

C. difficile surveillance

Quarterly report

January – March 2022

Key points

- CDI reports for hospital inpatients aged 65 years and over decreased by 23% (from 78 to 60 episodes) during January - March 2022 compared to October – December 2021.
- CDI rate per 1,000 bed days decreased by 25% during January - March 2022 compared to October – December 2021.
- CDI reports for community patients aged 65 years and over remained the same (44 episodes) during January - March 2022 compared to October – December 2021.
- Total CDI reports, for hospital inpatients and community patients combined, aged two years and over, decreased by 18% during January - March 2022 compared to October – December 2021 (from 163 to 133 episodes).
- CDI reports for hospital inpatients aged 65 years and over increased by 13% between the 2020/21 and 2021/22 financial years.
- During January – March 2022 the most prevalent ribotypes for CDI inpatients are 078 (14%), 014 (11%), 002 (10%) and 020 (10%) (Table 1). The most predominate community ribotypes are 002 (20%), 005 (12%) and 078 (12%) (Table 2).

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

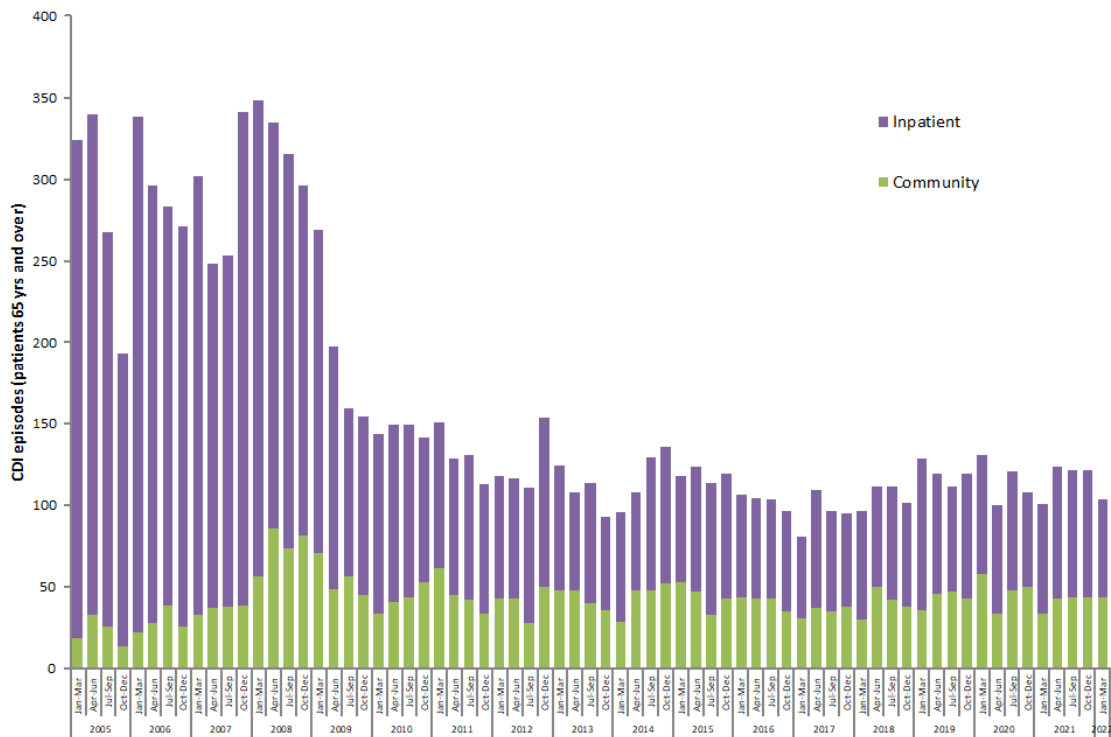


Figure 1: Total CDI episodes, inpatient and community, in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2022

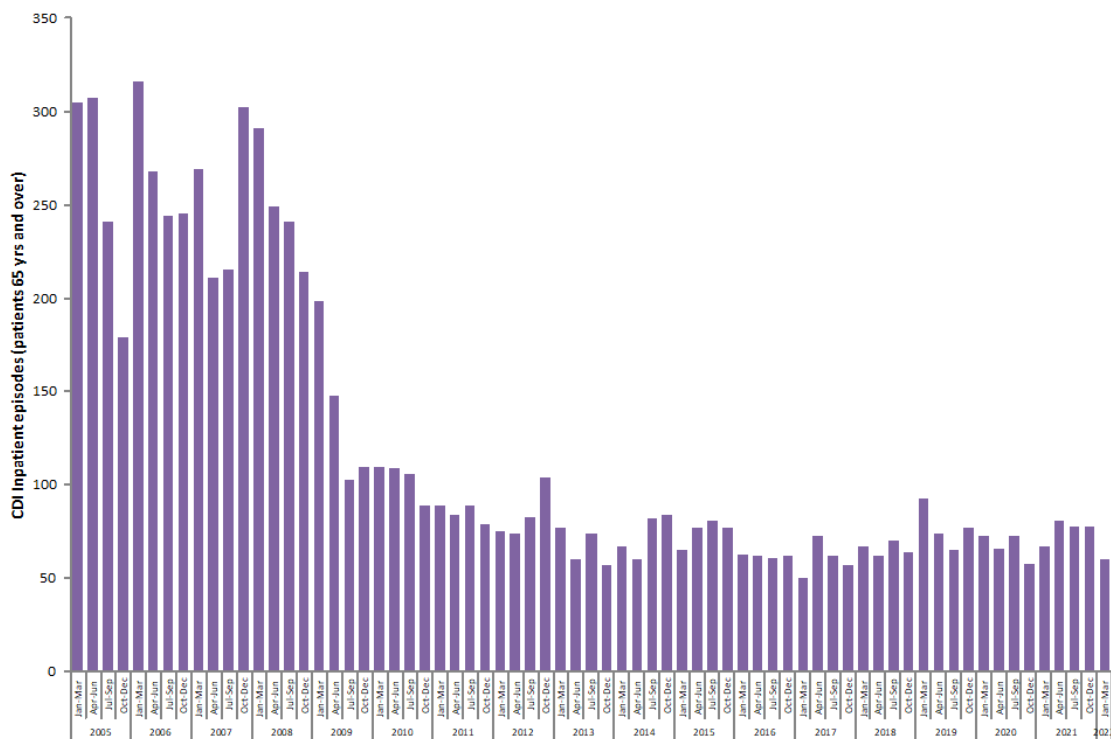


Figure 2a: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2022

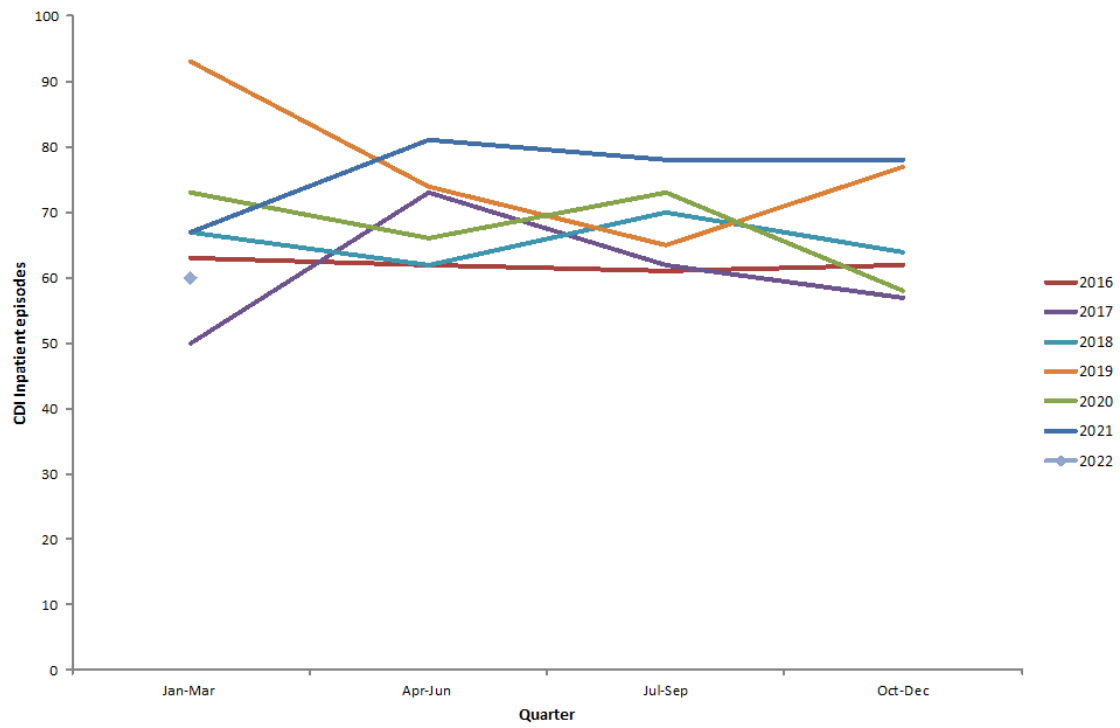


Figure 2b: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2016 and 2022

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.

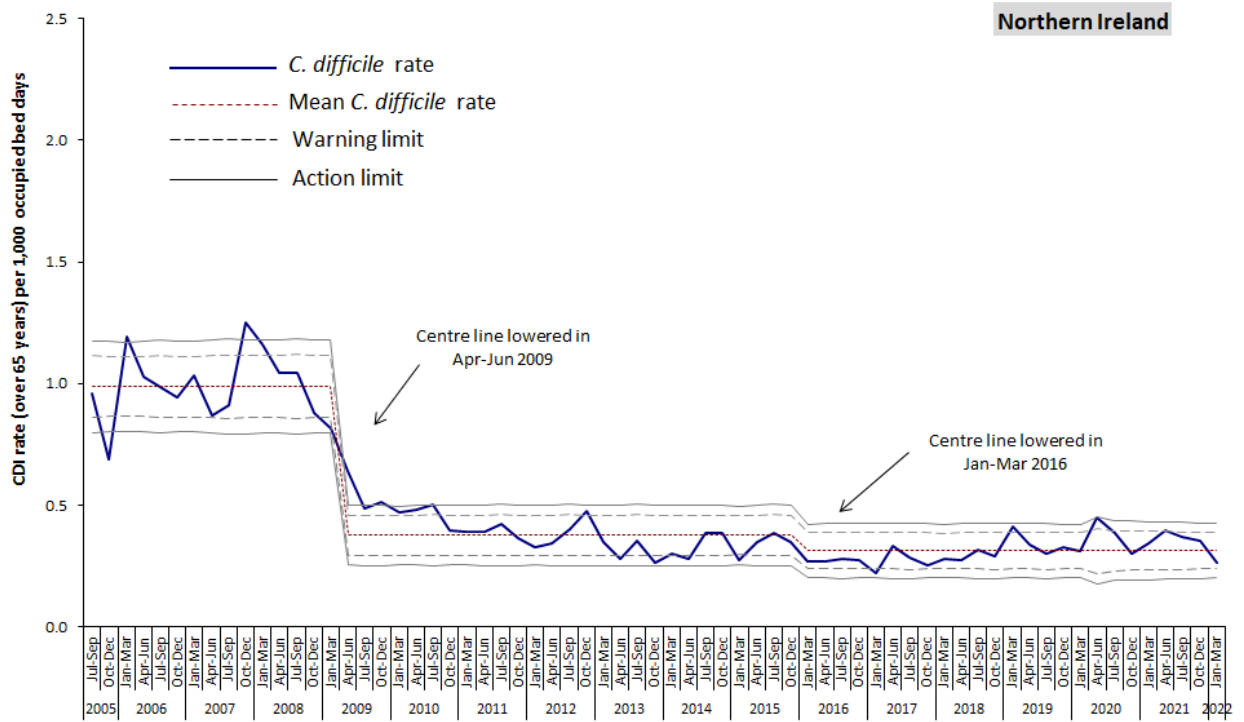


Figure 3: Statistical process control chart for quarterly *C. difficile* rates among inpatients in Northern Ireland aged 65 years and over (for HSCT level, see appendix B)

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, April 2021 – March 2022.

Ribotype	Apr - Jun 2021		Jul - Sep 2021		Oct - Dec 2021		Jan - Mar 2022	
	Number	%	Number	%	Number	%	Number	%
001	1	0.9	0	0.0	1	1.0	2	2.4
002	8	7.1	11	10.7	9	8.7	8	9.6
005	10	8.8	8	7.8	7	6.7	5	6.0
011	3	2.7	2	1.9	2	1.9	2	2.4
014	14	12.4	5	4.9	7	6.7	9	10.8
015	7	6.2	8	7.8	6	5.8	3	3.6
018	2	1.8	2	1.9	3	2.9	0	0.0
020	5	4.4	5	4.9	9	8.7	8	9.6
023	2	1.8	4	3.9	0	0.0	4	4.8
078	22	19.5	20	19.4	16	15.4	12	14.5
193	1	0.9	2	1.9	2	1.9	3	3.6
Other	20	17.7	20	19.4	23	22.1	15	18.1
Not groupable**	7	6.2	4	3.9	9	8.7	8	9.6
Not on ribotype list	9	8.0	8	7.8	7	6.7	3	3.6
Not isolated***	2	1.8	4	3.9	3	2.9	1	1.2
Total	113		103		104		83	

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, April 2021 – March 2022.

Ribotype	Apr - Jun 2021		Jul - Sep 2021		Oct - Dec 2021		Jan - Mar 2022	
	Number	%	Number	%	Number	%	Number	%
001	0	0.0	1	1.6	0	0.0	0	0.0
002	8	15.1	4	6.5	12	20.3	10	20.0
005	7	13.2	3	4.8	7	11.9	6	12.0
011	1	1.9	1	1.6	1	1.7	0	0.0
014	5	9.4	3	4.8	4	6.8	5	10.0
015	4	7.5	4	6.5	1	1.7	4	8.0
018	1	1.9	1	1.6	3	5.1	1	2.0
020	1	1.9	6	9.7	4	6.8	3	6.0
023	0	0.0	1	1.6	0	0.0	0	0.0
078	6	11.3	12	19.4	5	8.5	6	12.0
193	4	7.5	0	0.0	1	1.7	1	2.0
Other	7	13.2	13	21.0	13	22.0	8	16.0
Not groupable**	2	3.8	5	8.1	3	5.1	3	6.0
Not on ribotype list	7	13.2	8	12.9	5	8.5	2	4.0
Not isolated***	0	0.0	0	0.0	0	0.0	1	2.0
Total	53		62		59		50	

* 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, January – March 2022.

	078 (n = 18)		002 (n = 18)		014 (n = 14)	
Age						
range	26 - 90		9 --89		25 - 90	
median	77		75		77	
Sex						
	n	%	n	%	n	%
Female	9	50.0	13	72.2	9	64.3
Male	9	50.0	5	27.8	5	35.7
Trust						
Belfast	3	16.7	3	16.7	2	14.3
Northern	3	16.7	3	16.7	0	0.0
South Eastern	3	16.7	4	22.2	3	21.4
Southern	4	22.2	6	33.3	5	35.7
Western	5	27.8	2	11.1	4	28.6
Source						
Inpatient	12	66.7	8	44.4	9	64.3
Community*	6	33.3	10	55.6	5	35.7

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

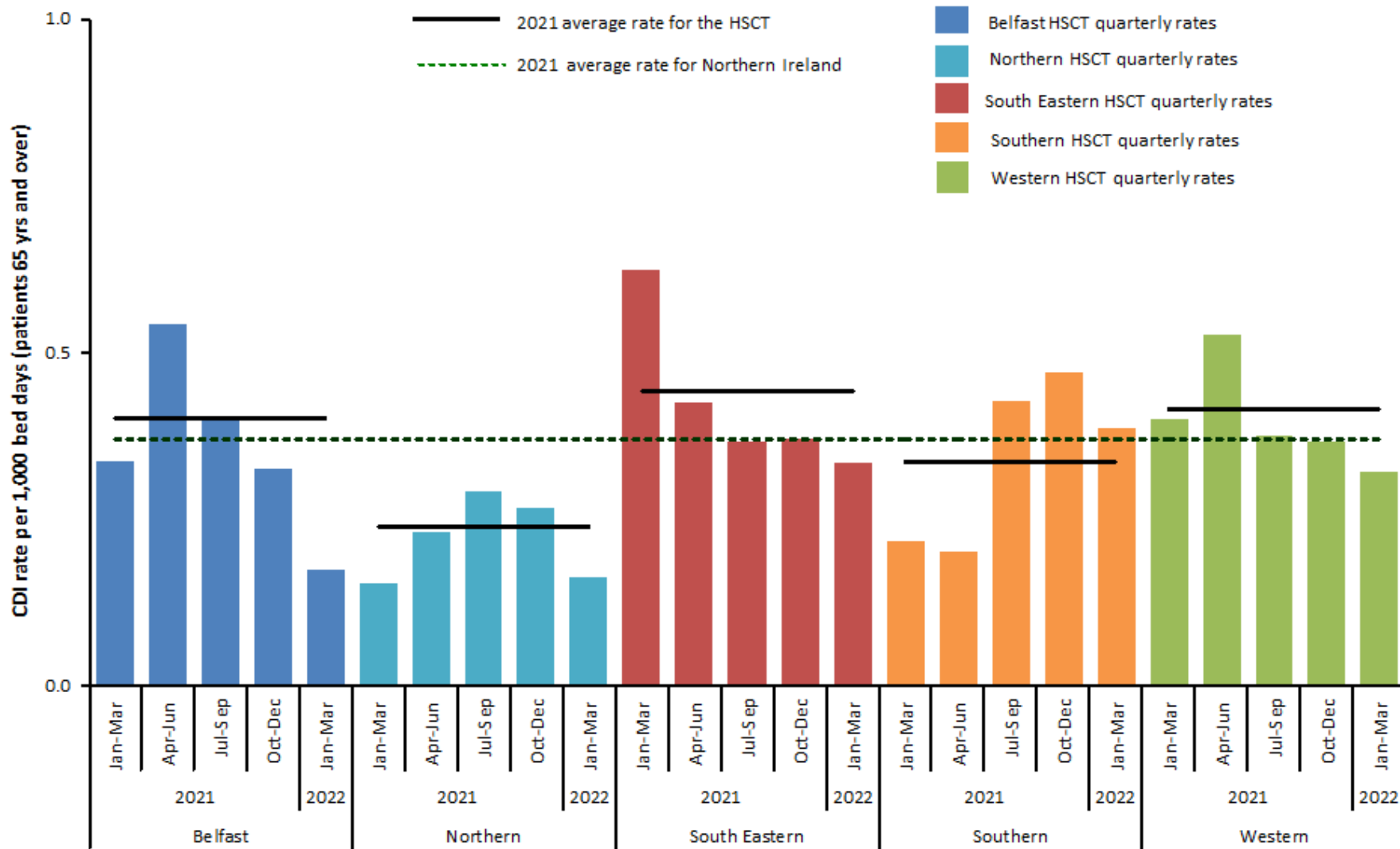


Figure 4: Quarterly rates of *C. difficile* among inpatients aged 65 years and over, by HSCT, January 2021 – March 2022, compared with annual Northern Ireland and HSCT rates for 2021

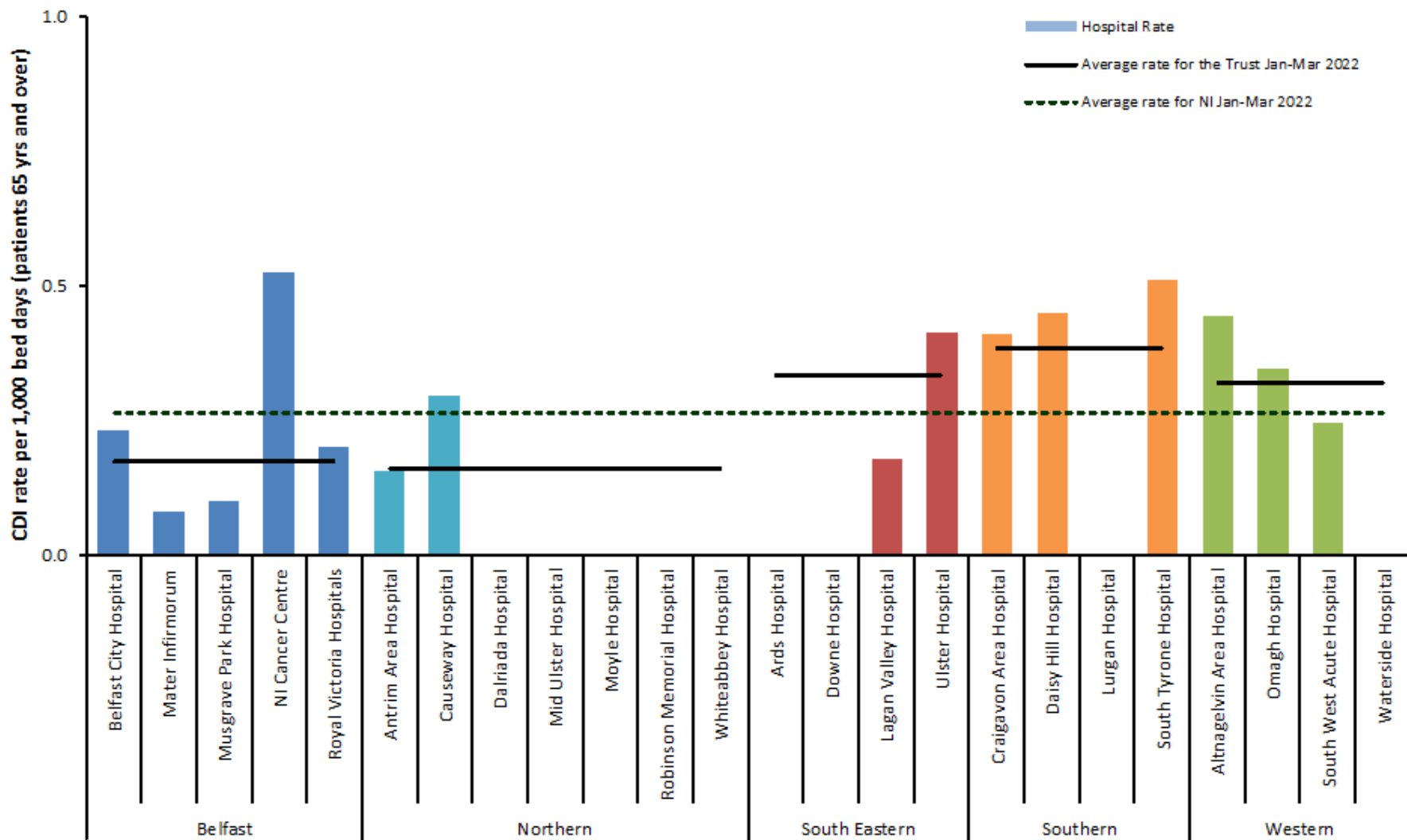


Figure 5: *C. difficile* rates during January – March 2022 Inpatients aged 65 years and over, by hospital, including HSC Trust rates and average rate for Northern Ireland (see appendix A, Table 4)

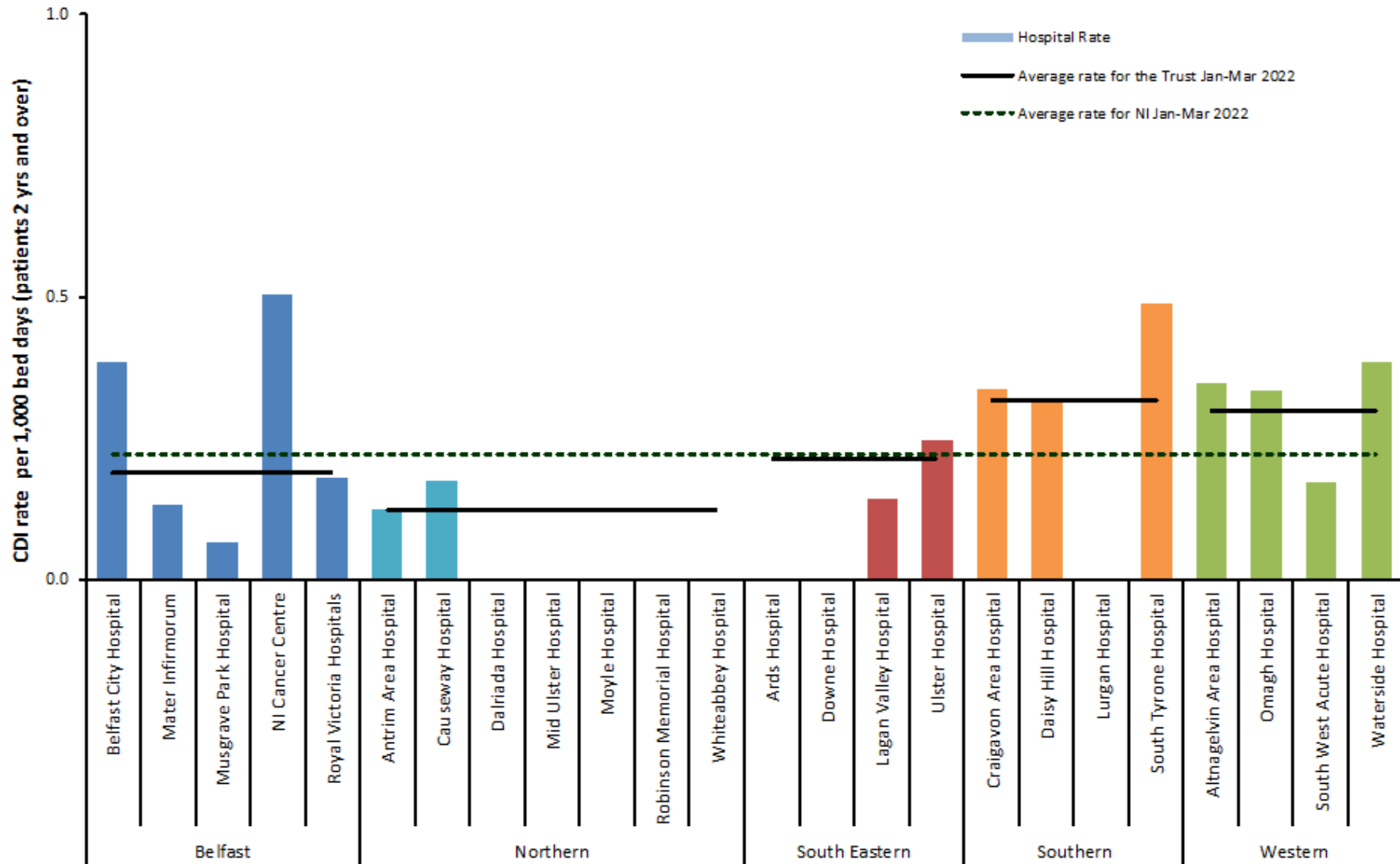


Figure 6: *C. difficile* rates January – March 2022 Inpatients aged two years and over, by hospital, including HSC Trust rates and average rate for Northern Ireland (see appendix A, Table 6)

Appendix A

Table 4: Quarterly rate of *C. difficile* reports in patients aged 65 years and over, by hospital, Apr 21 – Mar 22.

Hospital	Apr - Jun 2021	Jul - Sep 2021	Oct - Dec 2021	Jan - Mar 2022
Belfast City Hospital	0.487	0.254	1.058	0.230
Mater Infirmorum	0.299	0.492	0.176	0.084
Musgrave Park Hospital	0.256	0.113	0.101	0.101
NICCO	1.144	0.000	0.952	0.524
Royal Group of Hospitals	0.662	0.488	0.300	0.200
Belfast Health & Social Care Trust	0.541	0.400	0.326	0.175
Antrim Area Hospital	0.262	0.343	0.334	0.158
Causeway Hospital	0.303	0.383	0.298	0.294
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	0.232	0.292	0.266	0.162
Ards Hospital	0.000	0.707	0.000	0.000
Downe Hospital	0.000	0.000	0.000	0.000
Lagan Valley Hospital	0.523	0.388	0.383	0.180
Ulster Hospital	0.473	0.383	0.422	0.411
South Eastern Health & Social Care Trust	0.424	0.365	0.370	0.334
Craigavon Area Hospital	0.293	0.410	0.541	0.408
Daisy Hill Hospital	0.117	0.583	0.669	0.448
Lurgan Hospital	0.000	0.478	0.000	0.000
South Tyrone Hospital	0.000	0.000	0.000	0.510
Southern Health & Social Care Trust	0.201	0.426	0.469	0.385
Altnagelvin Area Hospital	0.622	0.564	0.507	0.444
Omagh Hospital	0.450	0.000	0.359	0.345
South West Acute Hospital	0.534	0.178	0.162	0.246
Waterside Hospital	0.000	0.289	0.288	0.000
Western Health & Social Care Trust	0.524	0.374	0.365	0.321
NI TOTAL	0.398	0.373	0.354	0.264

Table 5: Quarterly number of *C. difficile* reports in patients aged 65 years and over, by HSCT, Apr 21 – Mar 22.

Trust	Apr - Jun 2021 Episodes	Jul - Sep 2021 Episodes	Oct - Dec 2021 Episodes	Jan - Mar 2022 Episodes
Belfast Health & Social Care Trust	30	23	20	11
Northern Health & Social Care Trust	9	12	11	7
South Eastern Health & Social Care Trust	17	14	15	14
Southern Health & Social Care Trust	7	16	18	15
Western Health & Social Care Trust	18	13	14	13
NI TOTAL	81	78	78	60
NI community TOTAL	43	44	44	44

Appendix A

Table 6: Quarterly rate of *C. difficile* reports in patients aged two years and over, by hospital, Apr 21 – Mar 22.

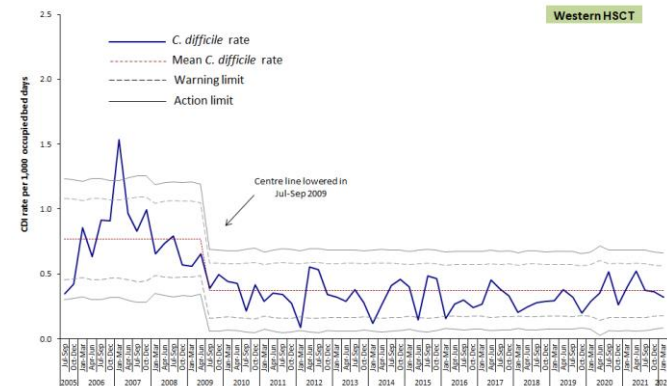
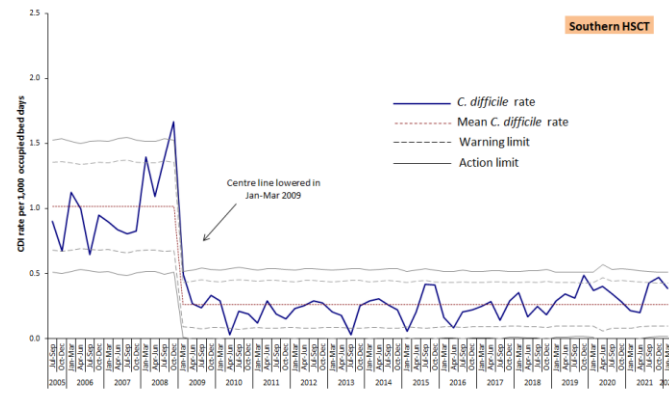
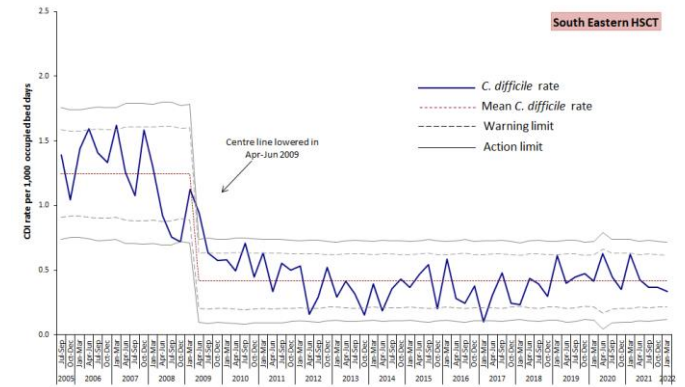
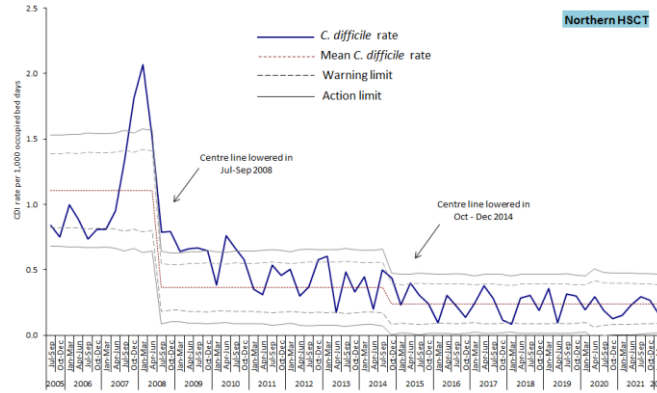
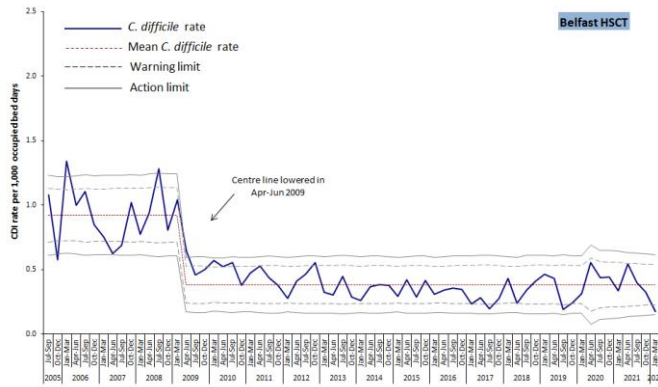
Hospital	Apr - Jun 2021	Jul - Sep 2021	Oct - Dec 2021	Jan - Mar 2022
Belfast City Hospital	0.382	0.190	0.857	0.385
Mater Infirmorum	0.323	0.441	0.133	0.135
Musgrave Park Hospital	0.162	0.074	0.067	0.068
NICCO	0.516	0.539	1.001	0.505
Royal Group of Hospitals	0.449	0.275	0.185	0.183
Belfast Health & Social Care Trust	0.399	0.272	0.250	0.191
Antrim Area Hospital	0.270	0.231	0.299	0.126
Causeway Hospital	0.206	0.394	0.173	0.177
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	0.221	0.247	0.226	0.123
Ards Hospital	0.000	0.654	0.000	0.000
Downe Hospital	0.000	0.000	0.000	0.000
Lagan Valley Hospital	0.565	0.289	0.290	0.144
Ulster Hospital	0.379	0.257	0.311	0.246
South Eastern Health & Social Care Trust	0.369	0.256	0.282	0.215
Craigavon Area Hospital	0.248	0.338	0.355	0.337
Daisy Hill Hospital	0.066	0.452	0.496	0.316
Lurgan Hospital	0.000	0.455	0.000	0.000
South Tyrone Hospital	0.000	0.000	0.000	0.488
Southern Health & Social Care Trust	0.173	0.359	0.348	0.317
Altnagelvin Area Hospital	0.480	0.400	0.404	0.347
Omagh Hospital	0.406	0.000	0.335	0.333
South West Acute Hospital	0.487	0.233	0.225	0.173
Waterside Hospital	0.000	0.181	0.181	0.384
Western Health & Social Care Trust	0.432	0.311	0.328	0.299
NI TOTAL	0.330	0.286	0.280	0.222

Table 7: Quarterly number of *C. difficile* reports in patients aged two years and over, by HSCT, Apr 21 – Mar 22.

Trust	Apr - Jun 2021 Episodes	Jul - Sep 2021 Episodes	Oct - Dec 2021 Episodes	Jan - Mar 2022 Episodes
Belfast Health & Social Care Trust	44	31	30	23
Northern Health & Social Care Trust	13	16	15	8
South Eastern Health & Social Care Trust	22	16	17	14
Southern Health & Social Care Trust	10	22	22	20
Western Health & Social Care Trust	24	18	20	18
NI TOTAL	113	103	104	83
NI community TOTAL	53	62	59	50

Appendix B

Trends in *C. difficile* rates in inpatients aged 65 years and over, by HSCT and quarter, 2005 – 2022



Appendix C

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

HSCT	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Belfast	163	147	117	124	90	103	102	90	83	98	80	80	84
Northern	102	103	75	73	56	54	43	39	37	48	39	27	39
South Eastern	98	80	72	50	50	53	70	39	50	67	68	68	60
Southern	37	17	28	33	25	27	40	27	39	32	57	37	56
Western	71	46	35	58	37	53	43	40	50	41	45	51	58
Northern Ireland	471	393	327	338	258	290	298	235	259	286	289	263	297