

C. difficile surveillance

Quarterly report

April - June 2024

Key points

- CDI reports for hospital inpatients aged 2 years and over increased by 5% (from 95 to 100 episodes) during April-June 2024 compared to January-March 2024.
- CDI rate per 1,000 bed days decreased by 0.4% during April-June 2024 compared to January-March 2024.
- CDI reports for community patients aged 2 years and over increased by 5% (from 75 to 79 episodes) during April-June 2024 compared to January-March 2024.
- CDI reports for hospital inpatients aged 2 years and over increased by 2% between the 2022/23 and 2023/24 financial years.
- Please note: Bed Day data were not available for BHSC and SEHSC hospitals and provisional figures were used this quarter (figures taken from Apr-Jun 2023).

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

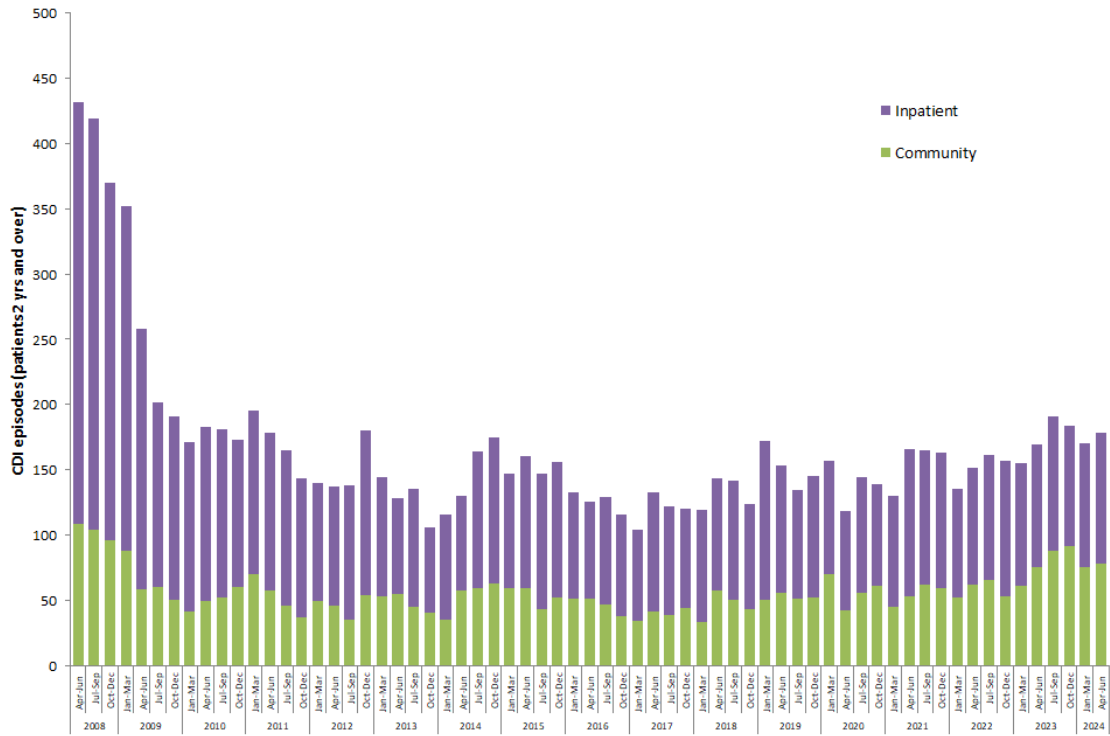


Figure 1: Total CDI episodes, inpatient and community, in Northern Ireland, by quarter (patients ≥ 2 years), between 2008 and 2024

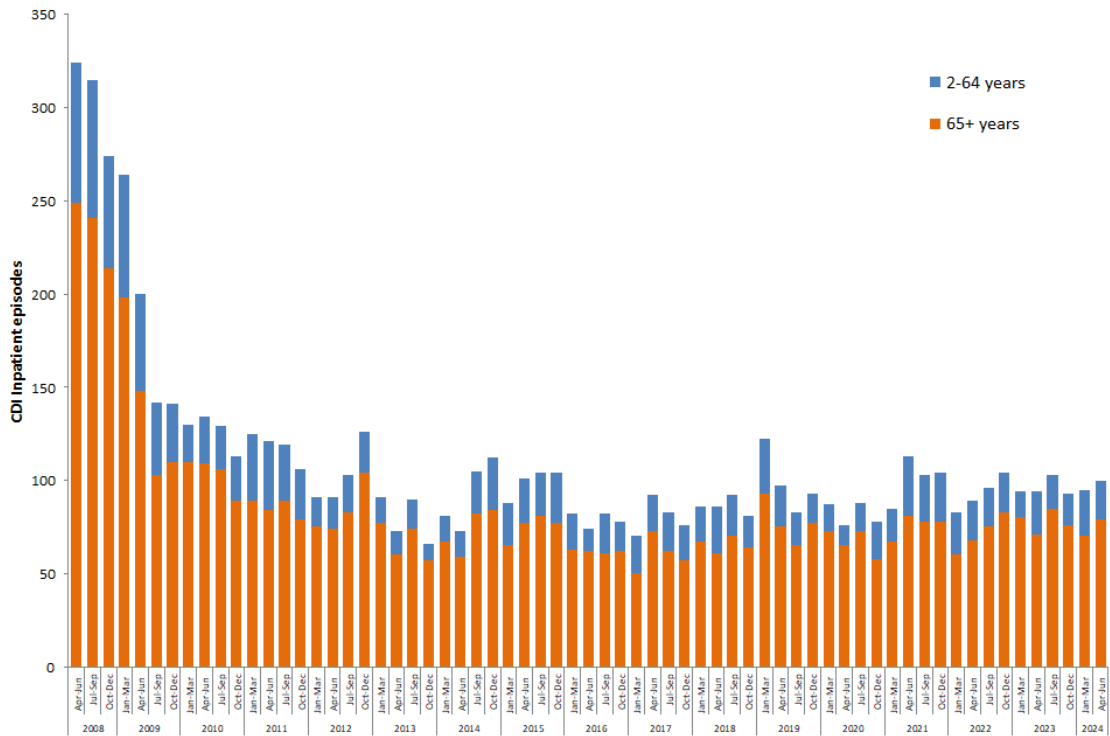


Figure 2a: Total CDI inpatient episodes, by age band, in Northern Ireland, by quarter, between 2008 and 2024

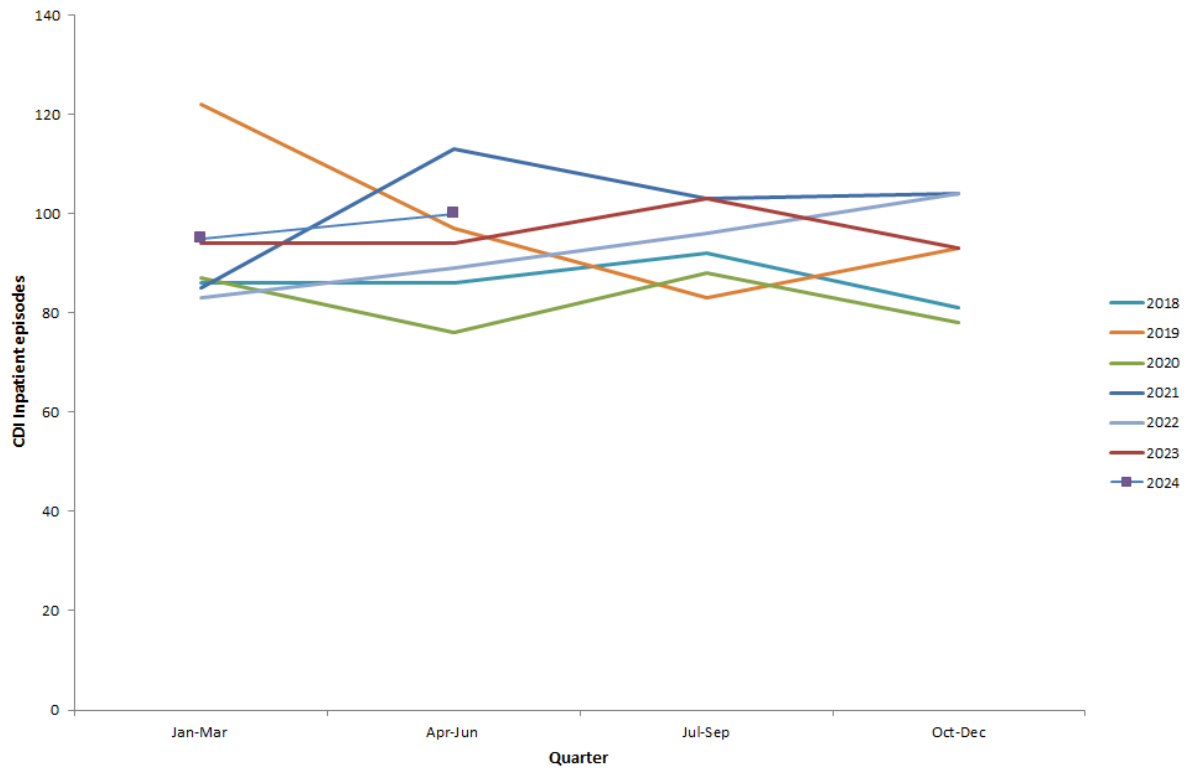


Figure 2b: Total CDI inpatient episodes in Northern Ireland, by quarter (patients \geq 2 years), between 2018 and 2024

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 April 2008 are shown for each HSCT in appendix B.

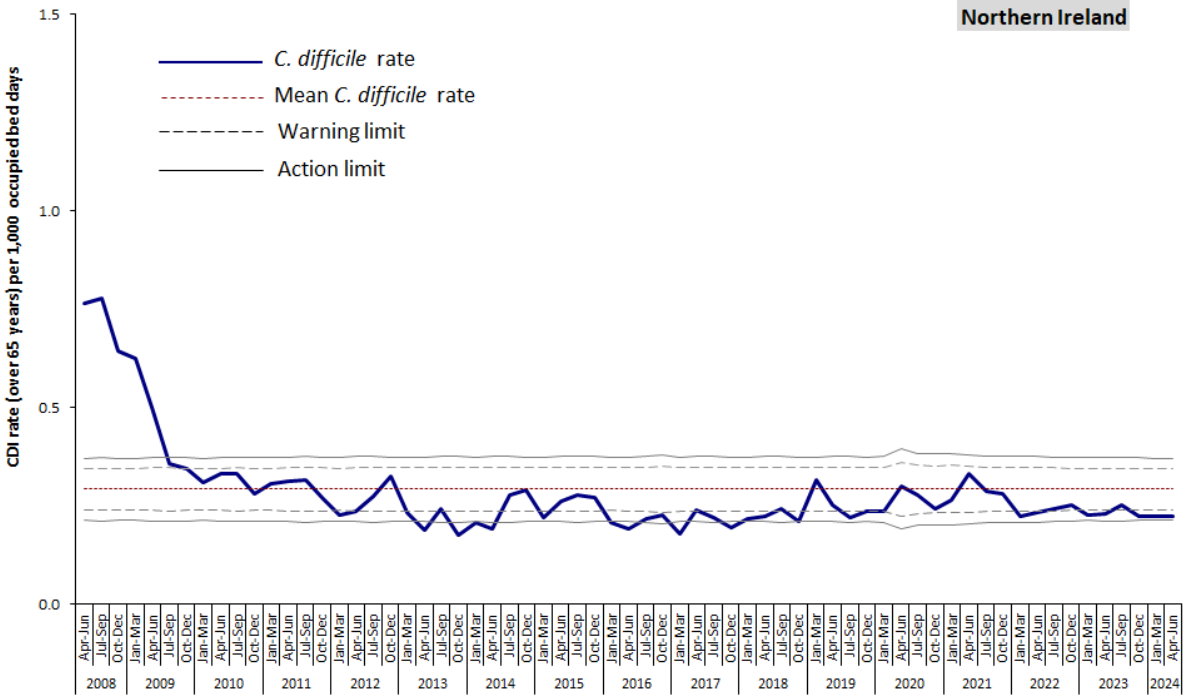


Figure 3: Statistical process control chart for quarterly *C. difficile* rates among inpatients in Northern Ireland aged 2 years and over (for HSCT level, see appendix B)

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 2023 – June 2024.

Ribotype	Jul - Sep 2023		Oct - Dec 2023		Jan - Mar 2024		Apr - Jun 2024	
	Number	%	Number	%	Number	%	Number	%
001	2	1.9	5	5.4	1	1.1	2	2.0
002	8	7.8	16	17.2	10	10.5	6	6.0
005	9	8.7	5	5.4	5	5.3	9	9.0
011	3	2.9	3	3.2	0	0.0	6	6.0
014	11	10.7	7	7.5	11	11.6	12	12.0
015	6	5.8	6	6.5	3	3.2	8	8.0
018	1	1.0	0	0.0	1	1.1	0	0.0
020	5	4.9	13	14.0	5	5.3	8	8.0
023	6	5.8	7	7.5	11	11.6	8	8.0
078-like*	24	23.3	8	8.6	13	13.7	10	10.0
Other	15	14.6	21	22.6	29	30.5	25	25.0
Not groupable**	9	8.7	2	2.2	4	4.2	2	2.0
Not on ribotype list	4	3.9	0	0.0	1	1.1	4	4.0
Not isolated***	0	0.0	0	0.0	1	1.1	0	0.0
Total	103		93		95		100	

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 2023 – June 2024.

Ribotype	Jul - Sep 2023		Oct - Dec 2023		Jan - Mar 2024		Apr - Jun 2024	
	Number	%	Number	%	Number	%	Number	%
001	2	2.3	3	3.3	2	2.7	1	1.3
002	7	8.0	10	11.0	9	12.0	9	11.5
005	6	6.8	3	3.3	2	2.7	5	6.4
011	2	2.3	3	3.3	1	1.3	3	3.8
014	6	6.8	8	8.8	5	6.7	6	7.7
015	3	3.4	6	6.6	10	13.3	4	5.1
018	0	0.0	1	1.1	0	0.0	2	2.6
020	5	5.7	9	9.9	8	10.7	7	9.0
023	7	8.0	10	11.0	8	10.7	4	5.1
027	0	0.0	0	0.0	0	0.0	1	1.3
078-like*	22	25.0	12	13.2	6	8.0	8	10.3
Other	18	20.5	20	22.0	14	18.7	22	28.2
Not groupable**	4	4.5	3	3.3	4	5.3	4	5.1
Not on ribotype list	6	6.8	2	2.2	6	8.0	2	2.6
Not isolated***	0	0.0	1	1.1	0	0.0	0	0.0
Total	88		91		75		78	

* 078-Like means this isolate is PCR ribotype 078, or a very closely related (Clade 5) strain e.g. 126,193

** '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 014, 078-like*, 020 and 002 in Northern Ireland Hospital Inpatients and Community Patients, April - June 2024.

	014 (n = 18)		078-like* (n= 18)		020 (n = 15)		002 (n = 15)	
Age								
range	29-92		48-93		2-85		63-96	
median	82		77		66		83	
Sex								
	n	%	n	%	n	%	n	%
Female	10	55.6	10	55.6	11	73.3	8	53.3
Male	8	44.4	8	44.4	4	26.7	7	46.7
Trust								
Belfast	4	22.2	4	22.2	2	13.3	2	13.3
Northern	1	5.6	1	5.6	1	6.7	1	6.7
South Eastern	4	22.2	2	11.1	2	13.3	5	33.3
Southern	9	50.0	7	38.9	5	33.3	4	26.7
Western	0	0.0	4	22.2	5	33.3	3	20.0
Source								
Inpatient	12	66.7	10	55.6	8	53.3	6	40.0
Community~	6	33.3	8	44.4	7	46.7	9	60.0

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

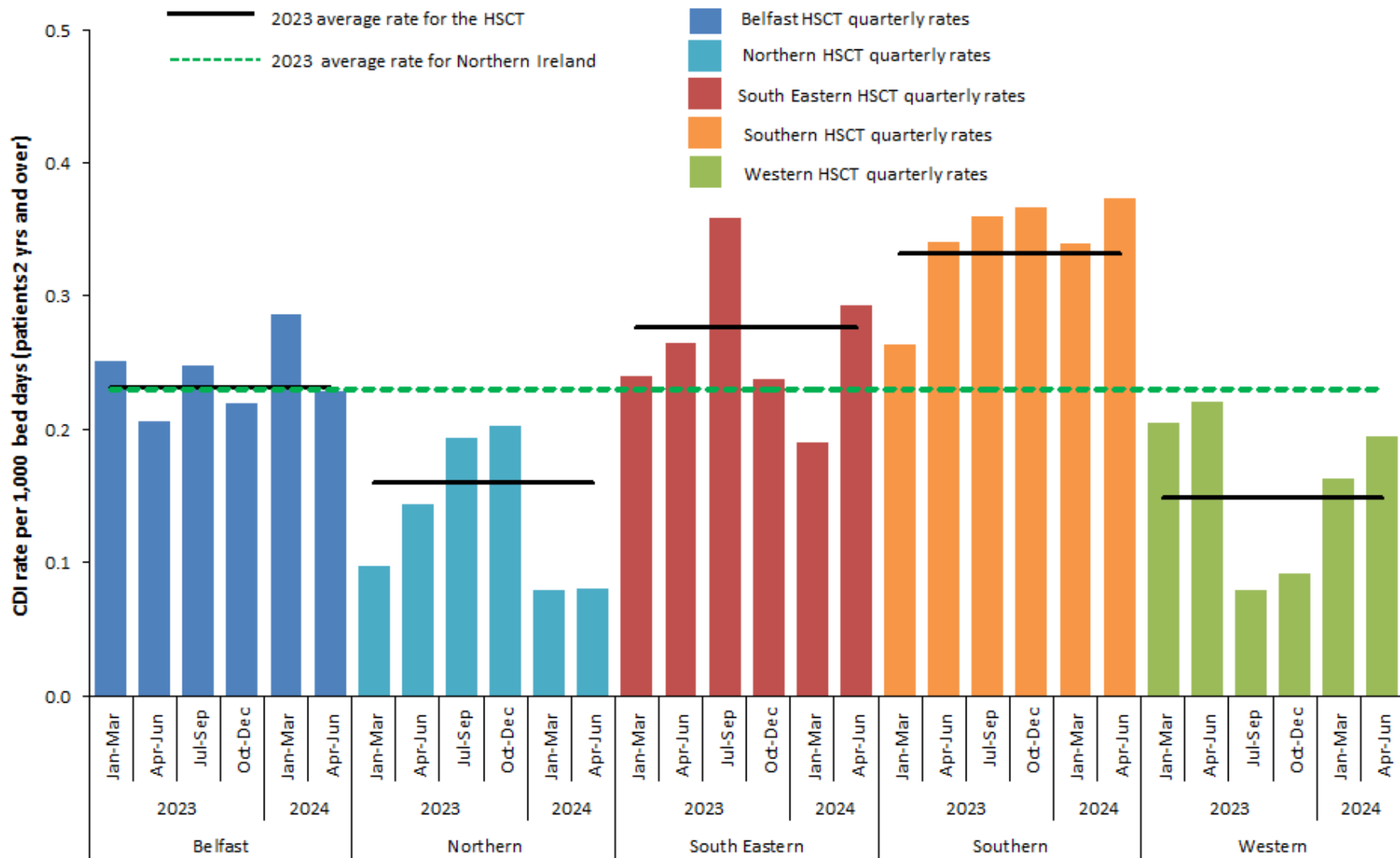


Figure 4: Quarterly rates of *C. difficile* among inpatients aged 2 years and over, by HSCT, January 2023 – June 2024, compared with annual Northern Ireland and HSCT rates for 2023

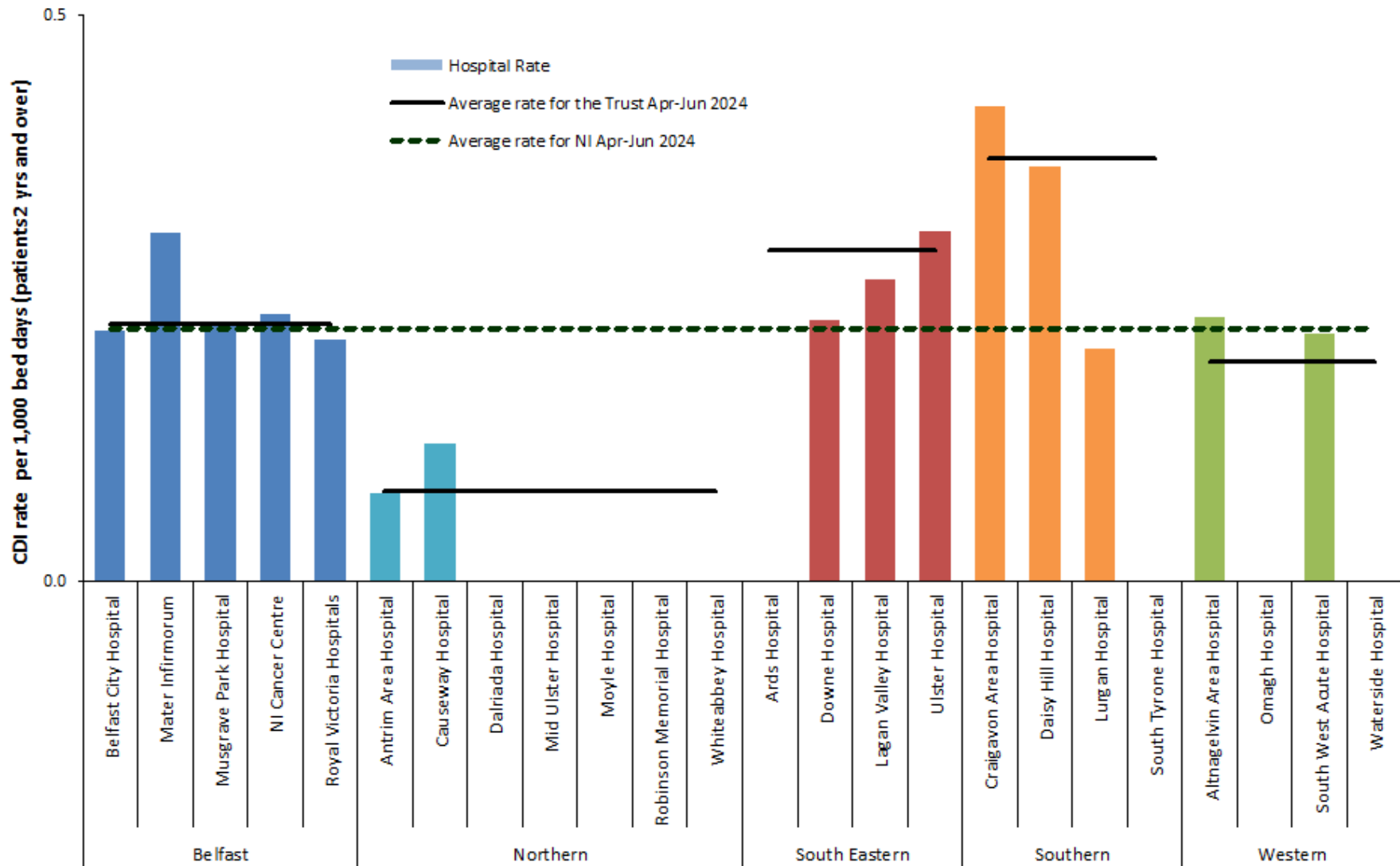


Figure 5: *C. difficile* rates during April-June 2024 Inpatients aged 2 years and over, by hospital, including HSCT rates and average rate for Northern Ireland (see appendix A, Table 4)

Appendix A

Table 4: Quarterly rates of *C. difficile* reports in patients aged 2 years and over, by hospital, Jul 2023 – Jun 2024.

Hospital	Jul-Sep 2023	Oct-Dec 2023	Jan-Mar 2024	Apr-Jun 2024
Belfast City Hospital	0.147	0.375	0.437	0.221
Mater Infirmorum	0.514	0.356	0.453	0.308
Musgrave Park Hospital	0.308	0.172	0.167	0.226
NICCO	0.463	0.471	0.717	0.236
Royal Group of Hospitals	0.199	0.168	0.235	0.214
Belfast Health & Social Care Trust	0.248	0.220	0.287	0.228
Antrim Area Hospital	0.175	0.236	0.084	0.078
Causeway Hospital	0.275	0.155	0.103	0.121
Dalriada Hospital	0.560	0.630	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	0.194	0.202	0.079	0.080
Ards Hospital	2.402	0.000	0.000	0.000
Downe Hospital	0.228	0.274	0.273	0.230
Lagan Valley Hospital	0.131	0.286	0.146	0.267
Ulster Hospital	0.340	0.236	0.196	0.309
South Eastern Health & Social Care Trust	0.358	0.238	0.190	0.293
Craigavon Area Hospital	0.335	0.370	0.394	0.420
Daisy Hill Hospital	0.479	0.300	0.118	0.367
Lurgan Hospital	0.423	0.204	0.413	0.205
South Tyrone Hospital	0.000	0.882	0.538	0.000
Southern Health & Social Care Trust	0.360	0.366	0.339	0.373
Altnagelvin Area Hospital	0.081	0.130	0.151	0.233
Omagh Hospital	0.000	0.000	0.292	0.000
South West Acute Hospital	0.115	0.000	0.217	0.219
Waterside Hospital	0.000	0.168	0.000	0.000
Western Health & Social Care Trust	0.079	0.091	0.163	0.194
NI TOTAL	0.251	0.224	0.225	0.224

Table 5: Quarterly *C. difficile* reports in patients aged 2 years and over, by HSCT, Jul 2023 – Jun 2024.

Trust	Jul-Sep 2023 Episodes	Oct-Dec 2023 Episodes	Jan-Mar 2024 Episodes	Apr-Jun 2024 Episodes
Belfast Health & Social Care Trust	33	31	41	31
Northern Health & Social Care Trust	14	15	6	8
South Eastern Health & Social Care Trust	26	15	12	21
Southern Health & Social Care Trust	25	26	25	27
Western Health & Social Care Trust	5	6	11	13
NI TOTAL	103	93	95	100
NI community TOTAL	88	91	75	79

Appendix A

Table 6: Quarterly rates of *C. difficile* reports in patients aged 65 years and over, by hospital, Jul 2023 – Jun 2024.

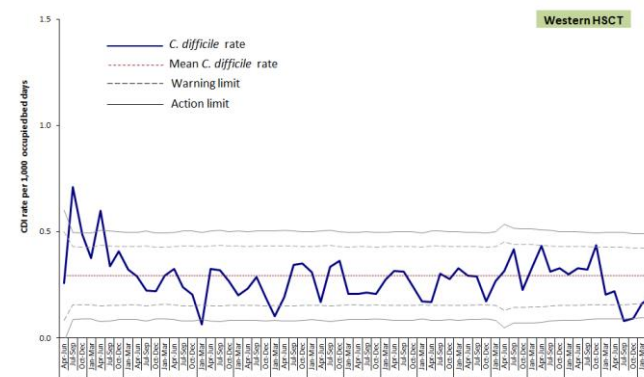
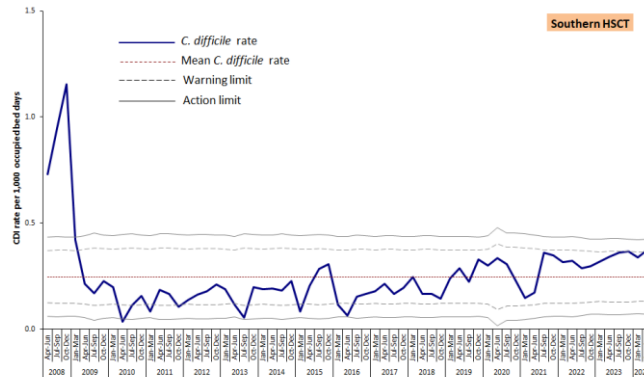
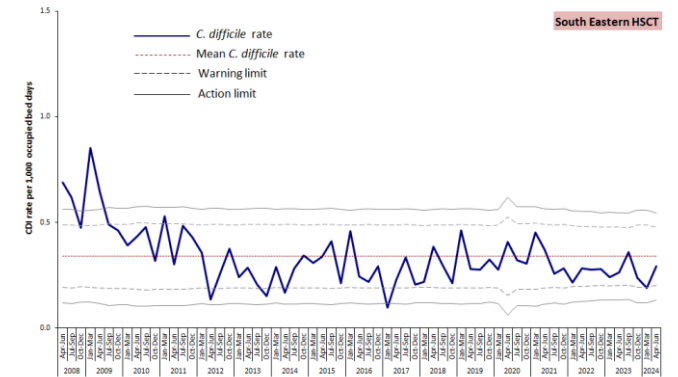
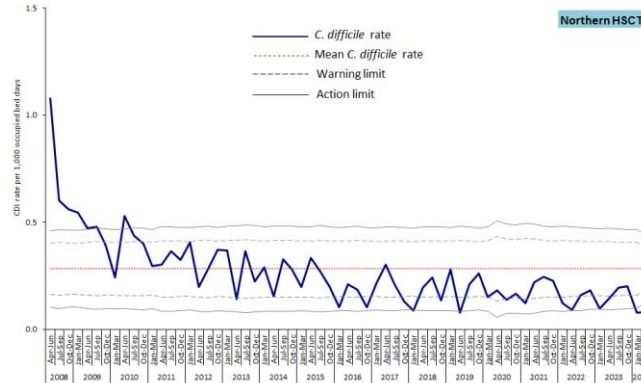
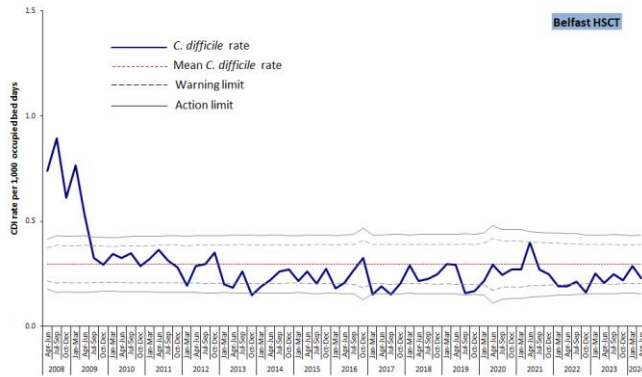
Hospital	Jul-Sep 2023	Oct-Dec 2023	Jan-Mar 2024	Apr-Jun 2024
Belfast City Hospital	0.170	0.495	0.477	0.516
Mater Infirmorum	0.570	0.459	0.477	0.401
Musgrave Park Hospital	0.474	0.179	0.163	0.265
NICCO	0.464	0.902	0.893	0.537
Royal Group of Hospitals	0.340	0.277	0.239	0.265
Belfast Health & Social Care Trust	0.391	0.330	0.306	0.315
Antrim Area Hospital	0.276	0.326	0.124	0.134
Causeway Hospital	0.338	0.246	0.083	0.242
Dalriada Hospital	0.799	0.656	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	0.270	0.281	0.097	0.140
Ards Hospital	2.481	0.000	0.000	0.000
Downe Hospital	0.248	0.278	0.228	0.228
Lagan Valley Hospital	0.155	0.331	0.129	0.264
Ulster Hospital	0.443	0.264	0.174	0.295
South Eastern Health & Social Care Trust	0.456	0.267	0.168	0.281
Craigavon Area Hospital	0.530	0.458	0.529	0.620
Daisy Hill Hospital	0.515	0.397	0.097	0.207
Lurgan Hospital	0.439	0.217	0.486	0.234
South Tyrone Hospital	0.000	0.949	0.547	0.000
Southern Health & Social Care Trust	0.482	0.454	0.430	0.446
Altnagelvin Area Hospital	0.046	0.133	0.254	0.263
Omagh Hospital	0.000	0.000	0.000	0.000
South West Acute Hospital	0.078	0.000	0.281	0.214
Waterside Hospital	0.000	0.256	0.000	0.000
Western Health & Social Care Trust	0.048	0.093	0.222	0.204
NI TOTAL	0.340	0.293	0.241	0.279

Table 7: Quarterly *C. difficile* reports in patients aged 65 years and over, by HSCT, Jul 2023 – Jun 2024.

Trust	Jul-Sep 2023 Episodes	Oct-Dec 2023 Episodes	Jan-Mar 2024 Episodes	Apr-Jun 2024 Episodes
Belfast Health & Social Care Trust	27	25	23	23
Northern Health & Social Care Trust	13	14	5	7
South Eastern Health & Social Care Trust	22	12	12	20
Southern Health & Social Care Trust	21	21	20	20
Western Health & Social Care Trust	2	4	10	9
NI TOTAL	85	76	70	79
NI community TOTAL	66	80	53	73

Appendix B

Trends in *C. difficile* rates in inpatients aged 2 years and over, by HSCT and quarter, 2008 – 2024



Appendix C

Table 8: *C. difficile* reports among inpatients in Northern Ireland aged 2 years and over, by financial year and HSCT

HSCT	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Belfast	169	163	110	139	129	114	113	132	107	101	128	107	133
Northern	94	80	64	62	59	48	49	57	47	34	52	37	45
South Eastern	91	61	56	67	86	52	61	83	72	76	69	75	72
Southern	33	42	32	39	53	34	50	44	71	50	74	79	99
Western	50	65	48	71	64	56	64	65	63	66	80	81	36
Northern Ireland	437	411	310	378	391	304	337	381	360	327	403	379	385

Table 9: *C. difficile* reports among inpatients in Northern Ireland aged 65 years and over, by financial year and HSCT

HSCT	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Belfast	117	124	90	103	102	90	83	98	80	80	84	78	94
Northern	75	73	56	54	43	39	37	48	39	27	39	31	40
South Eastern	72	50	50	53	70	39	50	67	68	68	60	66	63
Southern	28	33	25	27	40	27	39	32	57	37	56	62	78
Western	35	58	37	53	43	40	50	41	45	51	58	66	27
Northern Ireland	327	338	258	290	298	235	259	286	289	263	297	303	302