

# *C. difficile* surveillance

## Quarterly report

### April - June 2015

#### Key points

- CDI reports for hospital inpatients aged 65 years and over increased by 3% (from 65 to 67 episodes) during April-June 2015 compared to January-March 2015.
- CDI rate per 1,000 bed days increased by 27% during April-June 2015 compared to January-March 2015.
- CDI reports for community patients aged 65 years and over decreased by 11% (from 53 to 47 episodes) during April-June 2015 compared to January-March 2015.
- Total CDI reports, for hospital inpatients and community patients combined, aged two years and over, increased by 9% during April-June 2015 compared to January-March 2015 (from 147 to 160 episodes).
- CDI reports for hospital inpatients aged 65 years and over increased by 3% between the 2013/14 and 2014/15 financial years.
- During April-June 2015 the most prevalent ribotypes for CDI inpatients are 002 (16%), 014 (12%) and 078 (8%) (Table 1) and in the community are 078 (27%), 005 (9%) and 193 (7%) (Table 2).

For further information or clarification on HCAI definitions, please refer to previous reports or contact [hcaini@hscni.net](mailto:hcaini@hscni.net)

# Surveillance of *C. difficile* infection (CDI)

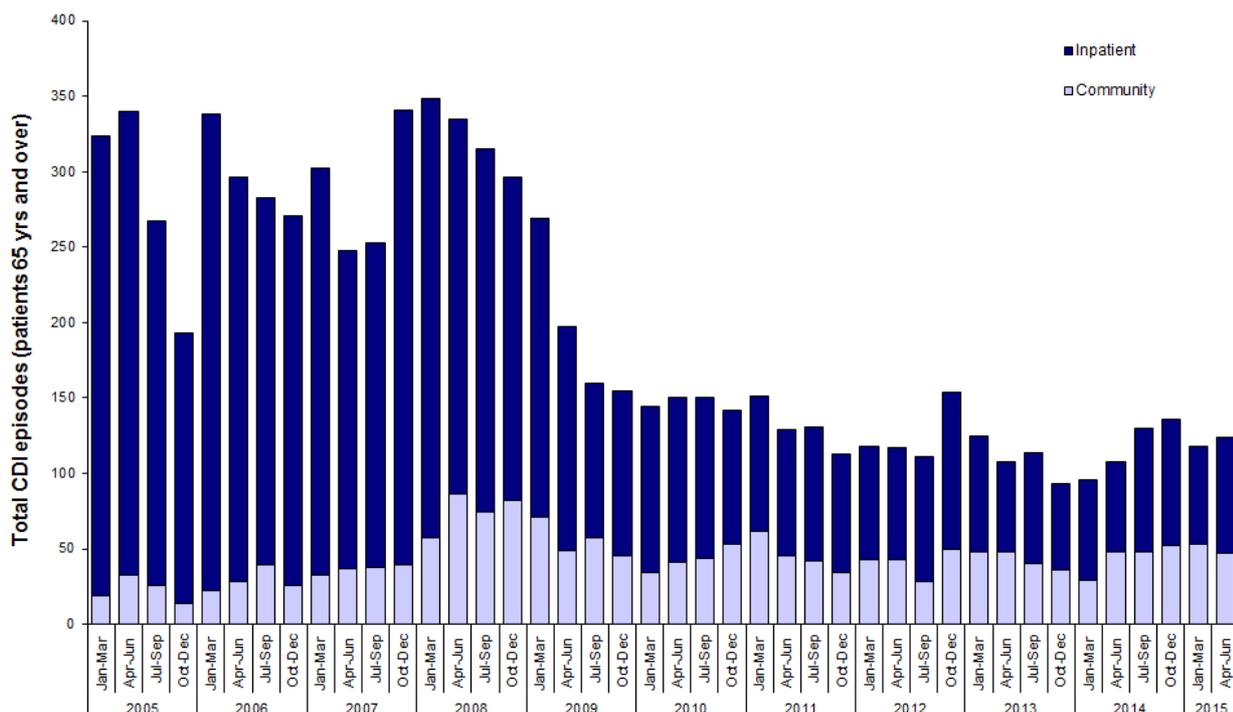


Figure 1: Total CDI episodes, inpatient and community, in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2015

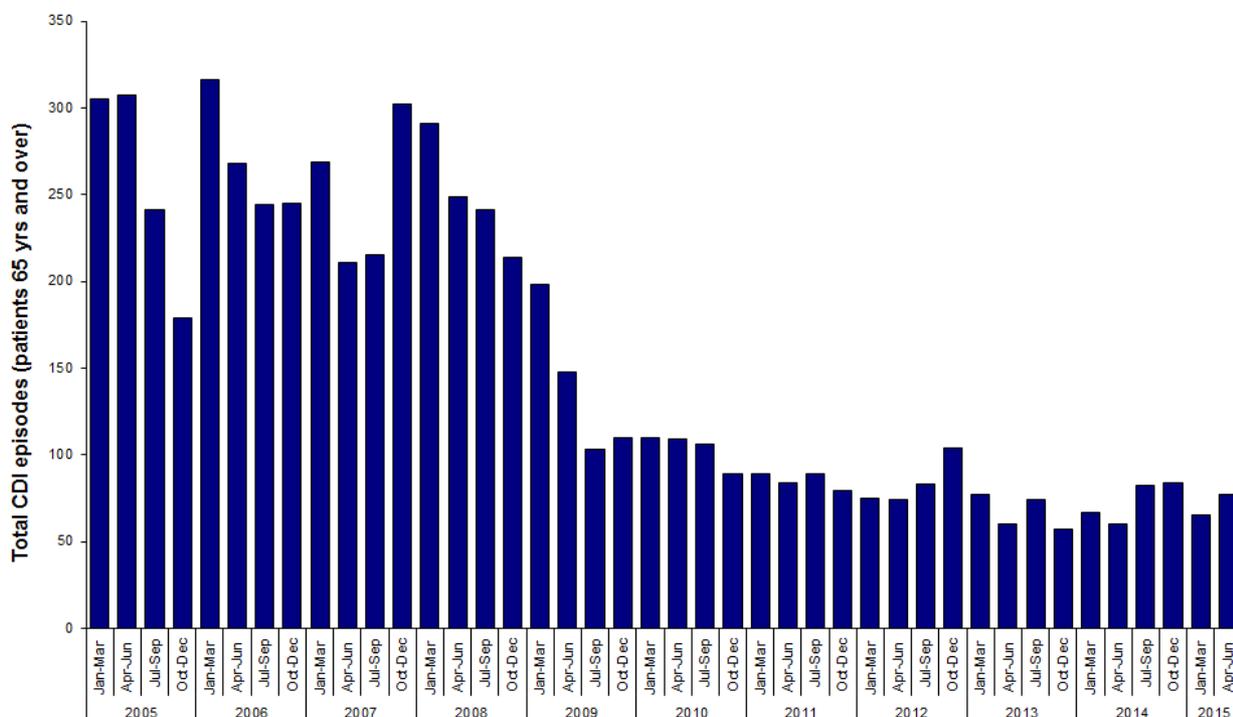
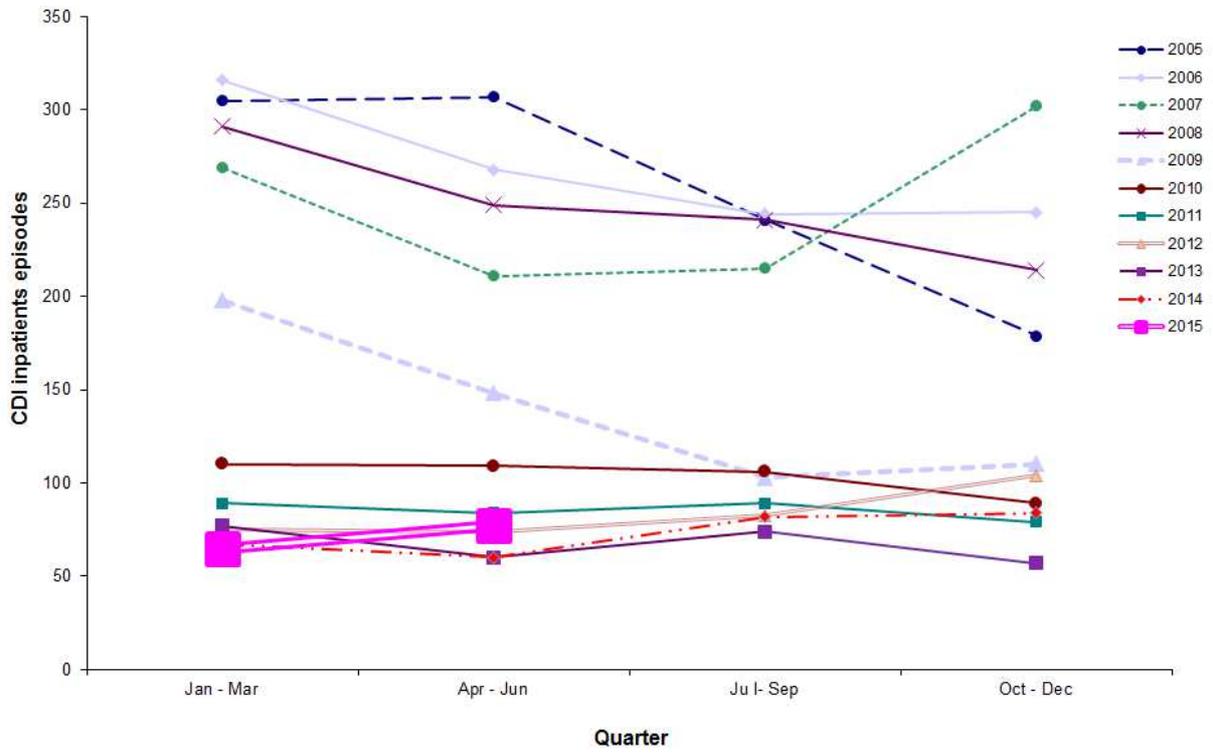


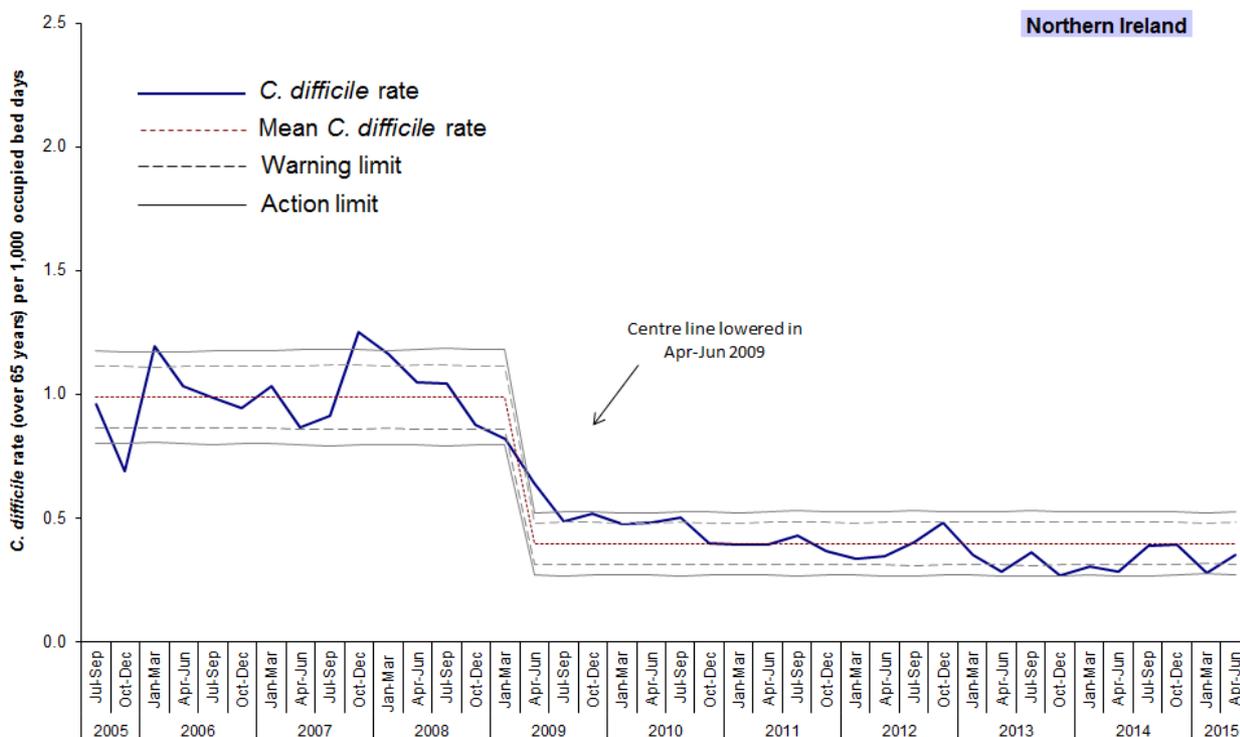
Figure 2a: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2015



**Figure 2b: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2015**

**Statistical process control (SPC) charts**

- SPC charts allow a distinction to be made between natural variation and ‘special cause variation’, where something unusual may be occurring. Trends in CDI rates since July 2005 are shown for each HSCT in appendix B.



**Figure 3: Statistical process control chart for quarterly *C. difficile* rates among inpatients in Northern Ireland aged 65 years and over (for HSCT level, see appendix B)**

## Results from the NI Ribotype Surveillance Programme

**Table 1: A summary of *C. difficile* ribotypes in Hospital Inpatients aged 2 years and over, and the percentage of each against the overall total, in Northern Ireland during routine surveillance, July 2014 - June 2015**

Ribotype	Jul - Sep 2014		Oct - Dec 2014		Jan - Mar 2015		Apr - Jun 2015	
	Number	%	Number	%	Number	%	Number	%
001	4	3.8	1	0.9	2	2.3	6	5.9
002	9	8.6	5	4.5	4	4.5	16	15.8
005	10	9.5	8	7.1	5	5.7	6	5.9
014	8	7.6	13	11.6	11	12.5	12	11.9
014/020	1	1.0	2	1.8	0	0.0	0	0.0
015	9	8.6	5	4.5	5	5.7	4	4.0
020	5	4.8	9	8.0	3	3.4	6	5.9
023	3	2.9	2	1.8	2	2.3	4	4.0
027	0	0.0	0	0.0	0	0.0	0	0.0
078	19	18.1	13	11.6	11	12.5	8	7.9
106	1	1.0	1	0.9	2	2.3	0	0.0
193	1	1.0	4	3.6	1	1.1	5	5.0
Other	19	18.1	23	20.5	16	18.2	22	21.8
Not groupable**	6	5.7	7	6.3	7	8.0	4	4.0
Not on ribotype list	1	1.0	8	7.1	5	5.7	3	3.0
Not isolated***	9	8.6	11	9.8	14	15.9	5	5.0
<b>Total</b>	<b>105</b>		<b>112</b>		<b>88</b>		<b>101</b>	

**Table 2: A summary of *C. difficile* ribotypes in Community Patients aged 2 years and over, and the percentage of each against the overall total, in Northern Ireland during routine surveillance, July 2014 - June 2015**

Ribotype	Jul - Sep 2014		Oct - Dec 2014		Jan - Mar 2015		Apr - Jun 2015	
	Number	%	Number	%	Number	%	Number	%
001	0	0.0	1	1.6	1	1.7	1	1.7
002	4	6.8	7	11.1	2	3.4	3	5.1
005	3	5.1	3	4.8	6	10.2	5	8.5
014	11	18.6	6	9.5	4	6.8	3	5.1
014/020	0	0.0	1	1.6	0	0.0	0	0.0
015	7	11.9	4	6.3	3	5.1	3	5.1
020	2	3.4	1	1.6	1	1.7	2	3.4
023	2	3.4	7	11.1	6	10.2	3	5.1
027	0	0.0	0	0.0	0	0.0	0	0.0
078	15	25.4	13	20.6	16	27.1	16	27.1
106	1	1.7	1	1.6	1	1.7	0	0.0
193	3	5.1	1	1.6	2	3.4	4	6.8
Other	4	6.8	3	4.8	8	13.6	11	18.6
Not groupable**	2	3.4	8	12.7	2	3.4	2	3.4
Not on ribotype list	1	1.7	3	4.8	2	3.4	3	5.1
Not isolated***	4	6.8	4	6.3	5	8.5	3	5.1
<b>Total</b>	<b>59</b>		<b>63</b>		<b>59</b>		<b>59</b>	

\* Figures are provisional

\*\* 'Not groupable' ribotypes do not match existing profiles

\*\*\* 'Not isolated' indicates isolates that have no ribotype information supplied, with at least six weeks since the date of the specimen

**Table 3: Descriptive data for *C. difficile* ribotypes 078, 002 and 014 in Northern Ireland Hospital Inpatients and Community Patients, April - June 2015**

	078 (n = 24)		002 (n = 19)		014 (n = 15)		
<b>Age</b>	range	4 - 100	34 - 91	28 - 95			
	median	81	79	82			
<b>Sex</b>	n	%	n	%	n	%	
	Female	17	70.8	11	57.9	8	53.3
	Male	7	29.2	8	42.1	7	46.7
<b>Trust</b>							
	Belfast	10	41.7	8	42.1	7	46.7
	Northern	6	25.0	4	21.1	3	20.0
	South Eastern	3	12.5	4	21.1	2	13.3
	Southern	1	4.2	2	10.5	2	13.3
	Western	4	16.7	1	5.3	1	6.7
<b>Source</b>							
	Inpatient	8	33.3	16	84.2	12	80.0
	Community*	16	66.7	3	15.8	3	20.0

\* Community specimens include those taken from accident and emergency, outpatients, GPs and psychiatric facilities

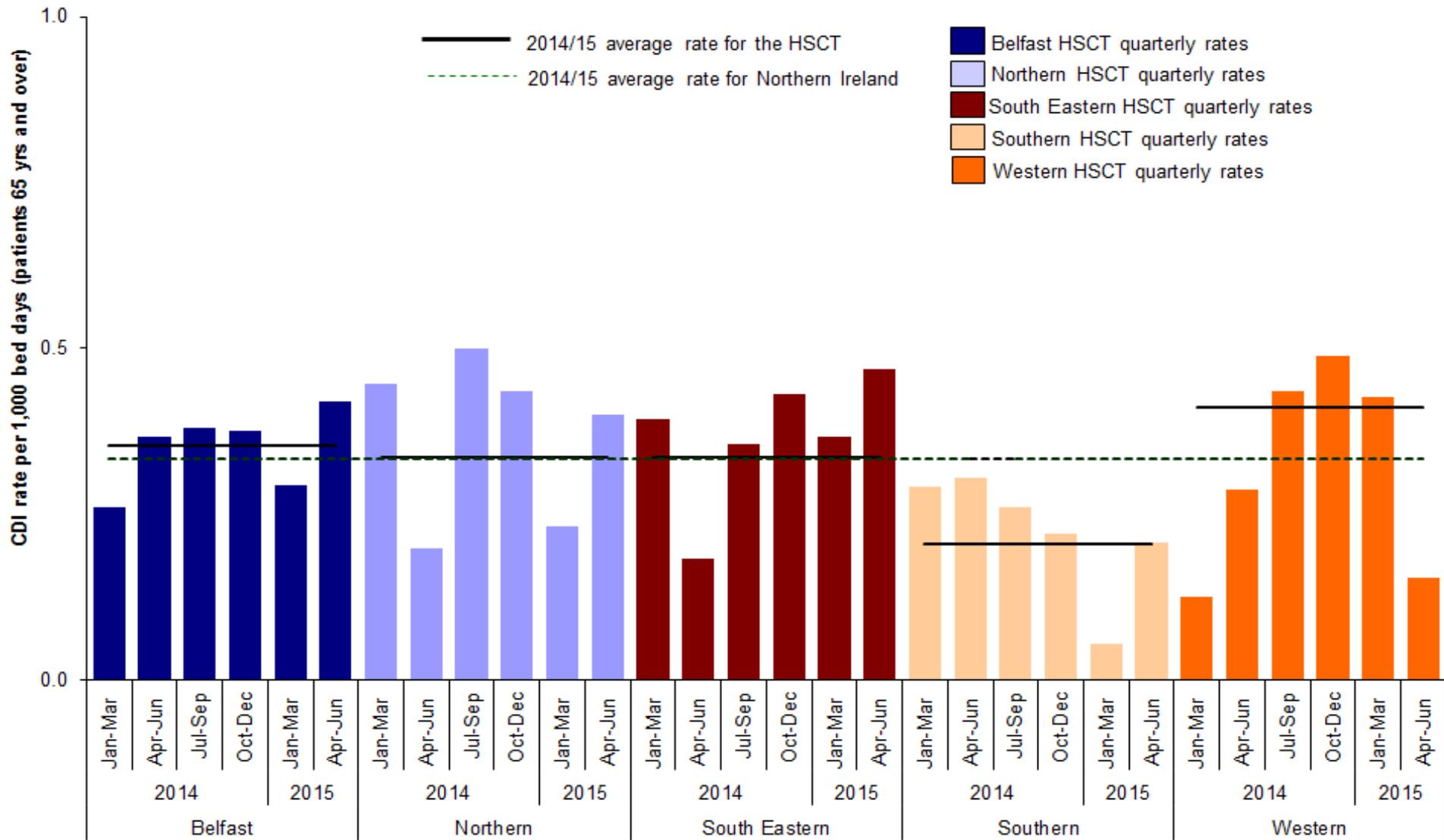


Figure 4: Quarterly rates of *C. difficile* among inpatients aged 65 years and over, by HSCT, January 2014 - June 2015, compared with financial year Northern Ireland and HSCT rates for 2014/15

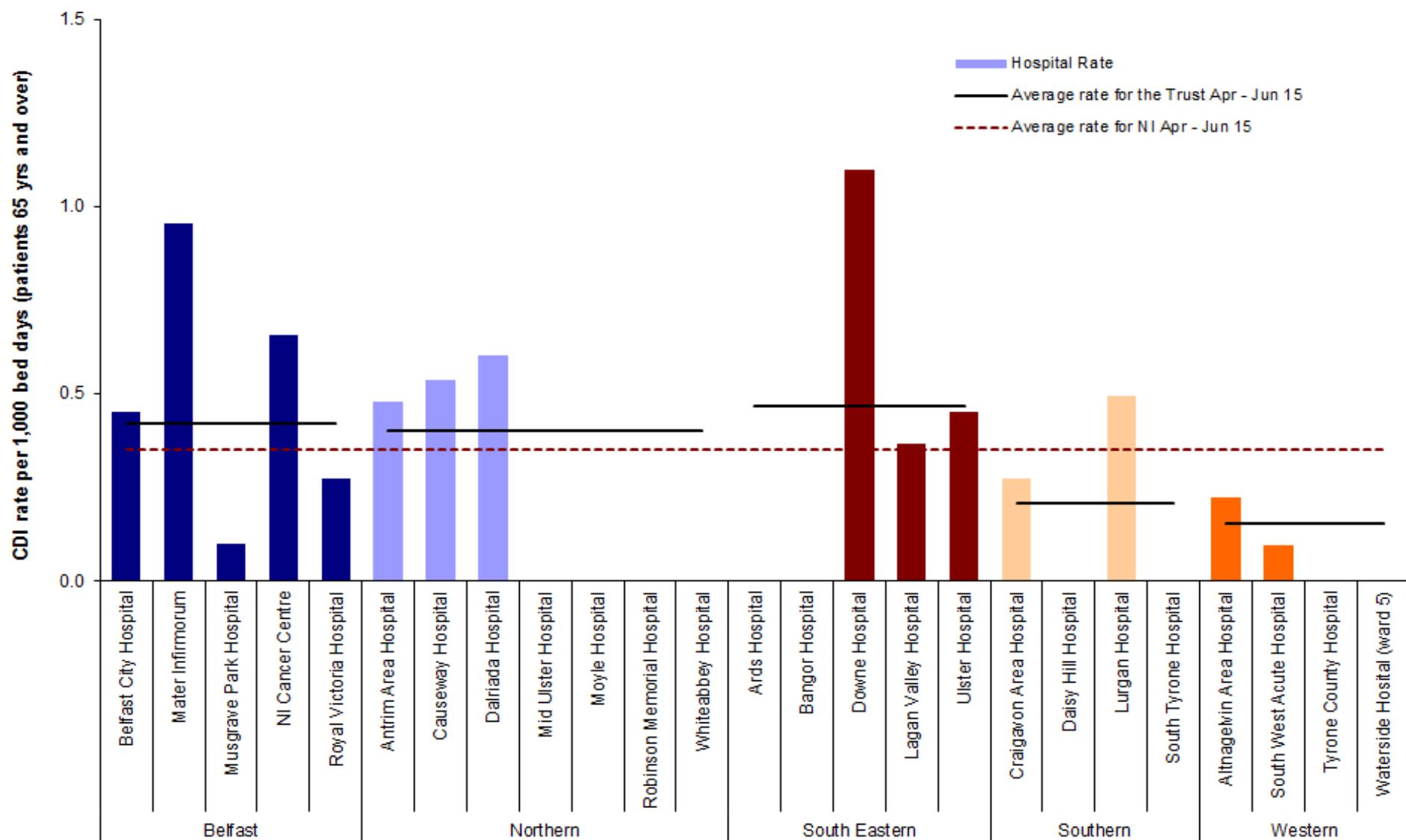


Figure 5: *C. difficile* rates during April - June 2015 - Inpatients aged 65 years and over, by hospital, including HSCT rates and average rate for Northern Ireland (see appendix A, Table 4)

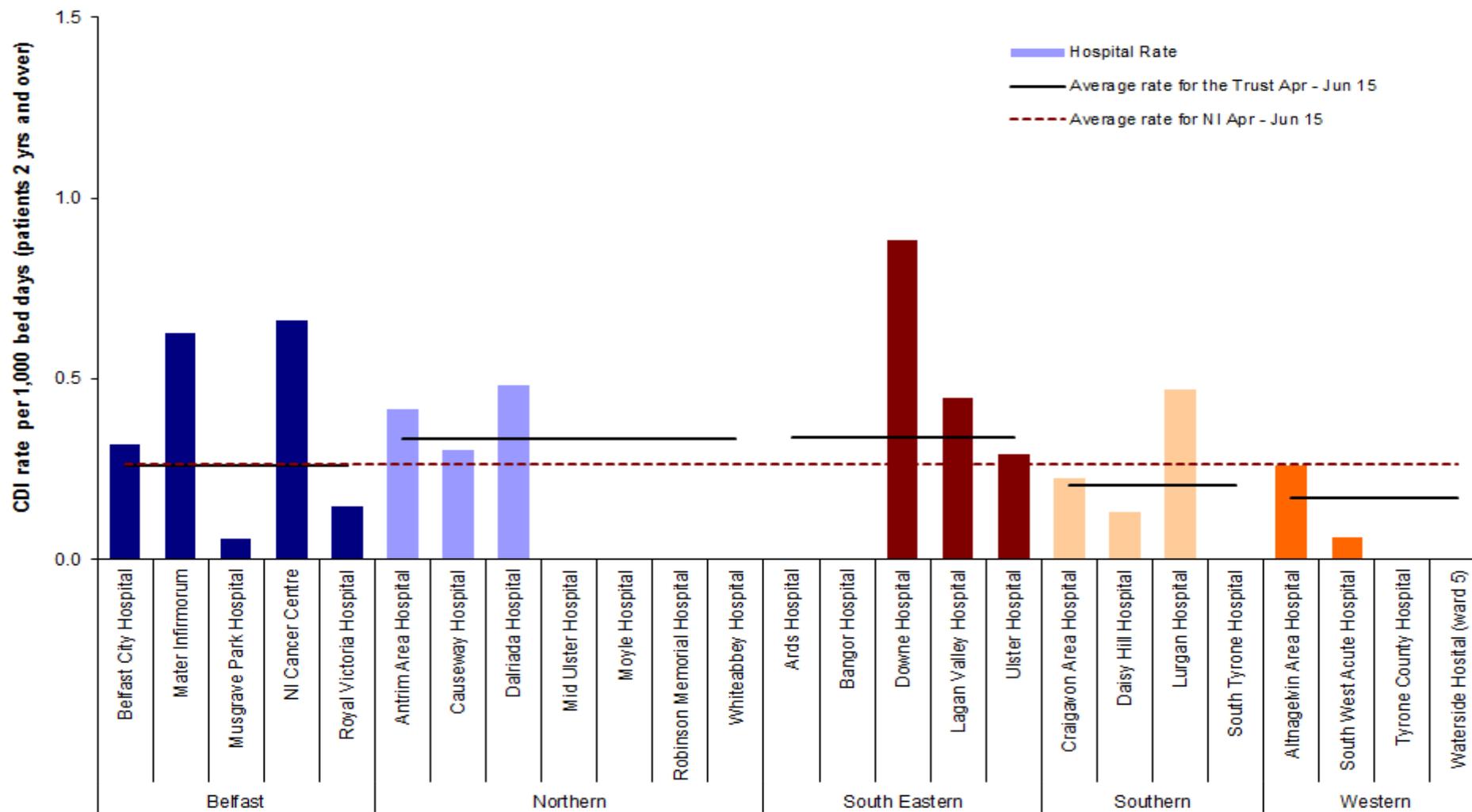


Figure 6: *C. difficile* rates during April - June 2015 - Inpatients aged two years and over, by hospital, including HSCT rates and average rate for Northern Ireland (see appendix A, Table 4)

## Appendix A

**Table 4: Quarterly rate of *C. difficile* reports in patients aged 65 years and over, by hospital, July 2014 - June 2015**

Hospital	Jul - Sept 2014	Oct - Dec 2014	Jan - Mar 2015	Apr - Jun 2015
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.451	0.370	0.291	0.452
Mater Infirmorum	0.270	0.816	0.332	0.956
Musgrave Park Hospital	0.094	0.176	0.360	0.099
NICCO (formerly at Belvoir Park)	0.365	0.000	0.318	0.656
Royal Group of Hospitals	0.487	0.321	0.256	0.273
<b>Belfast Health &amp; Social Care Trust</b>	<b>0.380</b>	<b>0.375</b>	<b>0.294</b>	<b>0.419</b>
Antrim Area Hospital	0.671	0.666	0.290	0.478
Causeway Hospital	0.562	0.225	0.323	0.538
Dalriada Hospital	0.000	0.000	0.000	0.603
Mid Ulster Hospital	0.000	0.000	0.000	0.000
Moyle Hospital	0.000	0.000	0.000	0.000
Robinson Memorial Hospital	0.000	0.000	0.000	0.000
Whiteabbey Hospital	0.278	0.304	0.000	0.000
<b>Northern Health &amp; Social Care Trust</b>	<b>0.500</b>	<b>0.435</b>	<b>0.231</b>	<b>0.400</b>
Ards Hospital	0.000	0.000	0.000	0.000
Bangor Hospital	0.643	0.000	0.000	0.000
Downe Hospital	0.325	0.963	0.335	1.097
Lagan Valley Hospital	0.000	0.330	0.604	0.366
Ulster Hospital	0.439	0.430	0.337	0.453
<b>South Eastern Health &amp; Social Care Trust</b>	<b>0.356</b>	<b>0.431</b>	<b>0.366</b>	<b>0.469</b>
Craigavon Area Hospital	0.484	0.227	0.050	0.274
Daisy Hill Hospital	0.000	0.385	0.000	0.000
Lurgan Hospital	0.000	0.000	0.238	0.494
South Tyrone Hospital	0.000	0.000	0.000	0.000
<b>Southern Health &amp; Social Care Trust</b>	<b>0.259</b>	<b>0.219</b>	<b>0.055</b>	<b>0.208</b>
Altnagelvin Area Hospital	0.577	0.340	0.481	0.224
South West Acute Hospital	0.295	0.830	0.409	0.094
Tyrone County Hospital	0.000	0.000	0.000	0.000
Waterside Hospital (Wards 1, 2, 3, 5)	0.521	0.615	0.539	0.000
<b>Western Health &amp; Social Care Trust</b>	<b>0.436</b>	<b>0.488</b>	<b>0.426</b>	<b>0.153</b>
<b>NI TOTAL</b>	<b>0.388</b>	<b>0.390</b>	<b>0.278</b>	<b>0.352</b>

**Table 5: Quarterly episodes of *C. difficile* reports in patients aged 65 years and over, by Trust, July 2014 - June 2015**

Trust	Jul - Sept 2014	Oct - Dec 2014	Jan - Mar 2015	Apr - Jun 2015
	Episodes	Episodes	Episodes	Episodes
<b>Belfast Health &amp; Social Care Trust</b>	27	27	23	30
<b>Northern Health &amp; Social Care Trust</b>	19	17	10	17
<b>South Eastern Health &amp; Social Care Trust</b>	14	17	15	18
<b>Southern Health &amp; Social Care Trust</b>	8	7	2	7
<b>Western Health &amp; Social Care Trust</b>	14	16	15	5
<b>NI TOTAL</b>	<b>82</b>	<b>84</b>	<b>65</b>	<b>77</b>
<b>NI community TOTAL</b>	<b>48</b>	<b>52</b>	<b>53</b>	<b>47</b>

## Appendix A

**Table 6: Quarterly rate of *C. difficile* reports in patients aged two years and over, by hospital, July 2014 - June 2015**

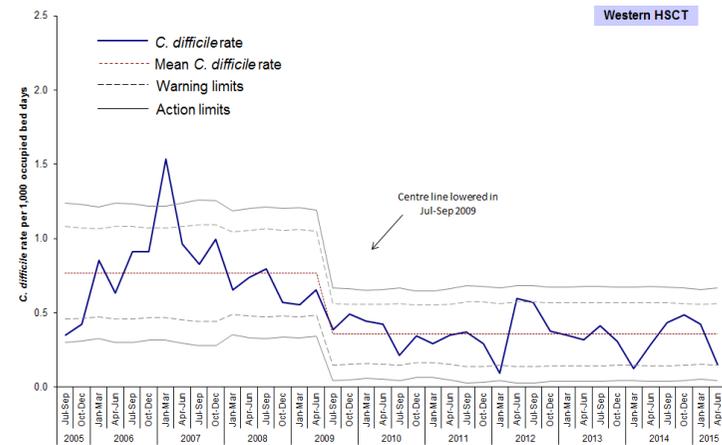
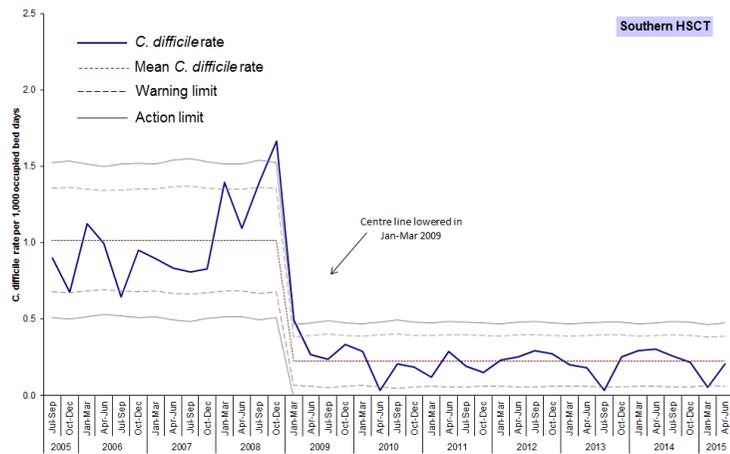
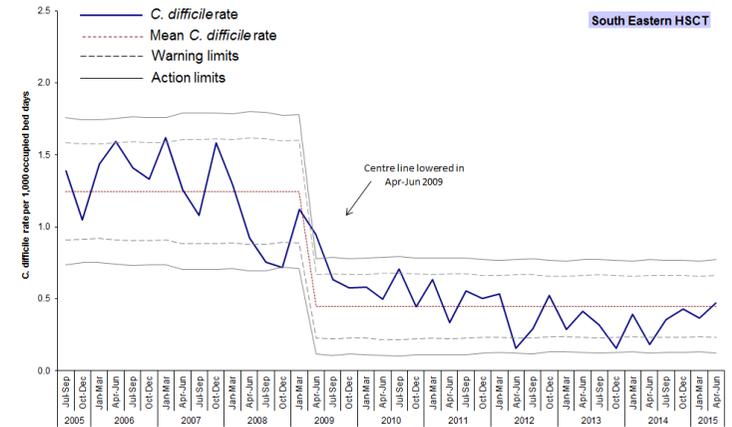
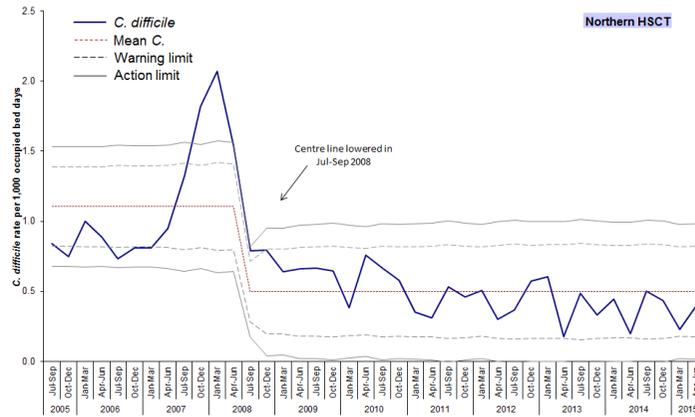
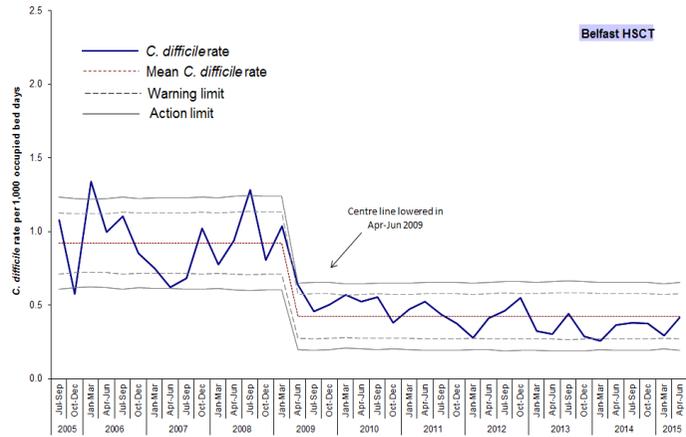
Hospital	Jul - Sept 2014	Oct - Dec 2014	Jan - Mar 2015	Apr - Jun 2015
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.354	0.336	0.263	0.317
Mater Infirmorum	0.151	0.443	0.239	0.625
Musgrave Park Hospital	0.058	0.161	0.222	0.058
NICCO (formerly at Belvoir Park)	0.337	0.164	0.325	0.662
Royal Group of Hospitals	0.300	0.232	0.181	0.145
<b>Belfast Health &amp; Social Care Trust</b>	<b>0.262</b>	<b>0.271</b>	<b>0.217</b>	<b>0.262</b>
Antrim Area Hospital	0.416	0.401	0.255	0.415
Causeway Hospital	0.300	0.124	0.189	0.304
Dalriada Hospital	0.000	0.000	0.000	0.483
Mid Ulster Hospital	0.000	0.000	0.000	0.000
Moyle Hospital	0.000	0.000	0.000	0.000
Robinson Memorial Hospital	0.000	0.000	0.000	0.000
Whiteabbey Hospital	0.272	0.263	0.000	0.000
<b>Northern Health &amp; Social Care Trust</b>	<b>0.328</b>	<b>0.281</b>	<b>0.197</b>	<b>0.335</b>
Ards Hospital	0.000	0.000	0.000	0.000
Bangor Hospital	0.585	0.000	0.000	0.000
Downe Hospital	0.257	1.325	0.276	0.883
Lagan Valley Hospital	0.142	0.277	0.516	0.449
Ulster Hospital	0.304	0.294	0.288	0.292
<b>South Eastern Health &amp; Social Care Trust</b>	<b>0.281</b>	<b>0.343</b>	<b>0.308</b>	<b>0.336</b>
Craigavon Area Hospital	0.272	0.283	0.055	0.224
Daisy Hill Hospital	0.000	0.197	0.127	0.130
Lurgan Hospital	0.229	0.000	0.226	0.469
South Tyrone Hospital	0.000	0.000	0.000	0.000
<b>Southern Health &amp; Social Care Trust</b>	<b>0.182</b>	<b>0.226</b>	<b>0.083</b>	<b>0.206</b>
Altnagelvin Area Hospital	0.380	0.259	0.314	0.261
South West Acute Hospital	0.379	0.645	0.386	0.060
Tyrone County Hospital	0.000	0.000	0.000	0.000
Waterside Hospital (Wards 1, 2, 3, 5)	0.182	0.187	0.179	0.000
<b>Western Health &amp; Social Care Trust</b>	<b>0.343</b>	<b>0.350</b>	<b>0.308</b>	<b>0.169</b>
<b>NI TOTAL</b>	<b>0.277</b>	<b>0.290</b>	<b>0.222</b>	<b>0.263</b>

**Table 7: Quarterly episodes of *C. difficile* reports in patients aged 2 years and over, by Trust, July 2014 - June 2015**

Trust	Jul - Sept 2014	Oct - Dec 2014	Jan - Mar 2015	Apr - Jun 2015
	Episodes	Episodes	Episodes	Episodes
Belfast Health & Social Care Trust	37	39	32	37
Northern Health & Social Care Trust	21	18	13	22
South Eastern Health & Social Care Trust	17	21	19	20
Southern Health & Social Care Trust	10	13	5	12
Western Health & Social Care Trust	20	21	19	10
<b>NI TOTAL</b>	<b>105</b>	<b>112</b>	<b>88</b>	<b>101</b>
<b>NI community TOTAL</b>	<b>59</b>	<b>63</b>	<b>59</b>	<b>59</b>

## Appendix B

### Trends in *C. difficile* rates in inpatients aged 65 years and over, by HSCT and quarter, 2005–2015



## Appendix C

**Table 8: *C. difficile* reports among inpatients in Northern Ireland aged 65 years and over, by financial year and HSCT**

<b>HSCT</b>	<b>Financial Year</b>									
	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Belfast	352	336	280	327	163	147	117	124	90	103
Northern	184	172	297	172	102	103	75	73	56	54
South Eastern	243	256	199	135	98	80	72	50	50	53
Southern	168	130	134	164	37	17	28	33	25	27
Western	96	132	109	104	71	46	35	58	37	54
<b>Northern Ireland</b>	<b>1043</b>	<b>1026</b>	<b>1019</b>	<b>902</b>	<b>471</b>	<b>393</b>	<b>327</b>	<b>338</b>	<b>258</b>	<b>291</b>