

C. difficile surveillance

Quarterly report

October - December 2020

Key points

- CDI reports for hospital inpatients aged 65 years and over decreased by 21% (from 73 to 58 episodes) during October - December 2020 compared to July - September 2020.
- CDI rate per 1,000 bed days decreased by 22% during October - December 2020 compared to July - September 2020.
- CDI reports for community patients aged 65 years and over decreased by 4% (from 48 to 46 episodes) during October - December 2020 compared to July - September 2020.
- Total CDI reports, for hospital inpatients and community patients combined, aged two years and over, decreased by 6% during October - December 2020 compared to July - September 2020 (from 144 to 135 episodes).
- CDI reports for hospital inpatients aged 65 years and over increased by 1% between the 2018/19 and 2019/20 financial years.
- During October - December 2020 the most prevalent ribotypes for CDI inpatients are 002 (14%), 005 (10%) and 078 (8%) (Table 1). The most predominate community ribotypes are 078 (19%), 002 (12%) and 005 (12%) (Table 2).

For further information or clarification on HCAI definitions, please refer to previous reports or contact hcaini@hscni.net

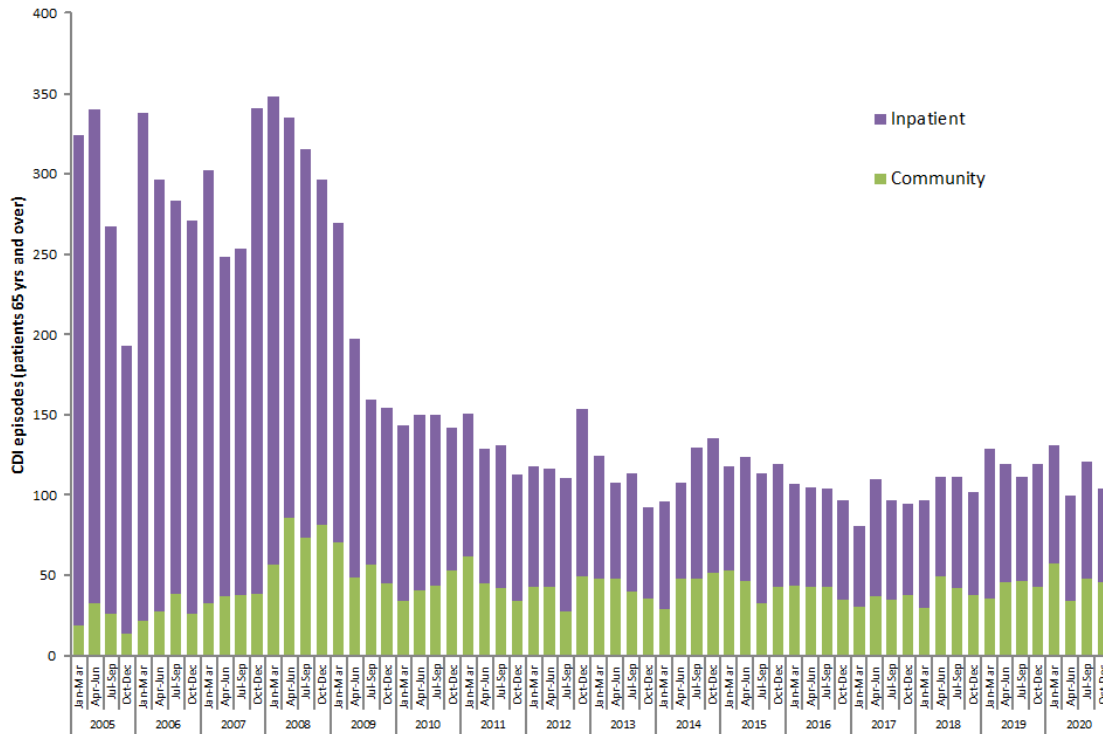


Figure 1: Total CDI episodes, inpatient and community, in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2020

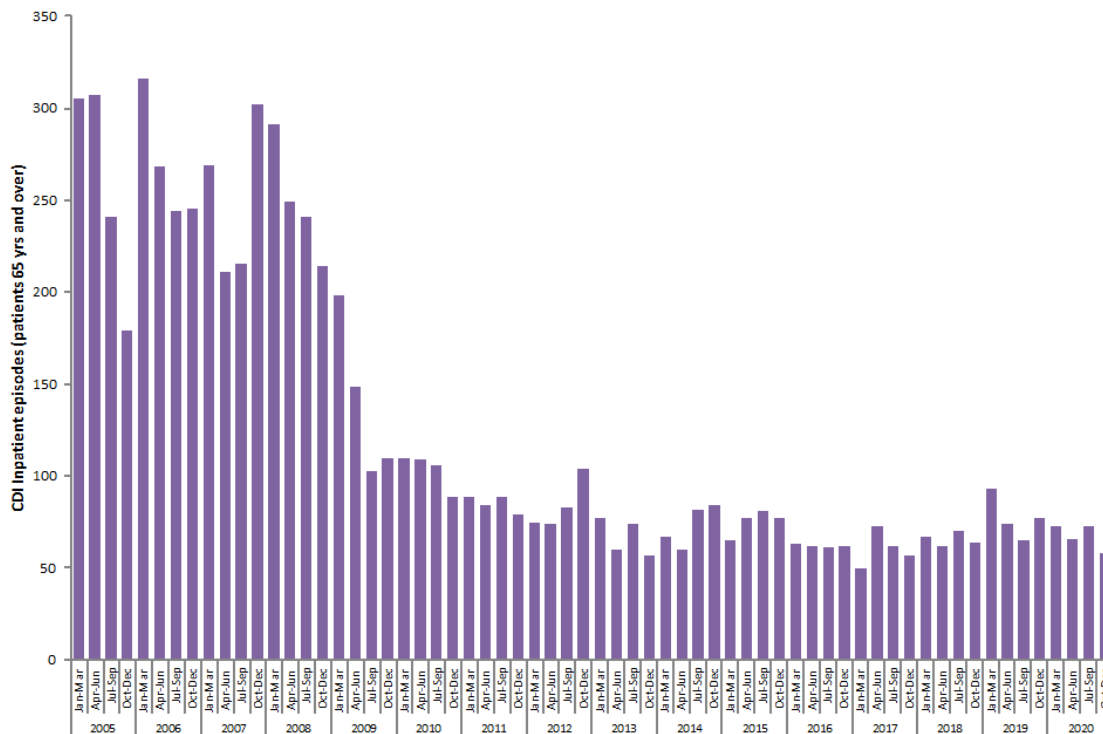


Figure 2a: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2020

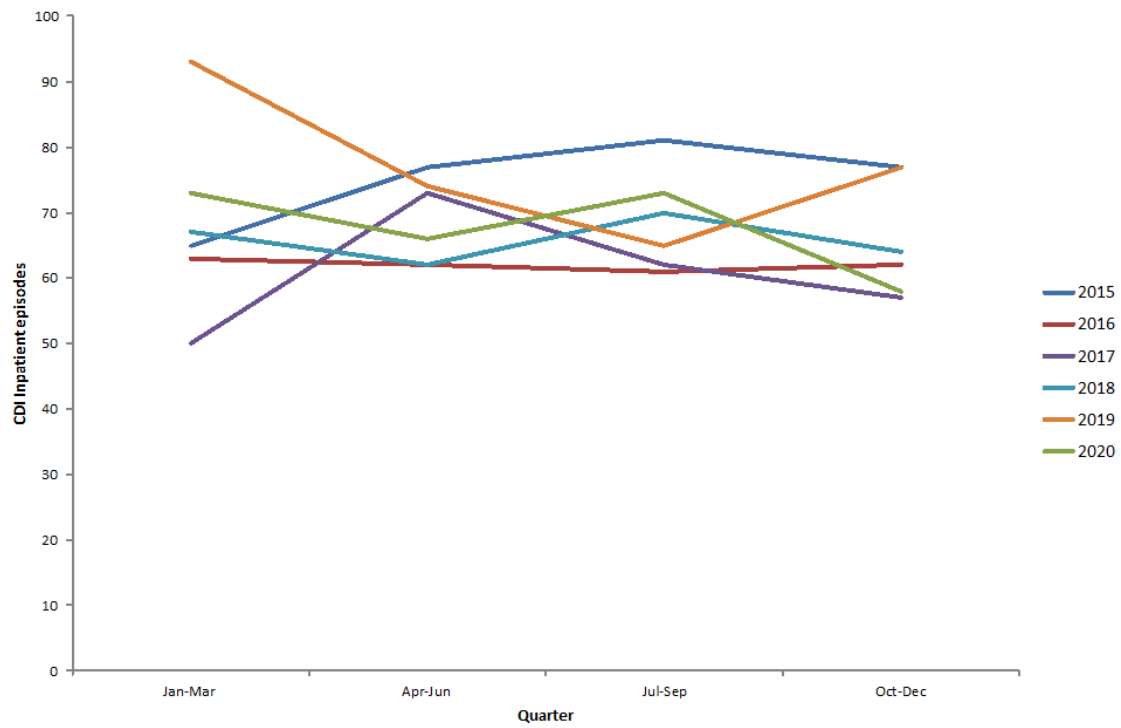


Figure 2b: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2015 and 2020

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.

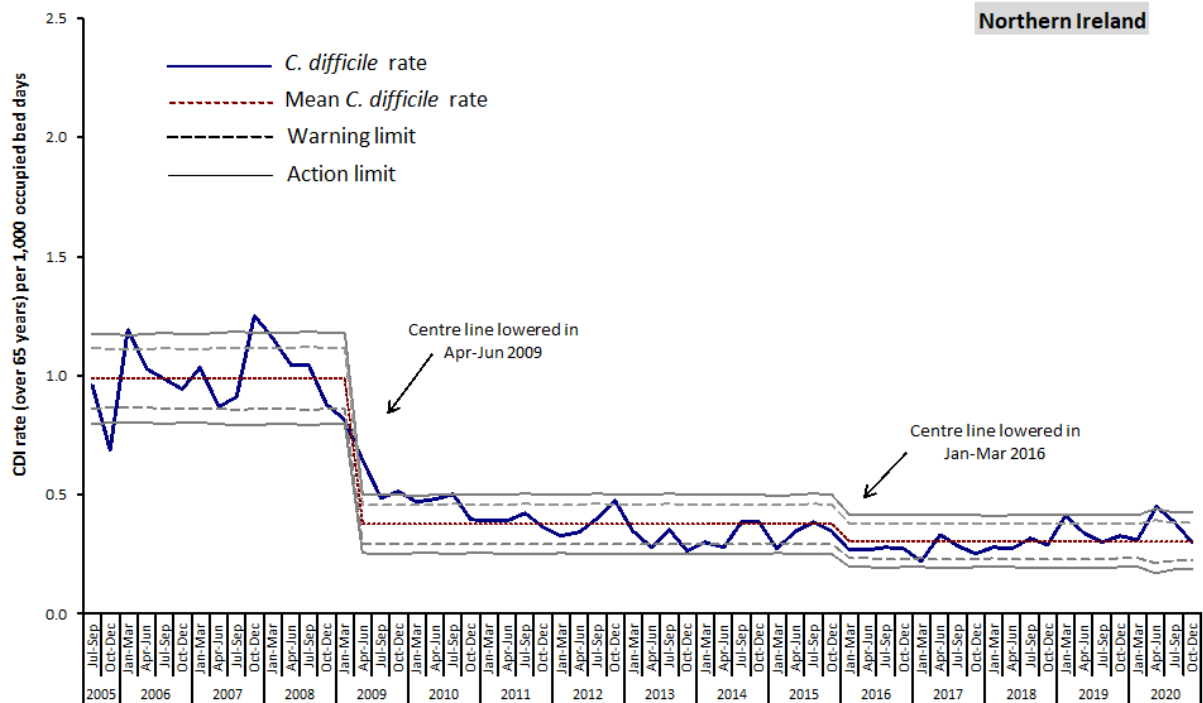


Figure 3: Statistical process control chart for quarterly *C. difficile* rates among inpatients in Northern Ireland aged 65 years and over (for HSCT level, see appendix B)

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, January – December 2020.

Ribotype	Jan - Mar 2020		Apr - Jun 2020		Jul - Sep 2020		Oct - Dec 2020	
	Number	%	Number	%	Number	%	Number	%
001	1	1.1	0	0.0	1	1.1	1	1.3
002	11	12.6	5	6.5	9	10.2	11	14.1
005	5	5.7	5	6.5	6	6.8	8	10.3
011	1	1.1	1	1.3	2	2.3	2	2.6
014	5	5.7	3	3.9	7	8.0	4	5.1
015	8	9.2	8	10.4	3	3.4	4	5.1
018	1	1.1	0	0.0	0	0.0	0	0.0
020	4	4.6	7	9.1	5	5.7	4	5.1
023	1	1.1	2	2.6	5	5.7	4	5.1
078	16	18.4	7	9.1	15	17.0	6	7.7
193	1	1.1	0	0.0	0	0.0	3	3.8
Other	22	25.3	23	29.9	22	25.0	17	21.8
Not groupable**	3	3.4	3	3.9	4	4.5	4	5.1
Not on ribotype list	4	4.6	11	14.3	6	6.8	7	9.0
Not isolated***	4	4.6	2	2.6	3	3.4	3	3.8
Total	87		77		88		78	

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, January – December 2020.

Ribotype	Jan - Mar 2020		Apr - Jun 2020		Jul - Sep 2020		Oct - Dec 2020	
	Number	%	Number	%	Number	%	Number	%
001	2	2.9	1	2.4	1	1.8	0	0.0
002	10	14.3	6	14.6	8	14.3	7	12.3
005	2	2.9	1	2.4	2	3.6	7	12.3
011	2	2.9	1	2.4	0	0.0	1	1.8
014	7	10.0	1	2.4	3	5.4	2	3.5
015	5	7.1	2	4.9	1	1.8	2	3.5
018	3	4.3	2	4.9	1	1.8	1	1.8
020	2	2.9	1	2.4	7	12.5	2	3.5
023	0	0.0	1	2.4	3	5.4	5	8.8
078	10	14.3	4	9.8	9	16.1	11	19.3
193	1	1.4	3	7.3	2	3.6	3	5.3
Other	16	22.9	8	19.5	12	21.4	8	14.0
Not groupable**	2	2.9	0	0.0	3	5.4	3	5.3
Not on ribotype list	5	7.1	8	19.5	4	7.1	5	8.8
Not isolated***	3	4.3	2	4.9	0	0.0	0	0.0
Total	70		41		56		57	

* 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 002, 078 and 005 in Northern Ireland Hospital Inpatients and Community Patients, October - December 2020.

	002 (n =18)		078 (n = 17)		005 (n = 15)	
Age						
range	43-94		74-97		17-96	
median	83		89		73	
Sex						
	n	%	n	%	n	%
Female	11	61.1	3	17.6	11	73.3
Male	7	38.9	14	82.4	4	26.7
Trust						
Belfast	7	38.9	2	11.8	3	20.0
Northern	2	11.1	3	17.6	3	20.0
South Eastern	3	16.7	1	5.9	5	33.3
Southern	3	16.7	5	29.4	3	20.0
Western	3	16.7	6	35.3	1	6.7
Source						
Inpatient	11	61.1	6	35.3	8	53.3
Community*	7	38.9	11	64.7	7	46.7

* Community specimens include those taken from Accident and Emergency, Outpatients, GPs, Hospice, Care Homes, Hospital Care at Home and Psychiatric facilities.

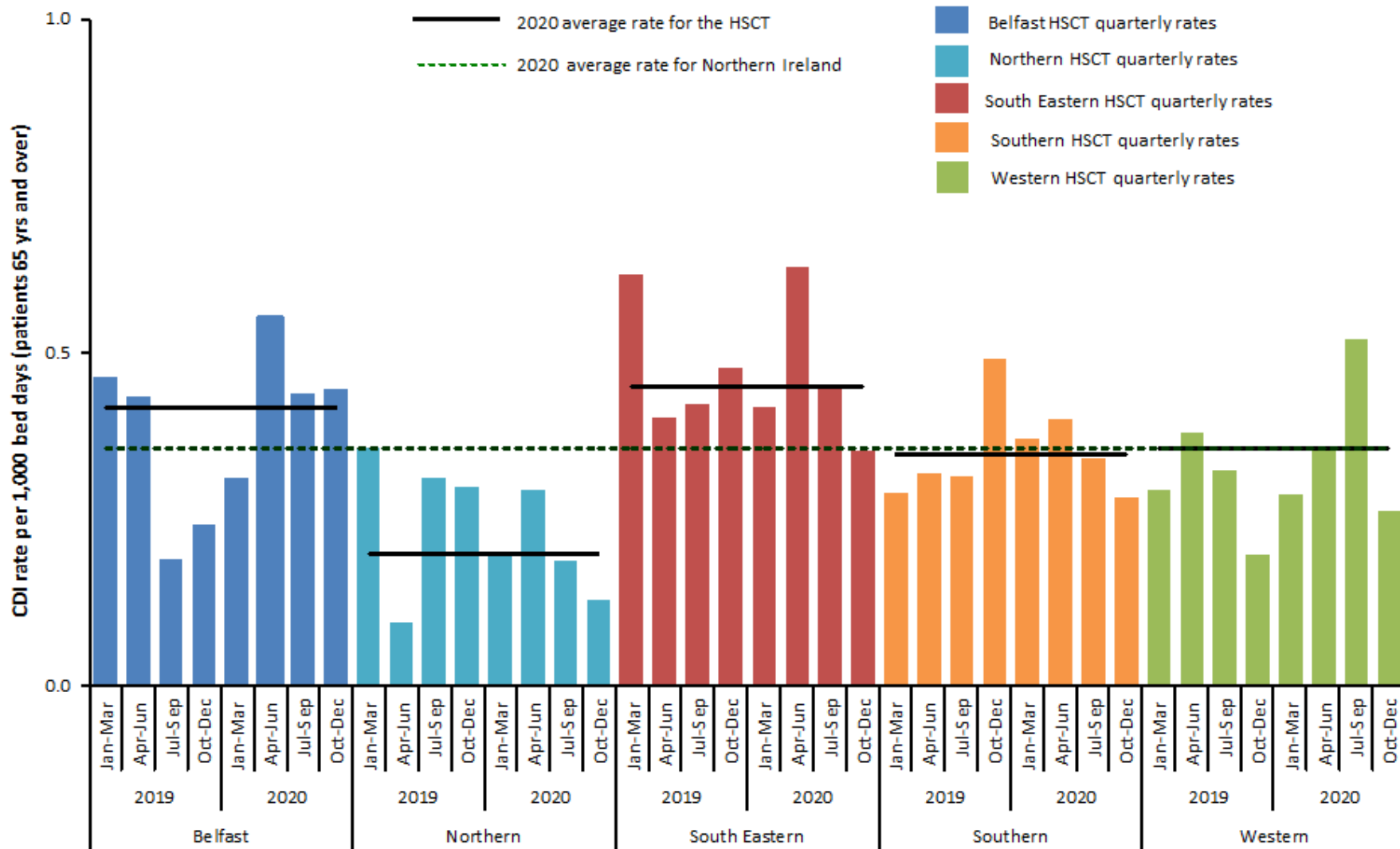


Figure 4: Quarterly rates of *C. difficile* among inpatients aged 65 years and over, by HSCT, January 2019 – December 2020, compared with annual Northern Ireland and HSCT rates for 2020

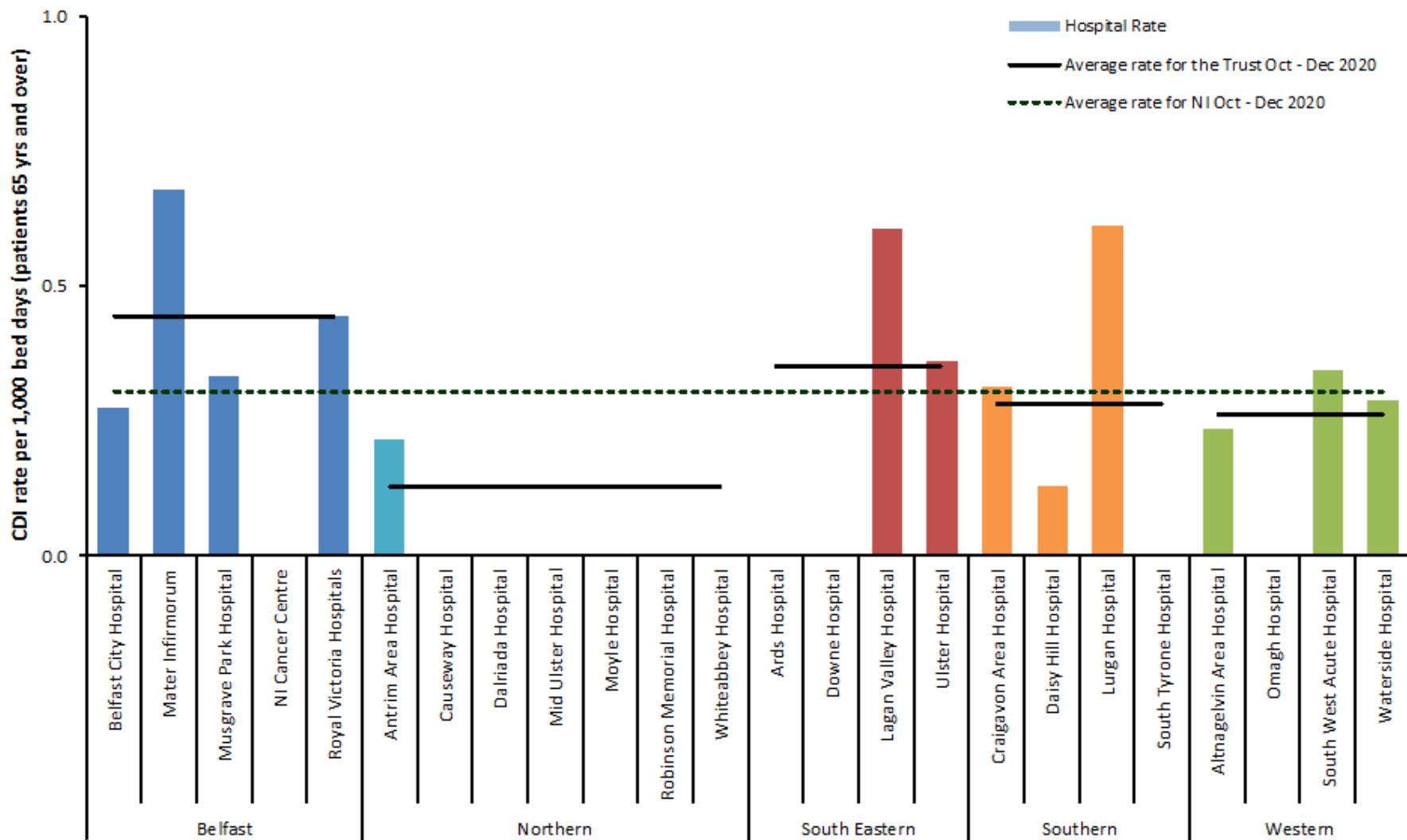


Figure 5: *C. difficile* rates during October – December 2020 - Inpatients aged 65 years and over, by hospital, including HSC rates and average rate for Northern Ireland (see appendix A, Table 4)

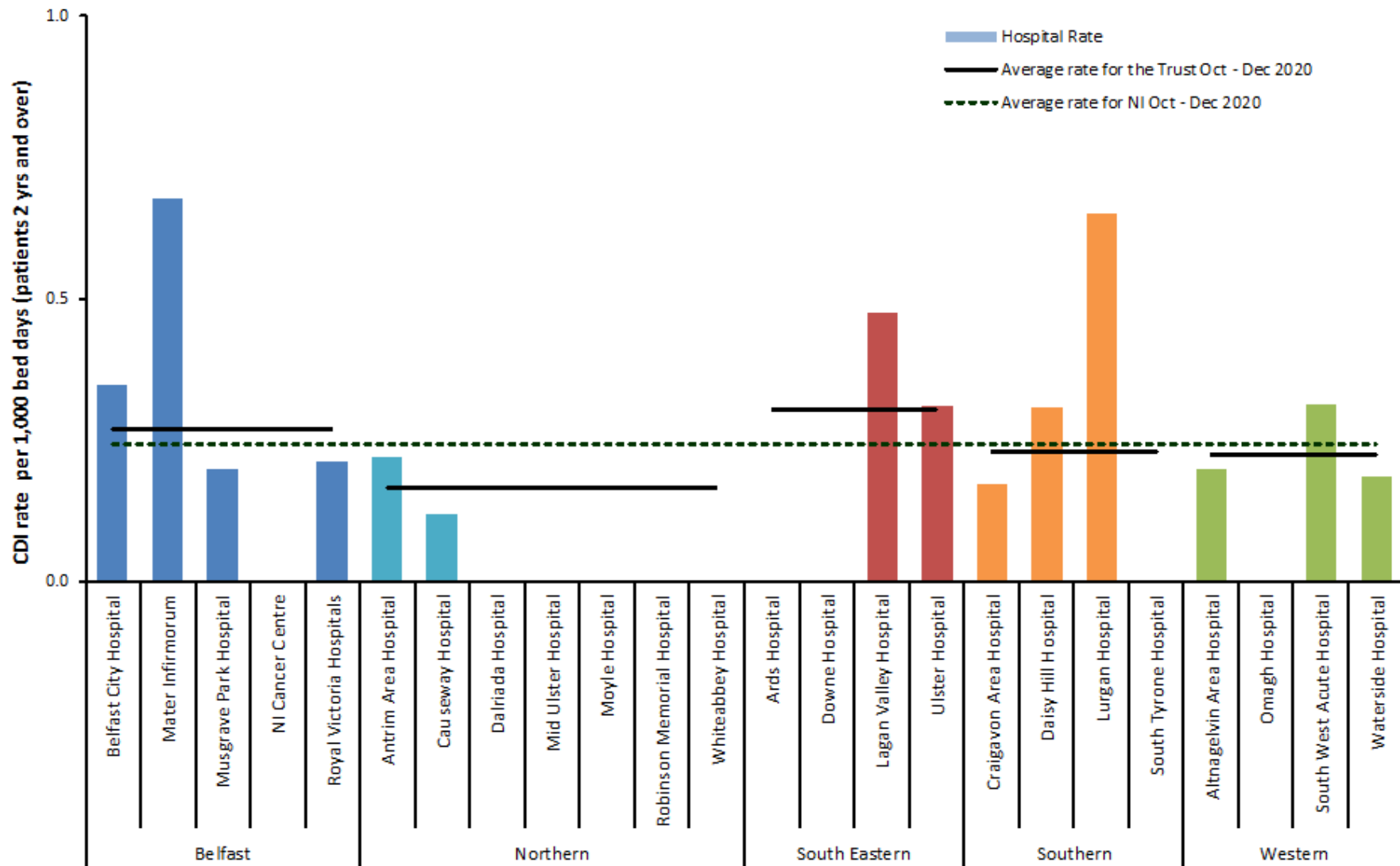


Figure 6: *C. difficile* rates October – December 2020 Inpatients aged two years and over, by hospital, including HSCT rates and average rate for Northern Ireland (see appendix A, Table 6)

Appendix A

Table 4: Quarterly rate of *C. difficile* reports in patients aged 65 years and over, by hospital, Jan-Dec 2020.

Hospital	Jan - Mar 2020	Apr - Jun 2020	Jul - Sep 2020	Oct - Dec 2020
Belfast City Hospital	0.339	0.000	0.231	0.273
Mater Infirmorum	0.714	0.682	0.470	0.677
Musgrave Park Hospital	0.112	0.259	0.167	0.331
NICCO	0.000	0.559	1.085	0.000
Royal Group of Hospitals	0.254	0.628	0.472	0.444
Belfast Health & Social Care Trust	0.312	0.552	0.436	0.443
Antrim Area Hospital	0.194	0.337	0.222	0.214
Causeway Hospital	0.281	0.281	0.214	0.000
Dalriada Hospital	0.000	0.000	0.000	0.000
Mid Ulster Hospital	0.604	1.034	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	0.000	0.000	0.000	0.000
Northern Health & Social Care Trust	0.195	0.294	0.188	0.128
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.649	0.450	0.344	0.000
Lagan Valley Hospital	0.000	0.483	0.661	0.606
Ulster Hospital	0.491	0.707	0.442	0.358
South Eastern Health & Social Care Trust	0.416	0.626	0.445	0.351
Craigavon Area Hospital	0.321	0.328	0.338	0.311
Daisy Hill Hospital	0.652	0.334	0.297	0.131
Lurgan Hospital	0.250	0.816	0.644	0.611
South Tyrone Hospital	0.000	0.746	0.000	0.000
Southern Health & Social Care Trust	0.368	0.399	0.342	0.282
Altnagelvin Area Hospital	0.541	0.517	0.671	0.233
Omagh Hospital	0.000	0.000	0.489	0.000
South West Acute Hospital	0.077	0.320	0.487	0.343
Waterside Hospital	0.000	0.000	0.000	0.286
Western Health & Social Care Trust	0.288	0.353	0.519	0.263
NI TOTAL	0.312	0.448	0.388	0.302

Table 5: Quarterly number of *C. difficile* reports in patients aged 65 years and over, by HSCT, Jan-Dec 2020.

Trust	Jan - Mar 2020 Episodes	Apr - Jun 2020 Episodes	Jul - Sep 2020 Episodes	Oct - Dec 2020 Episodes
Belfast Health & Social Care Trust	22	20	21	22
Northern Health & Social Care Trust	9	9	7	5
South Eastern Health & Social Care Trust	17	17	16	13
Southern Health & Social Care Trust	14	10	11	9
Western Health & Social Care Trust	11	10	18	9
NI TOTAL	73	66	73	58
NI community TOTAL	58	34	48	46

Appendix A

Table 6: Quarterly rate of *C. difficile* reports in patients aged two years and over, by hospital, Jan-Dec 2020.

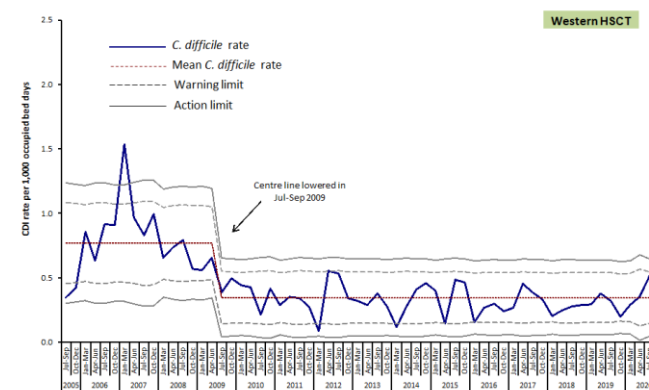
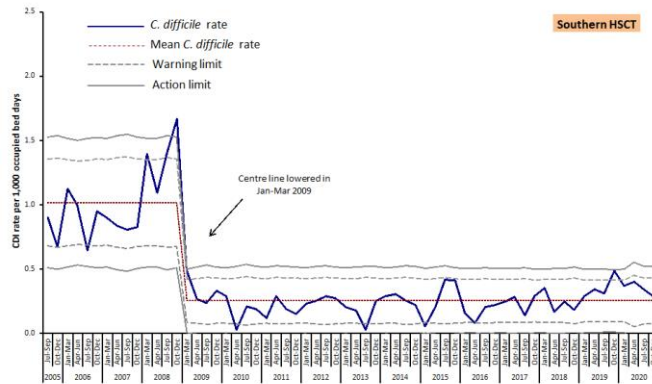
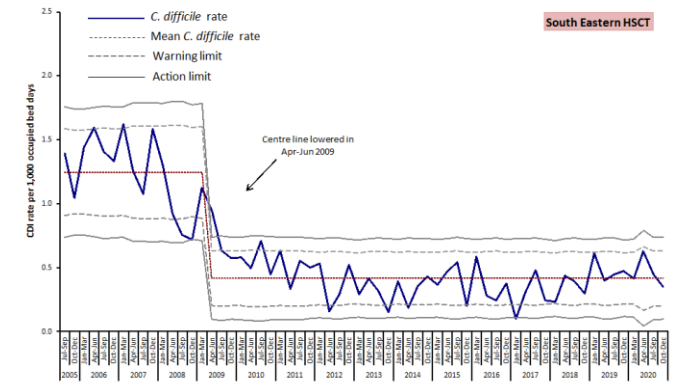
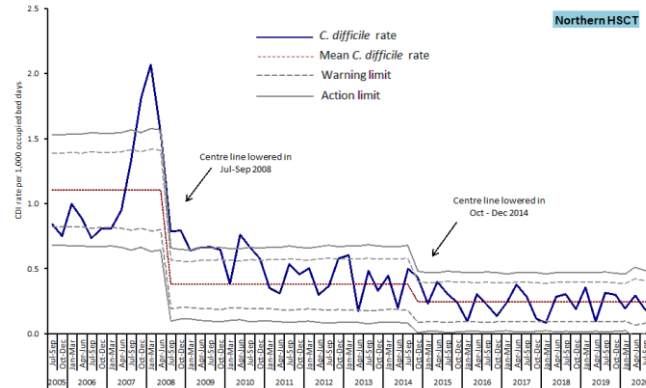
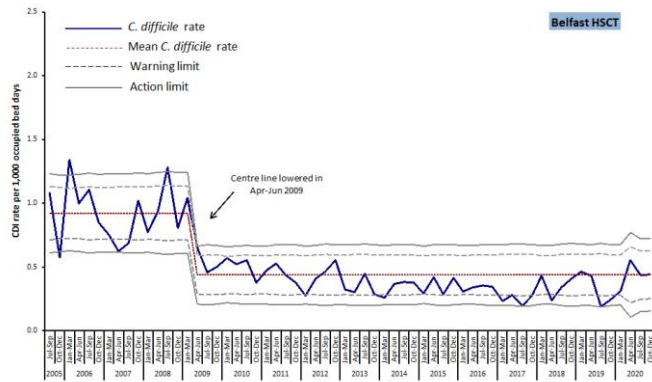
Hospital	Jan - Mar 2020	Apr - Jun 2020	Jul - Sep 2020	Oct - Dec 2020
Belfast City Hospital	0.280	0.000	0.100	0.347
Mater Infirmorum	0.589	0.441	0.447	0.678
Musgrave Park Hospital	0.068	0.127	0.100	0.200
NICCO	0.212	0.482	0.585	0.000
Royal Group of Hospitals	0.154	0.314	0.237	0.212
Belfast Health & Social Care Trust	0.215	0.295	0.245	0.269
Antrim Area Hospital	0.153	0.194	0.136	0.218
Causeway Hospital	0.176	0.163	0.189	0.120
Dalriada Hospital	0.000	0.000	0.000	0.000
Mid Ulster Hospital	0.665	0.870	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	0.000	0.000	0.000	0.000
Northern Health & Social Care Trust	0.152	0.181	0.137	0.167
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.545	0.421	0.316	0.000
Lagan Valley Hospital	0.000	0.401	0.518	0.474
Ulster Hospital	0.306	0.455	0.305	0.310
South Eastern Health & Social Care Trust	0.278	0.432	0.320	0.304
Craigavon Area Hospital	0.302	0.225	0.314	0.175
Daisy Hill Hospital	0.371	0.462	0.240	0.307
Lurgan Hospital	0.232	0.728	0.604	0.652
South Tyrone Hospital	0.000	0.704	0.000	0.000
Southern Health & Social Care Trust	0.300	0.336	0.305	0.230
Altnagelvin Area Hospital	0.442	0.400	0.510	0.201
Omagh Hospital	0.000	0.000	0.430	0.000
South West Acute Hospital	0.059	0.312	0.365	0.314
Waterside Hospital	0.000	0.000	0.000	0.188
Western Health & Social Care Trust	0.267	0.314	0.416	0.225
NI TOTAL	0.236	0.304	0.277	0.243

Table 7: Quarterly number of *C. difficile* reports in patients aged two years and over, by HSCT, Jan-Dec 2020.

Trust	Jan - Mar 2020 Episodes	Apr - Jun 2020 Episodes	Jul - Sep 2020 Episodes	Oct - Dec 2020 Episodes
Belfast Health & Social Care Trust	26	23	24	27
Northern Health & Social Care Trust	10	9	8	10
South Eastern Health & Social Care Trust	17	17	18	17
Southern Health & Social Care Trust	18	14	16	12
Western Health & Social Care Trust	16	14	22	12
NI TOTAL	87	77	88	78
NI community TOTAL	70	41	56	57

Appendix B

Trends in *C. difficile* rates in inpatients aged 65 years and over, by HSCT and quarter, 2005 – 2020



Appendix C

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

HSCT	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Belfast	280	327	163	147	117	124	90	103	102	90	83	99	81
Northern	297	172	102	103	75	73	56	54	43	39	37	48	39
South Eastern	199	135	98	80	72	50	50	53	70	39	50	68	68
Southern	134	164	37	17	28	33	25	27	40	27	39	32	57
Western	109	104	71	46	35	58	37	53	43	40	50	41	45
Northern Ireland	1019	902	471	393	327	338	258	290	298	235	259	288	290