

C. difficile surveillance

Quarterly report

October – December 2021

Key points

- CDI reports for hospital inpatients aged 65 years and over decreased by 1% (from 78 to 77 episodes) during October - December 2021 compared to July – September 2021.
- CDI rate per 1,000 bed days decreased by 6% during October - December 2021 compared to July – September 2021.
- CDI reports for community patients aged 65 years and over increased by 2% (from 44 to 45 episodes) during October - December 2021 compared to July – September 2021.
- Total CDI reports, for hospital inpatients and community patients combined, aged two years and over, decreased by 1% during October - December 2021 compared to July – September 2021 (from 165 to 163 episodes).
- CDI reports for hospital inpatients aged 65 years and over decreased by 9% between the 2019/20 and 2020/21 financial years.
- During October - December 2021 the most prevalent ribotypes for CDI inpatients are 078 (16%), 002 (9%), and 020 (9%) (Table 1). The most predominate community ribotypes are 002 (20%), 005 (12%) and 078 (8%) (Table 2).

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

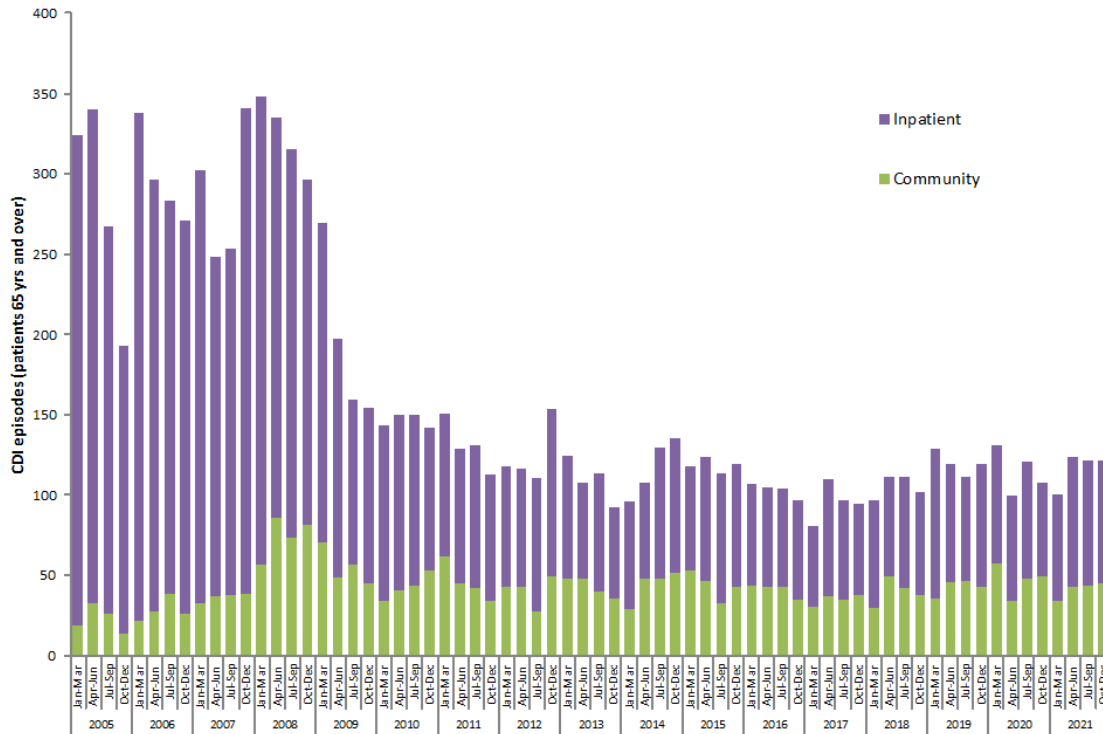


Figure 1: Total CDI episodes, inpatient and community, in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2021

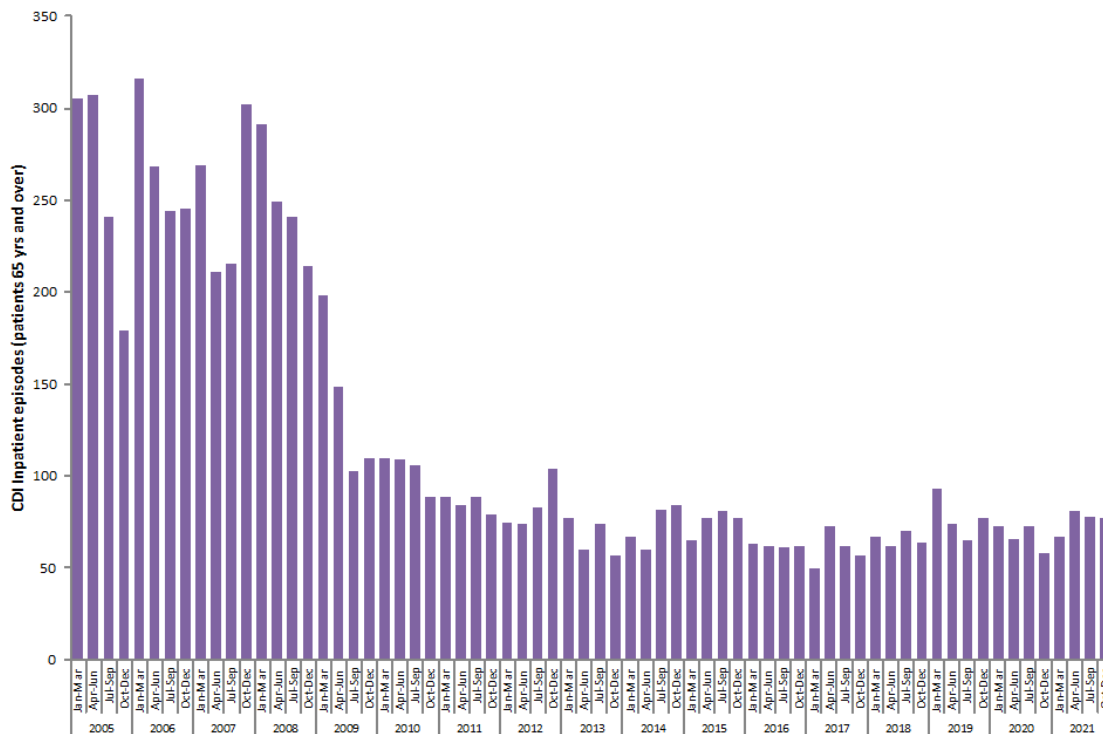


Figure 2a: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2021

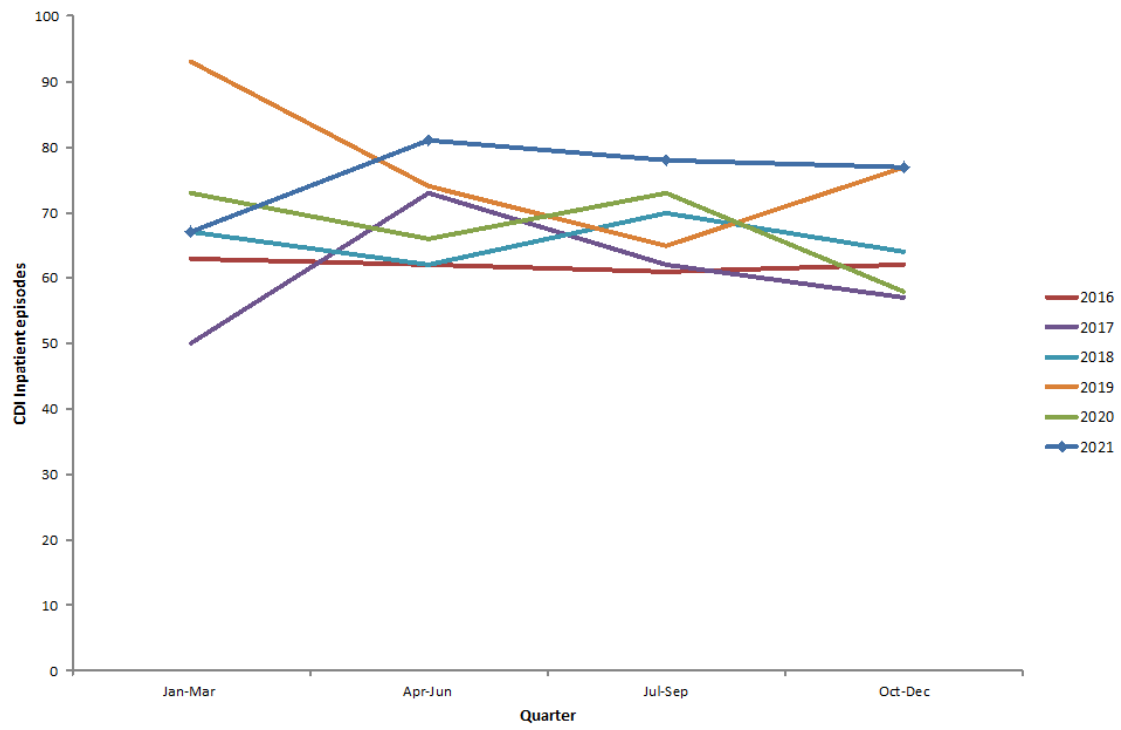


Figure 2b: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2016 and 2021

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.

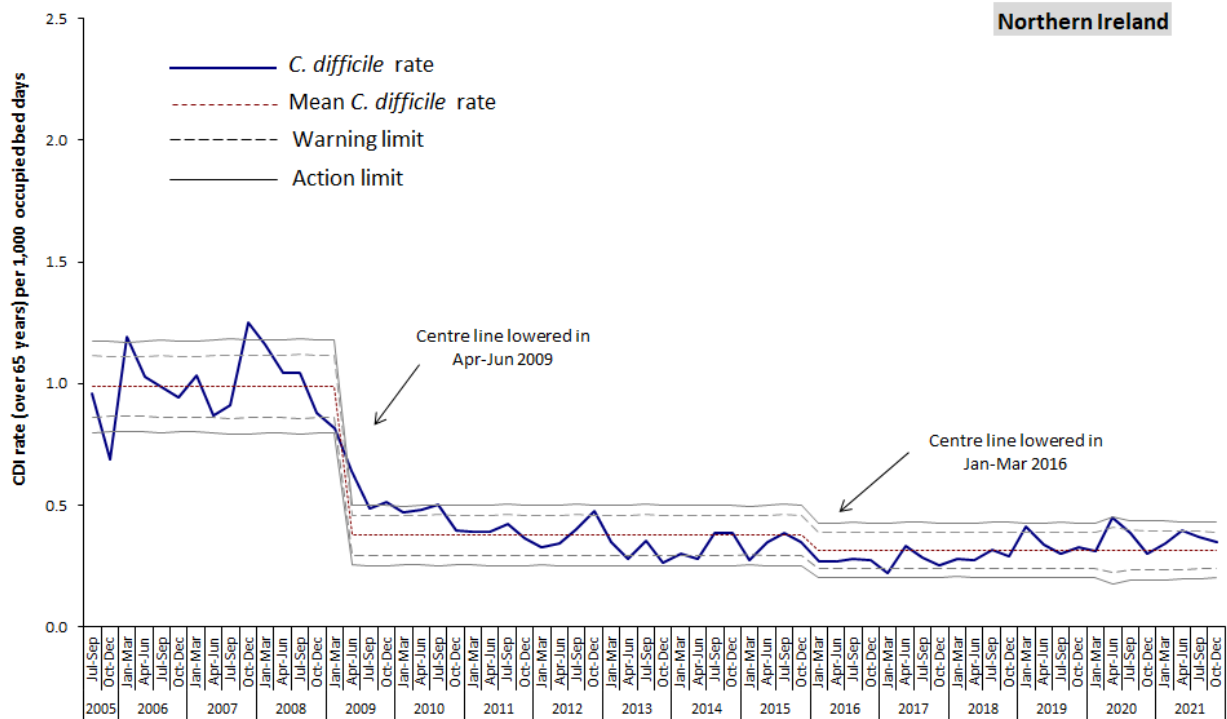


Figure 3: Statistical process control chart for quarterly *C. difficile* rates among inpatients in Northern Ireland aged 65 years and over (for HSCT level, see appendix B)

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 2021 – December 2021.

Ribotype	Jan - Mar 2021		Apr - Jun 2021		Jul - Sep 2021		Oct - Dec 2021	
	Number	%	Number	%	Number	%	Number	%
001	0	0.0	1	0.9	0	0.0	1	1.0
002	11	12.9	8	7.1	11	10.7	9	8.7
005	11	12.9	10	8.8	8	7.8	7	6.8
011	3	3.5	3	2.7	2	1.9	2	1.9
014	10	11.8	14	12.4	5	4.9	8	7.8
015	8	9.4	7	6.2	8	7.8	6	5.8
018	0	0.0	2	1.8	2	1.9	3	2.9
020	8	9.4	5	4.4	5	4.9	9	8.7
023	3	3.5	2	1.8	4	3.9	0	0.0
078	3	3.5	22	19.5	20	19.4	16	15.5
193	0	0.0	1	0.9	2	1.9	2	1.9
Other	18	21.2	20	17.7	20	19.4	22	21.4
Not groupable**	4	4.7	7	6.2	4	3.9	9	8.7
Not on ribotype list	4	4.7	9	8.0	8	7.8	6	5.8
Not isolated***	2	2.4	2	1.8	4	3.9	3	2.9
Total	85		113		103		103	

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 2021 – December 2021.

Ribotype	Jan - Mar 2021		Apr - Jun 2021		Jul - Sep 2021		Oct - Dec 2021	
	Number	%	Number	%	Number	%	Number	%
001	0	0.0	0	0.0	1	1.6	0	0.0
002	4	8.9	8	15.1	4	6.5	12	20.0
005	3	6.7	7	13.2	3	4.8	7	11.7
011	2	4.4	1	1.9	1	1.6	1	1.7
014	2	4.4	5	9.4	3	4.8	4	6.7
015	2	4.4	4	7.5	4	6.5	1	1.7
018	1	2.2	1	1.9	1	1.6	3	5.0
020	2	4.4	1	1.9	6	9.7	4	6.7
023	2	4.4	0	0.0	1	1.6	1	1.7
078	4	8.9	6	11.3	12	19.4	5	8.3
193	4	8.9	4	7.5	0	0.0	1	1.7
Other	11	24.4	7	13.2	12	19.4	14	23.3
Not groupable**	3	6.7	2	3.8	5	8.1	2	3.3
Not on ribotype list	4	8.9	7	13.2	9	14.5	5	8.3
Not isolated***	1	2.2	0	0.0	0	0.0	0	0.0
Total	45		53		62		60	

* 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 005 in Northern Ireland Hospital Inpatients and Community Patients, October – December 2021.

	078 (n = 21)		002 (n = 21)		005 (n = 14)	
Age						
range	51 - 100		16 - 94		28 - 94	
median	75		75		79	
Sex						
	n	%	n	%	n	%
Female	11	52.4	12	57.1	6	42.9
Male	10	47.6	9	42.9	8	57.1
Trust						
Belfast	6	28.6	8	38.1	2	14.3
Northern	2	9.5	5	23.8	3	21.4
South Eastern	1	4.8	5	23.8	2	14.3
Southern	5	23.8	3	14.3	4	28.6
Western	7	33.3	0	0.0	3	21.4
Source						
Inpatient	16	76.2	9	42.9	7	50.0
Community*	5	23.8	12	57.1	7	50.0

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

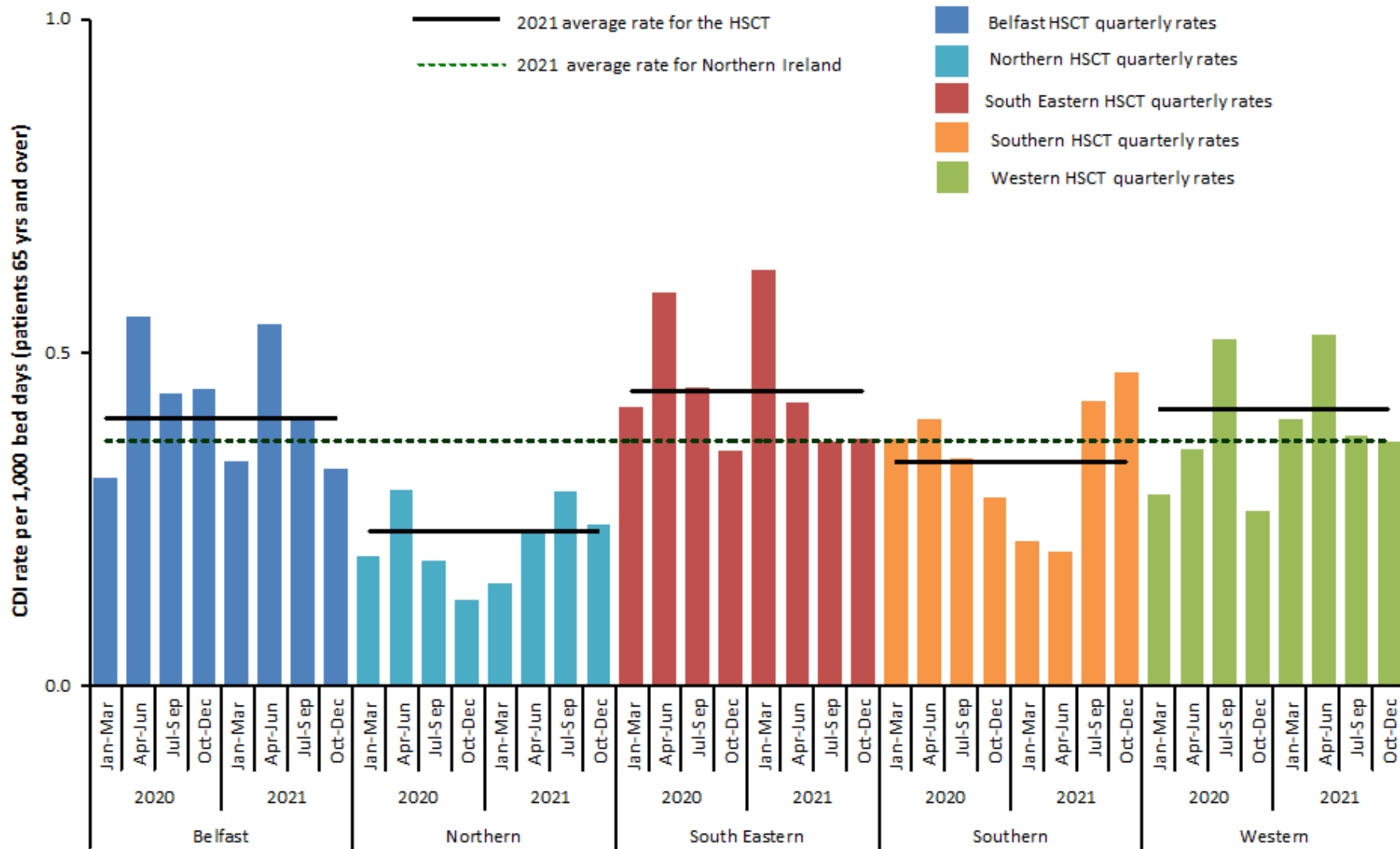


Figure 4: Quarterly rates of *C. difficile* among inpatients aged 65 years and over, by HSCT, January 2020 – December 2021, compared with annual Northern Ireland and HSCT rates for 2021

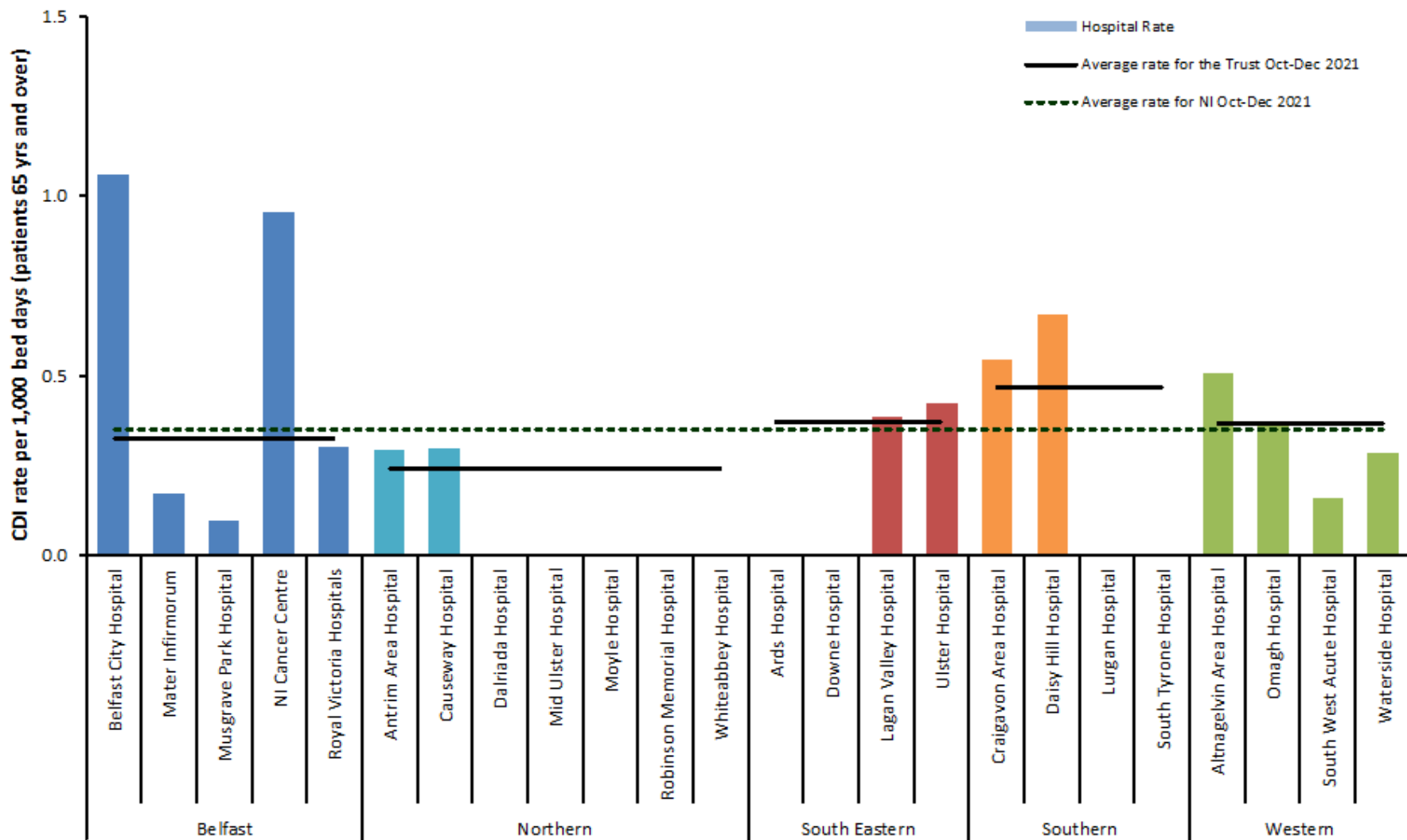


Figure 5: *C. difficile* rates during October - December 2021 - Inpatients aged 65 years and over, by hospital, including HSC Trust rates and average rate for Northern Ireland (see appendix A, Table 4)

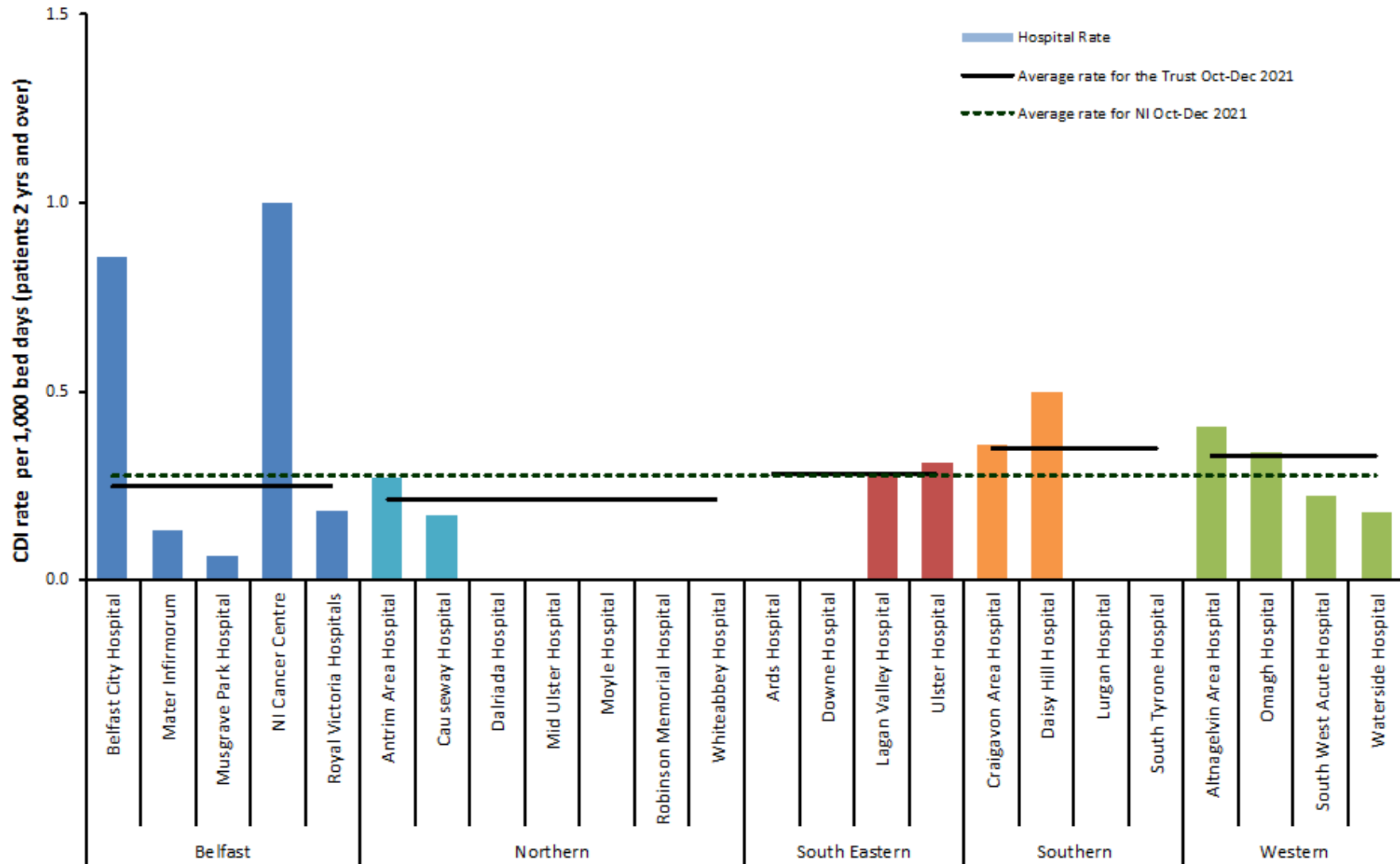


Figure 6: *C. difficile* rates October - December 2021 Inpatients aged two years and over, by hospital, including HSCT rates and average rate for Northern Ireland (see appendix A, Table 6)

Appendix A

Table 4: Quarterly rate of *C. difficile* reports in patients aged 65 years and over, by hospital, Jan-Dec 2021.

Hospital	Jan - Mar 2021	Apr - Jun 2021	Jul - Sep 2021	Oct - Dec 2021
Belfast City Hospital	0.910	0.487	0.254	1.058
Mater Infirmorum	0.258	0.299	0.492	0.176
Musgrave Park Hospital	0.000	0.256	0.113	0.101
NICCO	0.526	1.144	0.000	0.952
Royal Group of Hospitals	0.330	0.662	0.488	0.300
Belfast Health & Social Care Trust	0.337	0.541	0.400	0.326
Antrim Area Hospital	0.223	0.262	0.343	0.292
Causeway Hospital	0.101	0.303	0.383	0.298
Dalriada Hospital	0.000	0.000	0.000	0.000
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	0.000	0.000	0.000	0.000
Northern Health & Social Care Trust	0.155	0.232	0.292	0.242
Ards Hospital	0.805	0.000	0.707	0.000
Downe Hospital	0.690	0.000	0.000	0.000
Lagan Valley Hospital	0.000	0.523	0.388	0.383
Ulster Hospital	0.716	0.473	0.383	0.422
South Eastern Health & Social Care Trust	0.621	0.424	0.365	0.370
Craigavon Area Hospital	0.211	0.293	0.410	0.541
Daisy Hill Hospital	0.249	0.117	0.583	0.669
Lurgan Hospital	0.000	0.000	0.478	0.000
South Tyrone Hospital	0.433	0.000	0.000	0.000
Southern Health & Social Care Trust	0.216	0.201	0.426	0.469
Altnagelvin Area Hospital	0.618	0.622	0.564	0.507
Omagh Hospital	0.000	0.450	0.000	0.359
South West Acute Hospital	0.263	0.534	0.178	0.162
Waterside Hospital	0.000	0.000	0.289	0.288
Western Health & Social Care Trust	0.399	0.524	0.374	0.365
NI TOTAL	0.346	0.398	0.373	0.350

Table 5: Quarterly number of *C. difficile* reports in patients aged 65 years and over, by HSCT, Jan-Dec 2021.

Trust	Jan - Mar 2021 Episodes	Apr - Jun 2021 Episodes	Jul - Sep 2021 Episodes	Oct - Dec 2021 Episodes
Belfast Health & Social Care Trust	17	30	23	20
Northern Health & Social Care Trust	6	9	12	10
South Eastern Health & Social Care Trust	23	17	14	15
Southern Health & Social Care Trust	7	7	16	18
Western Health & Social Care Trust	14	18	13	14
NI TOTAL	67	81	78	77
NI community TOTAL	34	43	44	45

Appendix A

Table 6: Quarterly rate of *C. difficile* reports in patients aged two years and over, by hospital, Jan-Dec 2021.

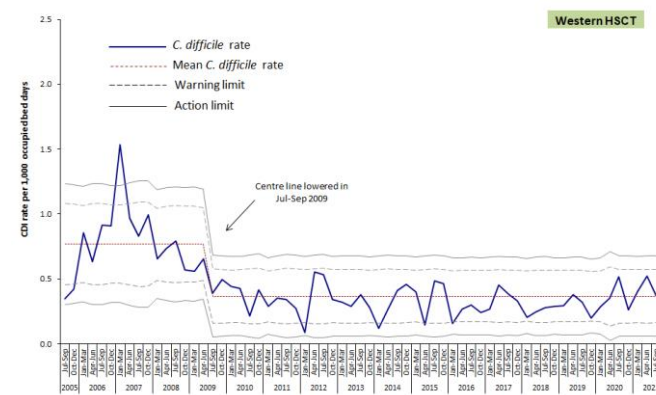
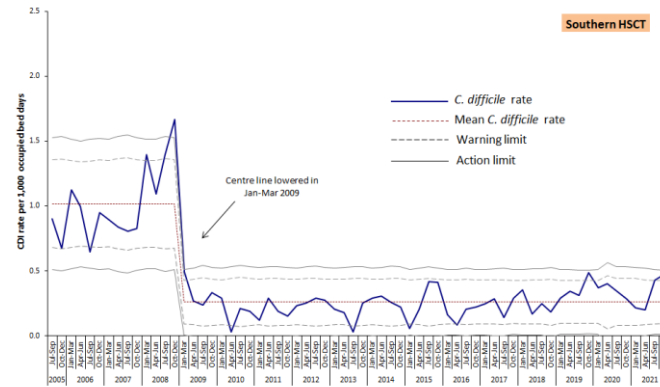
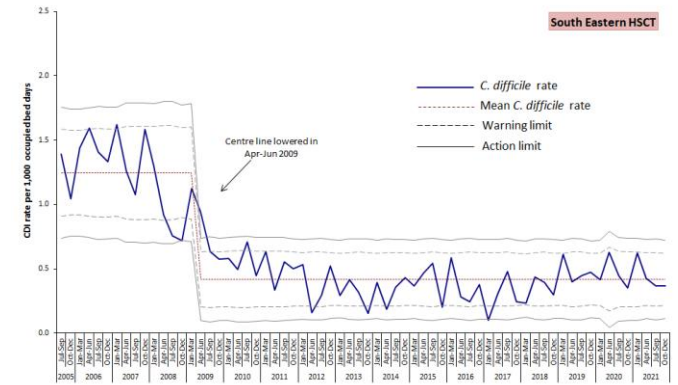
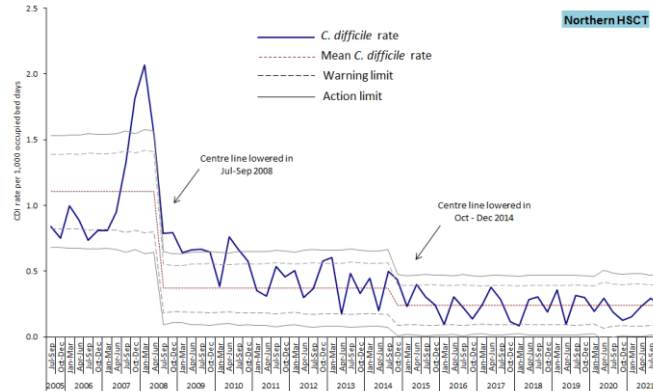
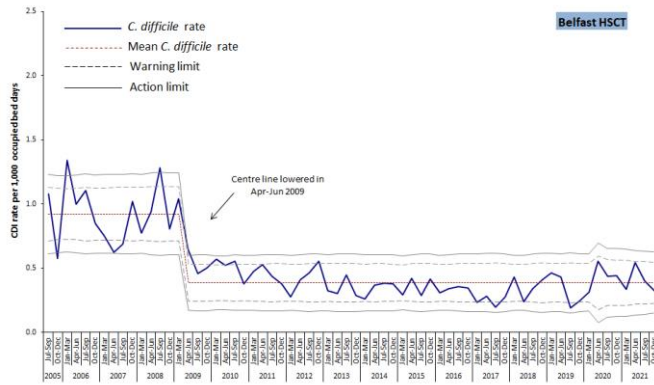
Hospital	Jan - Mar 2021	Apr - Jun 2021	Jul - Sep 2021	Oct - Dec 2021
Belfast City Hospital	0.444	0.382	0.190	0.857
Mater Infirmorum	0.182	0.323	0.441	0.133
Musgrave Park Hospital	0.000	0.162	0.074	0.067
NICCO	0.808	0.516	0.539	1.001
Royal Group of Hospitals	0.272	0.449	0.275	0.185
Belfast Health & Social Care Trust	0.271	0.399	0.272	0.250
Antrim Area Hospital	0.140	0.270	0.231	0.274
Causeway Hospital	0.141	0.206	0.394	0.173
Dalriada Hospital	0.000	0.000	0.000	0.000
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	0.000	0.000	0.000	0.000
Northern Health & Social Care Trust	0.124	0.221	0.247	0.211
Ards Hospital	0.781	0.000	0.654	0.000
Downe Hospital	0.657	0.000	0.000	0.000
Lagan Valley Hospital	0.159	0.565	0.289	0.290
Ulster Hospital	0.470	0.379	0.257	0.311
South Eastern Health & Social Care Trust	0.452	0.369	0.256	0.282
Craigavon Area Hospital	0.115	0.248	0.338	0.355
Daisy Hill Hospital	0.227	0.066	0.452	0.496
Lurgan Hospital	0.000	0.000	0.455	0.000
South Tyrone Hospital	0.394	0.000	0.000	0.000
Southern Health & Social Care Trust	0.148	0.173	0.359	0.348
Altnagelvin Area Hospital	0.493	0.480	0.400	0.404
Omagh Hospital	0.000	0.406	0.000	0.335
South West Acute Hospital	0.190	0.487	0.233	0.225
Waterside Hospital	0.000	0.000	0.181	0.181
Western Health & Social Care Trust	0.332	0.432	0.311	0.328
NI TOTAL	0.266	0.330	0.286	0.278

Table 7: Quarterly number of *C. difficile* reports in patients aged two years and over, by HSCT, Jan-Dec 2021.

Trust	Jan - Mar 2021 Episodes	Apr - Jun 2021 Episodes	Jul - Sep 2021 Episodes	Oct - Dec 2021 Episodes
Belfast Health & Social Care Trust	27	44	31	30
Northern Health & Social Care Trust	7	13	16	14
South Eastern Health & Social Care Trust	25	22	16	17
Southern Health & Social Care Trust	8	10	22	22
Western Health & Social Care Trust	18	24	18	20
NI TOTAL	85	113	103	103
NI community TOTAL	45	53	62	60

Appendix B

Trends in *C. difficile* rates in inpatients aged 65 years and over, by HSCT and quarter, 2005 – 2021



Appendix C

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

HSCT	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Belfast	327	163	147	117	124	90	103	102	90	83	98	80	80
Northern	172	102	103	75	73	56	54	43	39	37	48	39	27
South Eastern	135	98	80	72	50	50	53	70	39	50	67	68	68
Southern	164	37	17	28	33	25	27	40	27	39	32	57	37
Western	104	71	46	35	58	37	53	43	40	50	41	45	51
Northern Ireland	902	471	393	327	338	258	290	298	235	259	286	289	263