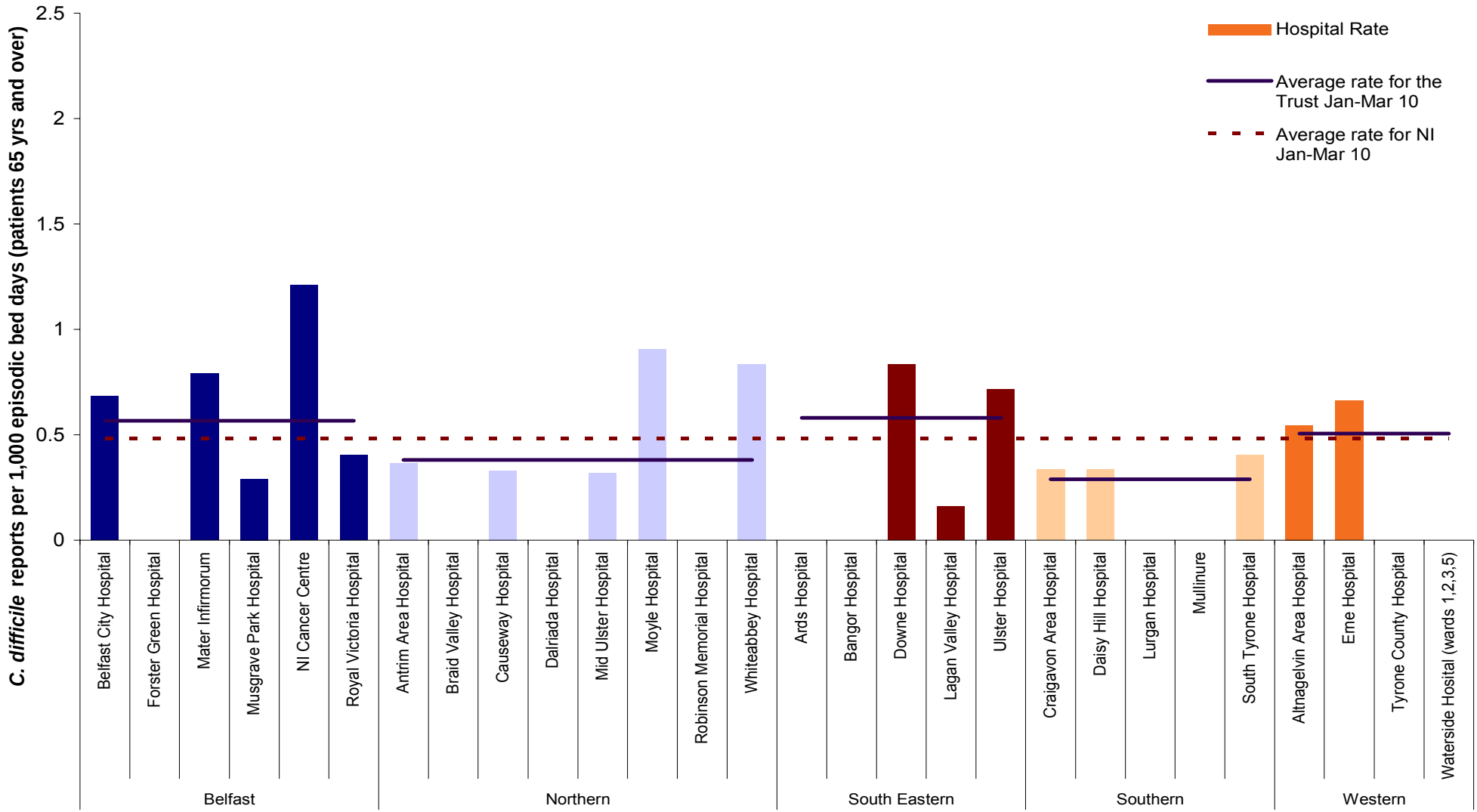


Figure 5: Rates of *Clostridium difficile* by individual Hospitals, Quarter 1 2010 (inpatients ≥ 65 years), including the quarterly Trust rates and an average rate for NI, gaps represent zero episodes (see appendix A Table 1).

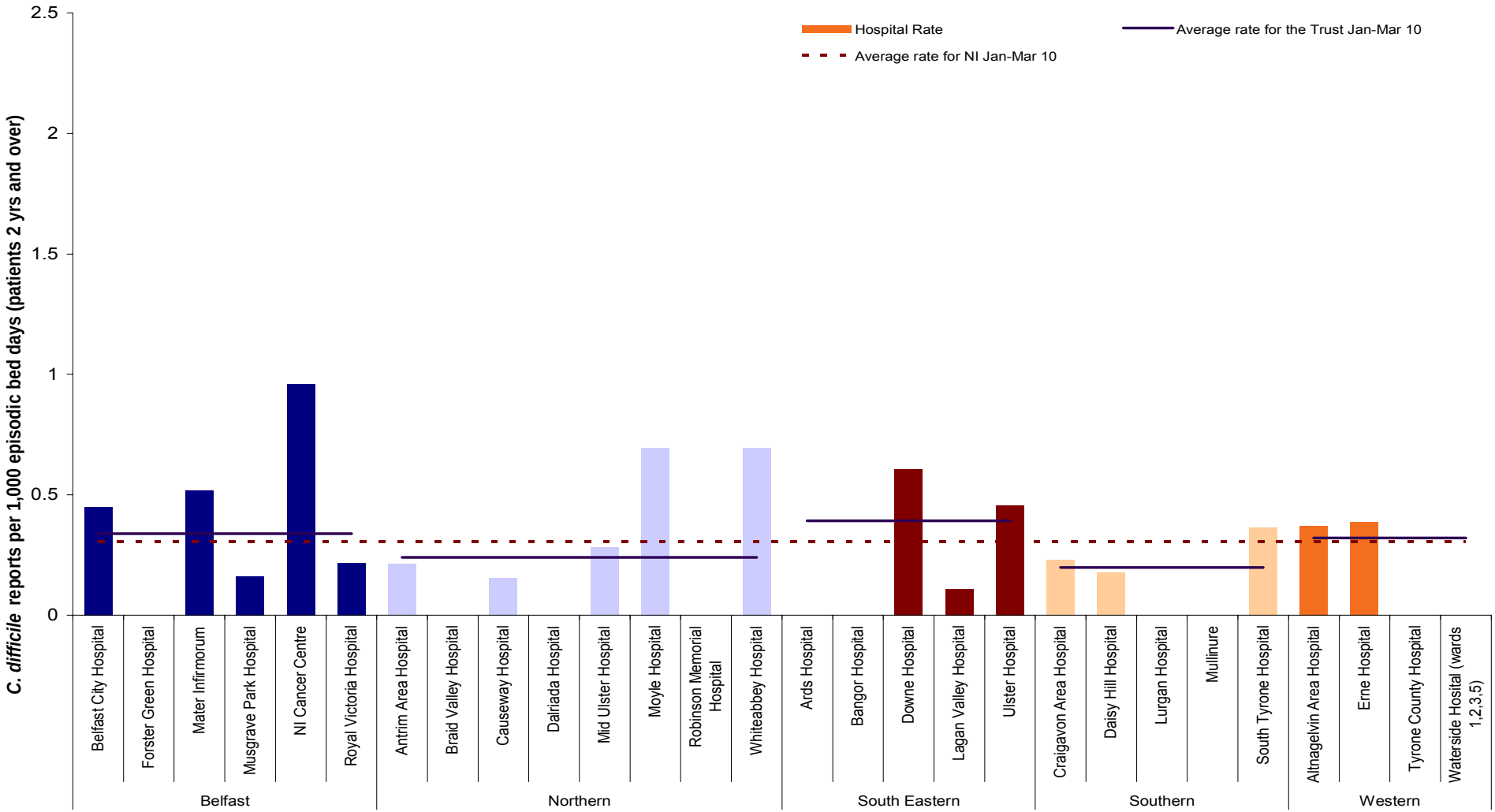


Figure 6: Rates of *Clostridium difficile* by individual Hospitals, Quarter 1 2010 (inpatients 2 years and over), including the quarterly Trust rates and an average rate for NI, gaps represent zero episodes (see appendix A Table 2).

Appendix A

Table 1: Quarterly number of *Clostridium difficile* patient episodes, patients 65 years and over, and rates by Hospital, April 2009 – March 2010. Figures in parentheses represent data for January – March 2009.

	Apr-Jun 2009		Jul-Sep 2009		Oct-Dec 2009		Jan-Mar 2010	
Hospital	**Episodes**	**Rate**	**Episodes**	**Rate**	**Episodes**	**Rate**	**Episodes**	**Rate**
Belfast City Hospital	17	0.741	8	0.359	11	0.472	17	0.684
Forster Green Hospital	0	0.000	0	0.000	0	0.000	0	0.000
Mater Infirmorum	8	0.648	8	0.700	11	0.963	10	0.791
Musgrave Park Hospital	1	0.090	2	0.210	1	0.103	3	0.292
NICCO (formerly at Belvoir Park)	1	0.329	2	0.667	3	0.904	4	1.212
Royal Victoria Hospital	22	0.829	13	0.509	11	0.430	12	0.405
Belfast Health & Social Care Trust	**49 (85)**	**0.643**	**33**	**0.458**	**37**	**0.503**	**46**	**0.568**
Antrim Area Hospital	13	0.824	12	0.822	8	0.503	6	0.364
Braid Valley Hospital	2	0.827	1	0.466	2	0.935	0	0.000
Causeway Hospital	6	0.647	4	0.416	6	0.655	3	0.332
Dalriada Hospital	0	0.000	0	0.000	0	0.000	0	0.000
Mid Ulster Hospital	2	0.321	6	0.919	6	1.116	2	0.320
Moyle Hospital	0	0.000	1	1.244	0	0.000	1	0.906
Robinson Memorial Hospital	0	0.000	1	0.505	0	0.000	0	0.000
Whiteabbey Hospital	6	0.912	4	0.609	5	0.878	5	0.668
Northern Health & Social Care Trust	**29 (31)**	**0.660**	**29**	**0.665**	**27**	**0.647**	**17**	**0.359**
Ards Hospital	1	0.719	0	0.000	0	0.000	0	0.000
Bangor Hospital	0	0.000	0	0.000	1	0.645	0	0.000
Downe Hospital	1	0.375	1	0.318	4	1.132	3	0.835
Lagan Valley Hospital	4	0.657	1	0.199	1	0.165	1	0.160
Ulster Hospital	29	1.136	20	0.838	15	0.621	17	0.716
South Eastern Health & Social Care Trust	**35 (44)**	**0.946**	**22**	**0.635**	**21**	**0.574**	**21**	**0.580**
Craigavon Area Hospital	6	0.389	3	0.199	9	0.591	6	0.337
Daisy Hill Hospital	2	0.239	4	0.533	0	0.000	3	0.335
Lurgan Hospital	0	0.000	0	0.000	1	0.199	0	0.000
Mullinure	1	0.582	0	0.000	0	0.000	0	0.000
South Tyrone Hospital	0	0.000	0	0.000	1	0.368	1	0.406
Southern Health & Social Care Trust	**9 (18)**	**0.268**	**7**	**0.236**	**11**	**0.333**	**10**	**0.290**
Altnagelvin Area Hospital	19	1.062	10	0.589	8	0.447	10	0.546
Erne Hospital	6	0.638	3	0.354	8	0.941	6	0.663
Tyrone County Hospital	0	0.000	0	0.000	1	0.381	0	0.000
Waterside Hospital (Wards 1, 2, 3, 5)	0	0.000	0	0.000	0	0.000	0	0.000
Western Health & Social Care Trust	**25 (20)**	**0.653**	**13**	**0.389**	**17**	**0.493**	**16**	**0.507**
NI TOTAL	**147 (198)**	**0.642**	**104**	**0.487**	**113**	**0.515**	**110**	**0.478**
NI Community TOTAL	**49 (71)**	**-**	**57**	**-**	**46**	**-**	**34**	**-**

Appendix A

Table 2: Quarterly number of *Clostridium difficile* patient episodes, patients 2 years and over, and rates by Hospital, April 2009 – March 2010. Figures in parentheses represent data for January – March 2009.

	Apr - Jun 2009		Jul - Sep 2009		Oct - Dec 2009		Jan - Mar 2010	
Hospital	**Episodes**	**Rate**	**Episodes**	**Rate**	**Episodes**	**Rate**	**Episodes**	**Rate**
Belfast City Hospital	30	0.719	12	0.304	14	0.350	18	0.449
Forster Green Hospital	0	0.000	0	0.000	0	0.000	0	0.000
Mater Infirmorum	11	0.483	12	0.542	12	0.539	12	0.519
Musgrave Park Hospital	1	0.052	3	0.172	2	0.113	3	0.162
NICCO (formerly at Belvoir Park)	2	0.292	3	0.425	4	0.580	7	0.961
Royal Victoria Hospital	34	0.649	21	0.313	17	0.243	16	0.218
Belfast Health & Social Care Trust	**78 (115)**	**0.534**	**51**	**0.327**	**49**	**0.307**	**56**	**0.339**
Antrim Area Hospital	17	0.548	15	0.492	9	0.278	7	0.213
Braid Valley Hospital	2	0.715	1	0.405	2	0.750	0	0.000
Causeway Hospital	7	0.369	6	0.334	7	0.361	3	0.157
Dalriada Hospital	0	0.000	0	0.000	0	0.000	0	0.000
Mid Ulster Hospital	3	0.369	6	0.740	6	0.824	2	0.281
Moyle Hospital	0	0.000	1	1.075	0	0.000	1	0.696
Robinson Memorial Hospital	0	0.000	1	0.566	0	0.000	0	0.000
Whiteabbey Hospital	6	0.735	4	0.551	5	0.719	5	0.697
Northern Health & Social Care Trust	**35 (43)**	**0.471**	**34**	**0.477**	**29**	**0.393**	**18**	**0.241**
Ards Hospital	1	0.328	0	0.000	0	0.000	0	0.000
Bangor Hospital	0	0.000	0	0.000	1	0.639	0	0.000
Downe Hospital	1	0.267	1	0.235	4	0.842	3	0.608
Lagan Valley Hospital	5	0.545	1	0.125	1	0.116	1	0.110
Ulster Hospital	33	0.743	27	0.644	21	0.500	19	0.456
South Eastern Health & Social Care Trust	**40 (55)**	**0.645**	**29**	**0.507**	**27**	**0.463**	**23**	**0.393**
Craigavon Area Hospital	10	0.286	4	0.114	11	0.333	8	0.230
Daisy Hill Hospital	2	0.125	5	0.302	0	0.000	3	0.179
Lurgan Hospital	0	0.000	0	0.000	1	0.213	0	0.000
Mullinure	1	0.407	0	0.000	0	0.000	0	0.000
South Tyrone Hospital	0	0.000	0	0.000	1	0.387	1	0.364
Southern Health & Social Care Trust*	**13 (27)**	**0.207**	**9**	**0.141**	**13**	**0.225**	**12**	**0.199**
Altnagelvin Area Hospital	27	0.712	17	0.467	16	0.423	14	0.372
Erne Hospital	7	0.504	3	0.206	9	0.608	6	0.387
Tyrone County Hospital	0	0.000	0	0.000	1	0.324	0	0.000
Waterside Hospital (Wards 1, 2, 3, 5)	0	0.000	0	0.000	0	0.000	0	0.000
Western Health & Social Care Trust	**34 (23)**	**0.544**	**20**	**0.338**	**26**	**0.424**	**20**	**0.321**
NI TOTAL	**200 (263)**	**0.491**	**143**	**0.351**	**144**	**0.350**	**129**	**0.306**
NI community TOTAL	**58 (88)**	**-**	**61**	**-**	**51**	**-**	**42**	**-**

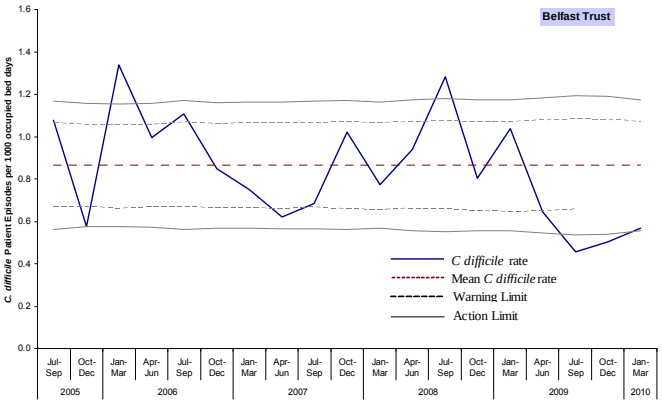
Appendix A

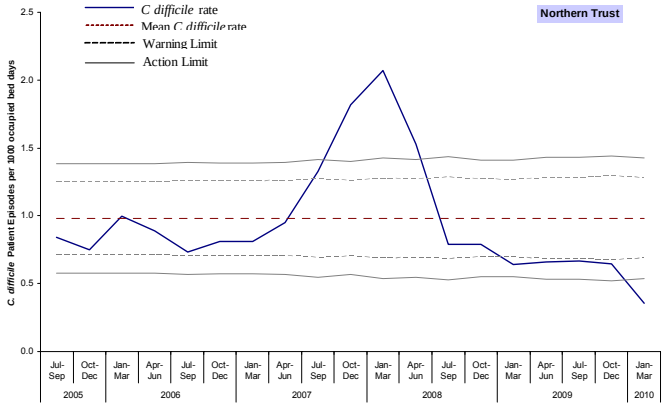
Table 3: Quarterly number of *Clostridium difficile* patient episodes, patients 2 to 64 years, by Hospital, April 2009 – March 2010.

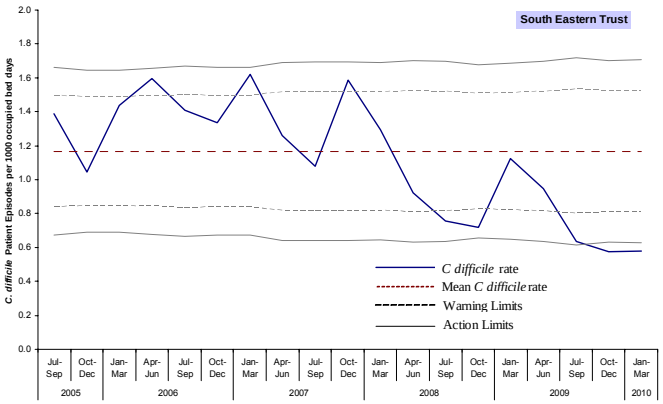
Hospital	Apr - Jun 09 Episodes	Jul - Sep 09 Episodes	Oct - Dec 09 Episodes	Jan – Mar 10 Episodes
Belfast City Hospital	13	4	3	1
Forster Green Hospital	0	0	0	0
Mater Infirmorum	3	4	1	2
Musgrave Park Hospital	0	1	1	0
NICCO (formerly at Belvoir Park)	1	1	1	3
Royal Victoria Hospital	12	8	6	4
Belfast Health & Social Care Trust	**29**	**18**	**12**	**10**
Antrim Area Hospital	4	3	1	1
Braid Valley Hospital	0	0	0	0
Causeway Hospital	1	2	1	0
Dalriada Hospital	0	0	0	0
Mid Ulster Hospital	1	0	0	0
Moyle Hospital	0	0	0	0
Robinson Memorial Hospital	0	0	0	0
Whiteabbey Hospital	0	0	0	0
Northern Health & Social Care Trust	**6**	**5**	**2**	**1**
Ards Hospital	0	0	0	0
Bangor Hospital	0	0	0	0
Downe Hospital	0	0	0	0
Lagan Valley Hospital	1	0	0	0
Ulster Hospital	4	7	6	2
South Eastern Health & Social Care Trust	**5**	**7**	**6**	**2**
Craigavon Area Hospital	4	1	2	2
Daisy Hill Hospital	0	1	0	0
Lurgan Hospital	0	0	0	0
Mullinure	0	0	0	0
South Tyrone Hospital	0	0	0	0
Southern Health & Social Care Trust	**4**	**2**	**2**	**2**
Altnagelvin Area Hospital	8	7	8	4
Erne Hospital	1	0	1	0
Tyrone County Hospital	0	0	0	0
Waterside Hospital (Wards 1, 2, 3, 5)	0	0	0	0
Western Health & Social Care Trust	**9**	**7**	**9**	**4**
NI TOTAL	**53**	**39**	**31**	**20**
NI community TOTAL	**9**	**4**	**5**	**8**

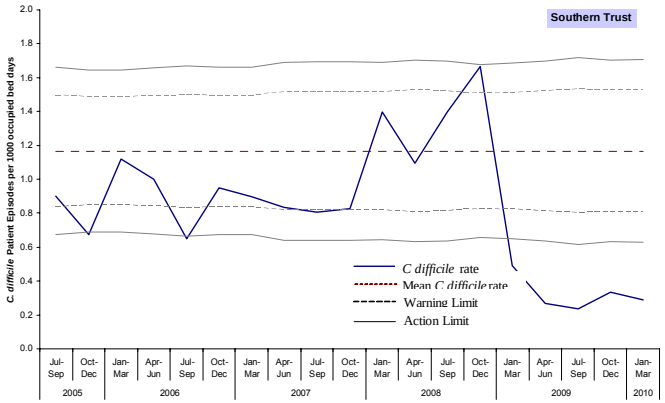
Appendix B

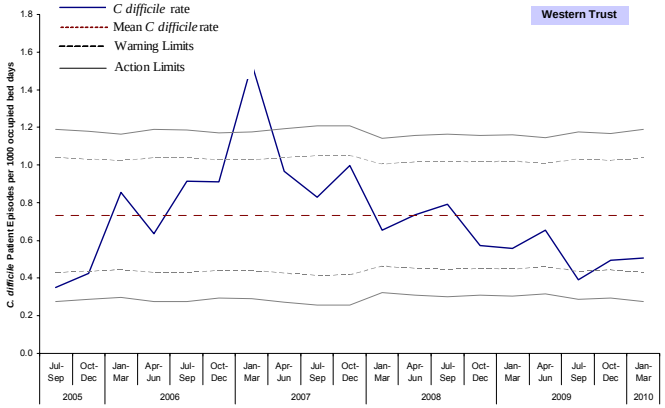
Trends in inpatients, aged 65 years and over, *C difficile* rates by trust and quarter (2005-2009)











Appendix C

Notes:

As of the 1st April 2008 t**he number of CDI patient episodes** is defined as the total number of patients aged 2 years and over from whom a diarrhoeal specimen tested positive for *C. difficile* toxins A and toxin B during the relevant time period. If repeat specimens were collected from a single patient at least 28 days apart, the patient is considered to have had two episodes of CDI; counted as two patient episodes.

The **rates** described in this report are patient episodes per 1,000 occupied bed days. The denominator used for this calculation varies slightly with the different age groups. For rates of CDI in patients aged 2 years and over Kh03a data is used, similar to the method for *S. aureus* bacteraemia surveillance. For patients aged 65 years and over, the denominator is derived from patient episode statistics obtained from each Trust individually on a quarterly basis, to obtain occupied bed data on those patients aged 65 years and over. All rates have been calculated for both individual Trusts and Northern Ireland as a whole.

The more refined the criteria for selecting patients for the inclusion into the denominator, the more limitations there are on the accuracy of the data:

- The denominator supplied by each Trust is that of the number of 'episodic bed days' for patients aged 65 years and over. Patient age is according to the age of each patient at the end of episode and so is potentially an overestimate as patients who entered this age group during their stay would be included.

- The estimation of numbers below Trust level, that is, on a hospital basis, is less accurate than for an entire Trust. As with the use of age as an identifier, a patient's status and location can change during the course of an episode. In some Trusts there is the potential for patients to begin an episode in one hospital and be transferred to a different hospital, yet remain under the care of the same consultant. Therefore the use of patient location at the start or end of a patient episode has limitations and as such is subject to error.

This surveillance programme started on 1 January 2005 and during that year laboratories changed their testing methodology to conform to new national guidelines. Therefore, 2006 was the first year with all laboratories using identical testing methods and interpretation of 2005 data should be undertaken with caution. Surveillance originally focussed on individuals aged 65 years and over, but this has been reviewed as of the 1st April 2008 to include all patients aged 2 years and over.

Appendix D

Statistical Process Control charts:

The Statistical Process Control (SPC) chart is now commonly used for the reporting of MRSA rates throughout the UK and can be applied to *C difficile* surveillance. SPC charts assume that rates within a Trust will be largely similar over time. They present the occurrence of *C difficile* in a Trust in relation to what would be expected, based upon the mean rate for the Trust and calculated statistical process control limits.

The mean for each Trust has been calculated using the data from all quarters since July 2005. Control limits, derived from plus or minus 2 or 3 standard deviations from the mean, represent the range of variation in rates that might be expected to occur due to chance alone.

The warning limit is set at two standard deviations from the mean, whilst the action limit is set at three standard deviations from the mean. The limits vary slightly every quarter because of the varying occupancy in the hospitals within each trust.

Control limits were set up by using the following formulae:

$$Warning\ Limit = M \pm 2\sqrt{\frac{\mathrm{Ei}}{(\mathrm{Ni})^2}} \qquad Action\ Limit = M \pm 3\sqrt{\frac{\mathrm{Ei}}{(\mathrm{Ni})^2}}$$

Where M is the Mean, Ni is the number of Occupied Bed-days per quarter and Ei is the expected number of reports calculated as $Ei = M \times Ni$

SPC charts allow the distinction to be made between natural variation and “special cause variation”, where something unusual is occurring in a Trust. If any of the following criteria are met then there is said to be “special cause variation” which should to be investigated, as this could not statistically have occurred by chance alone:

- 1 value above the upper action limit, or below the lower action limit
- 3 consecutive values between the upper warning limit and upper action limit (or between lower limits)
- 8 consecutive values on the same side of the mean (either above or below)
- Any 12 of 14 consecutive values on the same side of the mean (either above or below)
- 8 consecutive values either increasing or decreasing

Appendix E

Patient Transfers

A patient may be an inpatient in a healthcare facility and at some point may be transferred to another hospital/Trust, symptom free. Upon admission to the second facility, if the patient develops the symptoms of C. diff or *S. aureus* within 2 days and a specimen is taken and tested at this point, the episode is attributed to the current stay i.e. the receiving hospital. Whilst the infection may likely have been acquired during their first hospital admission, it is the hospital where the patient is **at the time the specimen is taken** that must report the episode. For this reason, CDSC ensures that there are caveats to state that this does not infer the patient acquired their infection in that hospital. Trusts should be aware of such circumstances so that they are in a position to clarify any episodes that developed within 2 days of transfer/admission and are therefore likely to have been acquired prior to admission to that hospital.

Patient in one hospital and after discharge are later admitted to another

A patient may be an inpatient in a healthcare facility and test positive for a healthcare associated infection. Once discharged, the patient may develop new symptoms and be readmitted to the same hospital or to a different hospital and be retested for *C. difficile*. If the new admission is within 28 days of the original positive specimen date then the duplicate rule applies regardless of the change in hospital and the isolate should not be reported.

Appendix F

Table 1 *C. difficile* patient episodes in inpatients aged 65 years and over by financial year and Trust, in Northern Ireland.

	Financial Year				
Trust	2005/06	2006/07	2007/08	2008/09	2009/10
Belfast	352	336	280	327	165
Northern	184	172	297	172	102
South Eastern	243	256	199	135	99
Southern	168	130	134	164	37
Western	96	132	109	98	71
Northern Ireland	1043	1026	1019	896	474