

# *C. difficile* surveillance

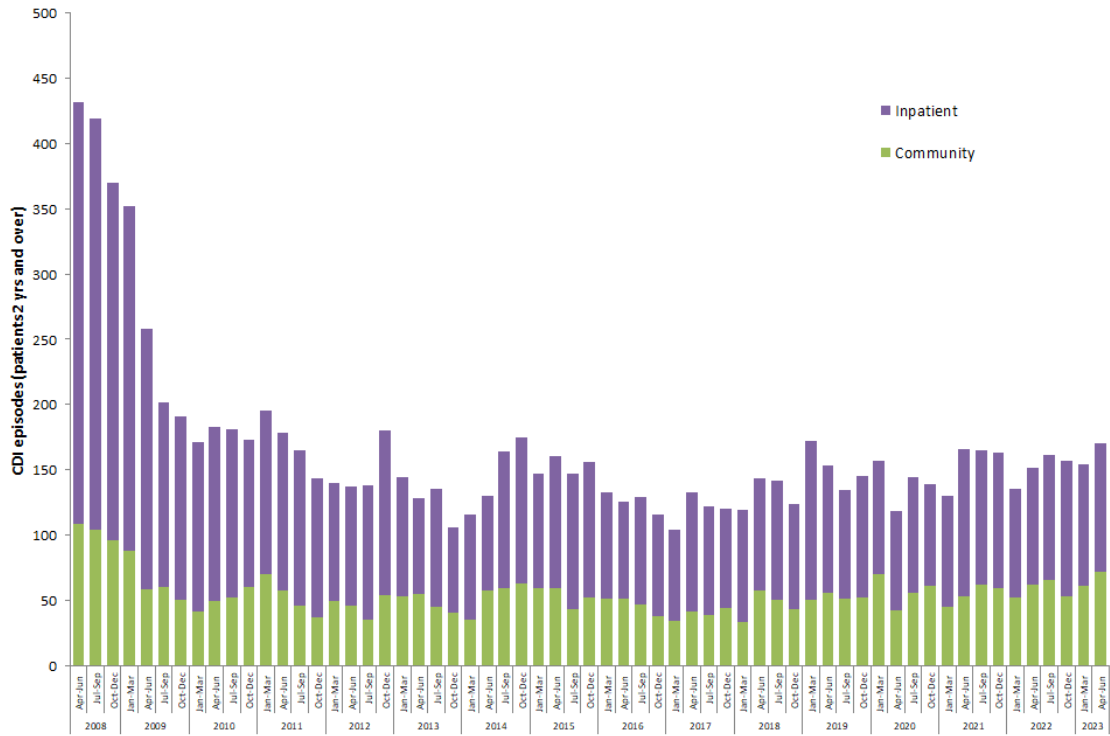
## Quarterly report

### April - June 2023

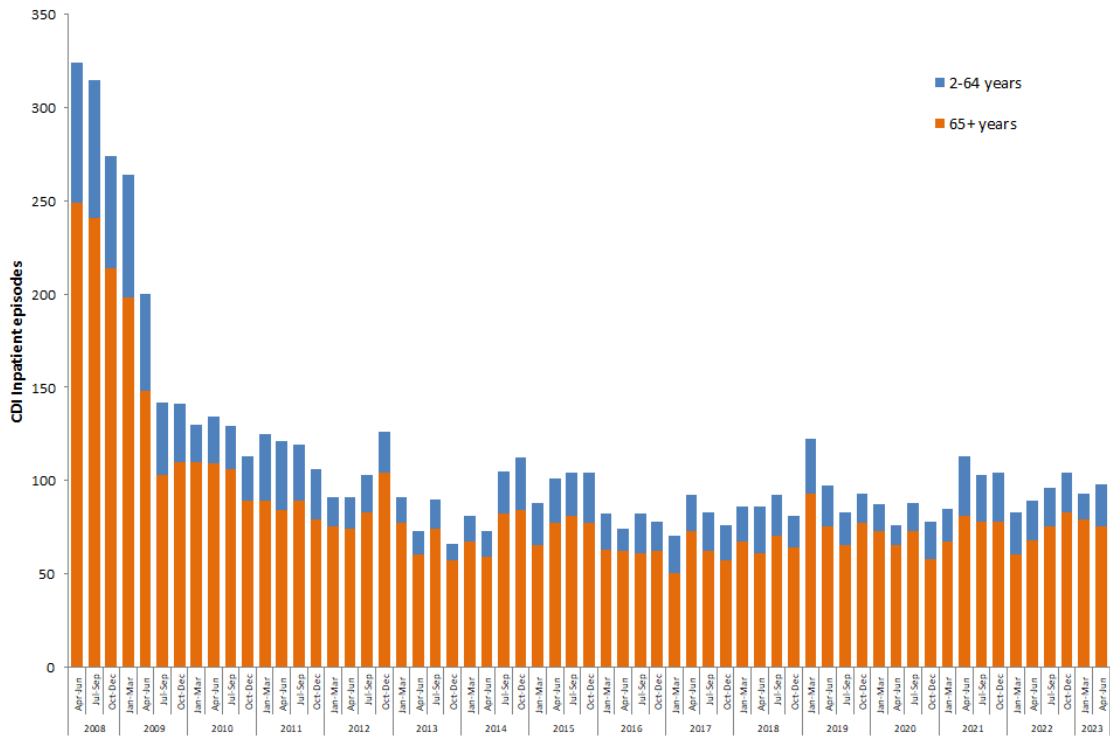
#### Key points

- CDI reports for hospital inpatients aged 2 years and over increased by 5% (from 93 to 98 episodes) during April - June 2023 compared to January – March 2023.
- CDI rate per 1,000 bed days increased by 7% during April - June 2023 compared to January – March 2023.
- CDI reports for community patients aged 2 years and over increased by 18% (from 61 to 72 episodes) during April - June 2023 compared to January – March 2023.
- CDI reports for hospital inpatients aged 2 years and over decreased by 5% between the 2021/22 and 2022/23 financial years.
- During April - June 2023 the most prevalent ribotypes for CDI inpatients are 078-like (17%), 023 (11%) and 015 (10%) (Table 1). The most predominate community ribotypes are 078-like (22%), 002 (15%) and 020 (11%) (Table 2).

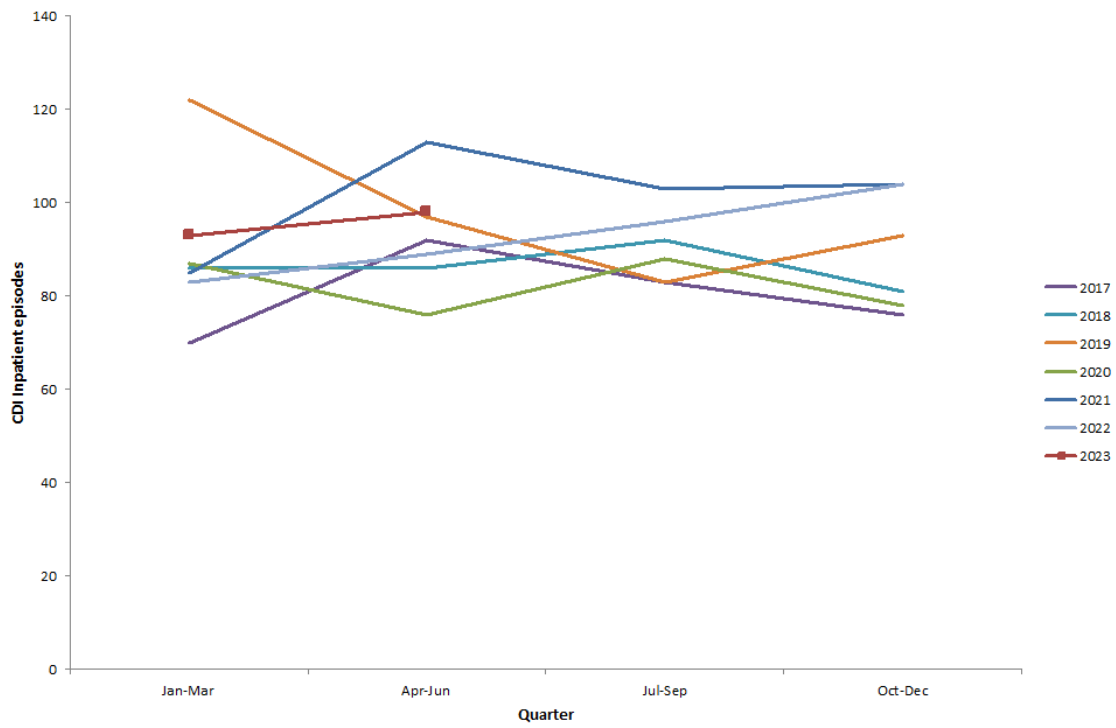
For further information or clarification on HCAI definitions, please refer to previous reports or contact [hcaini@hscni.net](mailto:hcaini@hscni.net)



**Figure 1: Total CDI episodes, inpatient and community, in Northern Ireland, by quarter (patients ≥ 2 years), between 2008 and 2023**



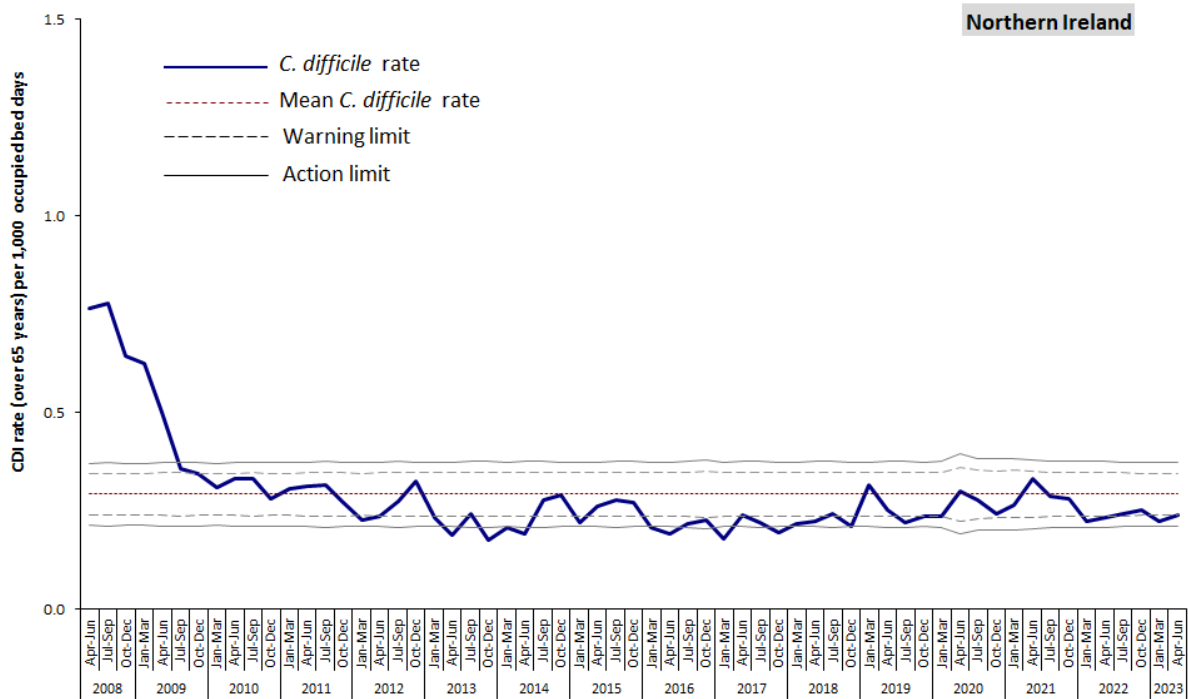
**Figure 2a: Total CDI inpatient episodes, by age band, in Northern Ireland, by quarter, between 2008 and 2023**



**Figure 2b: Total CDI inpatient episodes in Northern Ireland, by quarter (patients  $\geq$  2 years), between 2017 and 2023**

**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 2022 – June 2023**

Ribotype	Jul - Sep 2022		Oct - Dec 2022		Jan - Mar 2023		Apr - Jun 2023	
	Number	%	Number	%	Number	%	Number	%
001	1	1.0	4	3.8	2	2.2	3	3.1
002	6	6.3	13	12.5	16	17.2	6	6.1
005	5	5.2	7	6.7	13	14.0	6	6.1
011	2	2.1	2	1.9	3	3.2	4	4.1
014	11	11.5	8	7.7	9	9.7	6	6.1
015	9	9.4	13	12.5	7	7.5	10	10.2
018	0	0.0	2	1.9	2	2.2	0	0.0
020	6	6.3	8	7.7	4	4.3	4	4.1
023	10	10.4	3	2.9	2	2.2	11	11.2
078-like*	22	22.9	21	20.2	17	18.3	17	17.3
Other	15	15.6	16	15.4	15	16.1	18	18.4
Not groupable**	3	3.1	5	4.8	2	2.2	10	10.2
Not on ribotype list	3	3.1	1	1.0	1	1.1	2	2.0
Not isolated***	3	3.1	1	1.0	0	0.0	1	1.0
<b>Total</b>	<b>96</b>		<b>104</b>		<b>93</b>		<b>98</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 2022 – June 2023.**

Ribotype	Jul - Sep 2022		Oct - Dec 2022		Jan - Mar 2023		Apr - Jun 2023	
	Number	%	Number	%	Number	%	Number	%
001	1	1.5	0	0.0	0	0.0	3	4.2
002	7	10.8	8	15.1	9	14.8	11	15.3
005	6	9.2	4	7.5	6	9.8	3	4.2
011	0	0.0	0	0.0	1	1.6	1	1.4
014	6	9.2	7	13.2	4	6.6	3	4.2
015	4	6.2	4	7.5	4	6.6	4	5.6
018	0	0.0	0	0.0	1	1.6	0	0.0
020	3	4.6	4	7.5	1	1.6	8	11.1
023	4	6.2	2	3.8	2	3.3	7	9.7
078-like*	19	29.2	8	15.1	13	21.3	16	22.2
Other	9	13.8	7	13.2	14	23.0	7	9.7
Not groupable**	3	4.6	3	5.7	4	6.6	2	2.8
Not on ribotype list	3	4.6	3	5.7	2	3.3	7	9.7
Not isolated***	0	0.0	3	5.7	0	0.0	0	0.0
<b>Total</b>	<b>65</b>		<b>53</b>		<b>61</b>		<b>72</b>	

\* 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 078-like, 023 and 002 in Northern Ireland Hospital Inpatients and Community Patients, April - June 2023.**

	078-like* (n = 33)		023 (n = 18)		002 (n = 17)	
<b>Age</b>						
range	46-95		22-97		4-94	
median	79		76		78	
<b>Sex</b>						
	n	%	n	%	n	%
Female	20	60.6	8	44.4	9	52.9
Male	13	39.4	10	55.6	8	47.1
<b>Trust</b>						
Belfast	8	24.2	1	5.6	8	47.1
Northern	8	24.2	1	5.6	2	11.8
South Eastern	4	12.1	9	50.0	4	23.5
Southern	5	15.2	4	22.2	1	5.9
Western	8	24.2	3	16.7	2	11.8
<b>Source</b>						
Inpatient	17	51.5	11	61.1	6	35.3
Community~	16	48.5	7	38.9	11	64.7

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

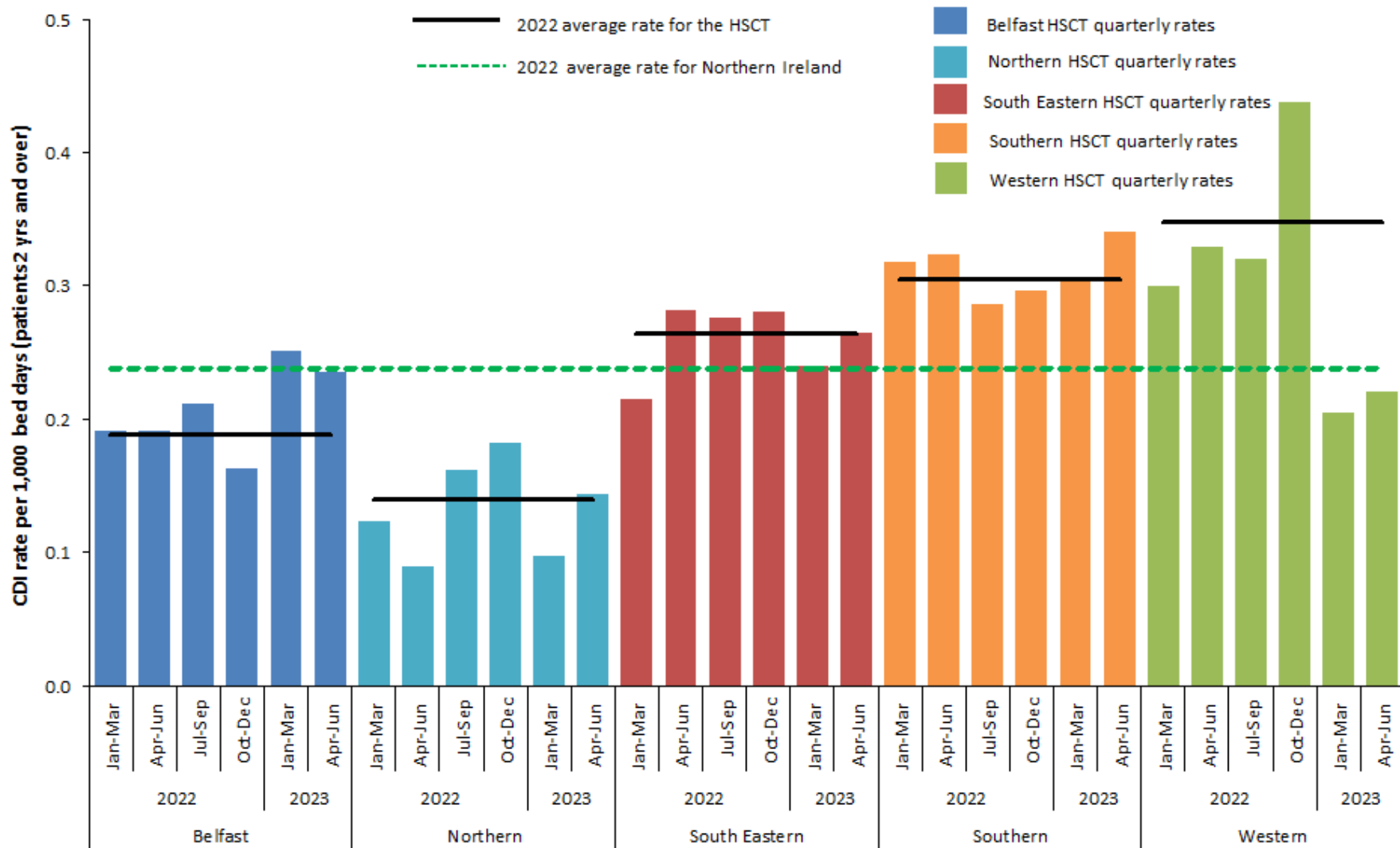


Figure 4: Quarterly rates of *C. difficile* among inpatients aged 2 years and over, by HSCT, January 2022 – June 2023, compared with annual Northern Ireland and HSCT rates for 2022



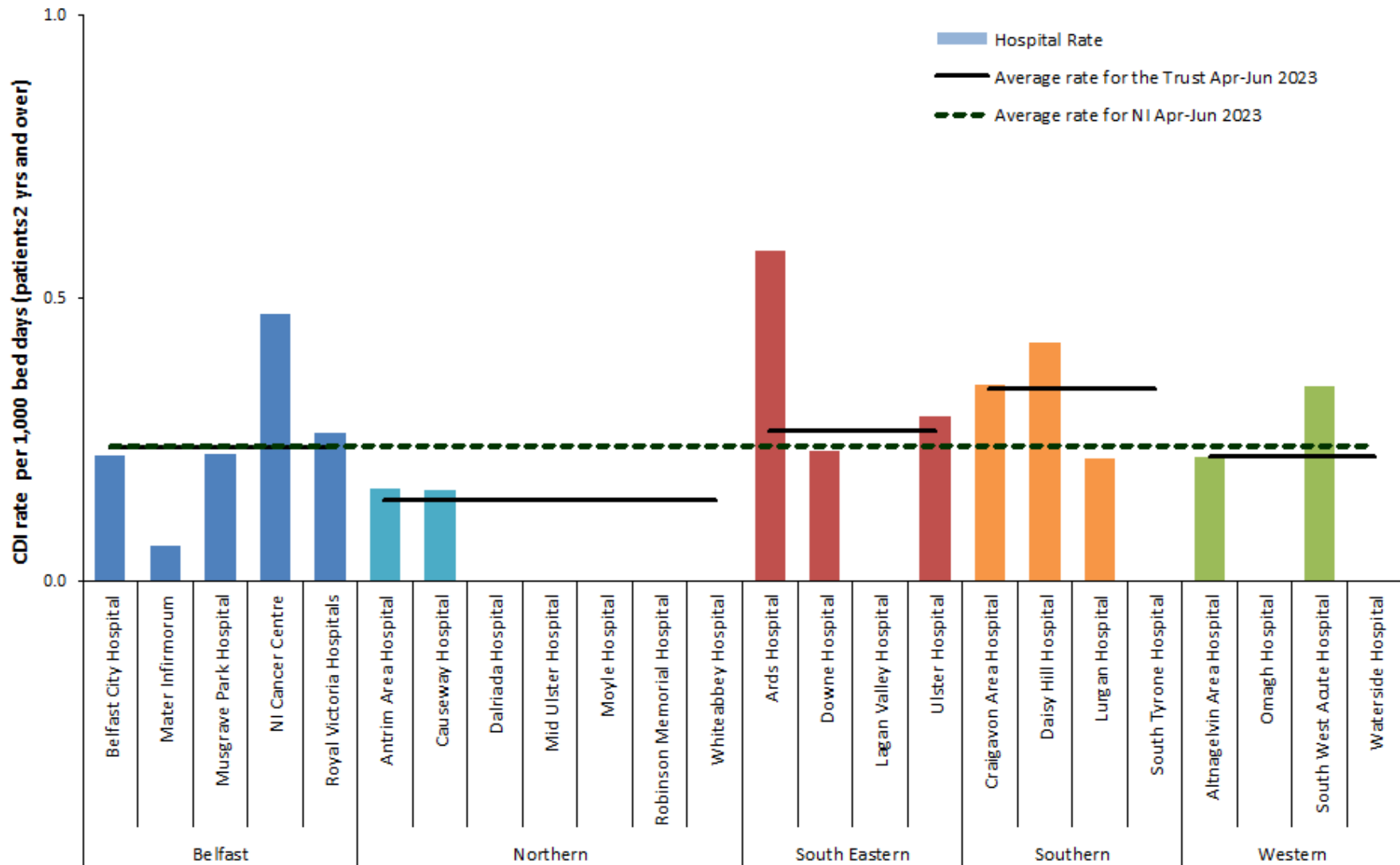


Figure 5: *C. difficile* rates during April - June 2023 Inpatients aged 2 years and over, by hospital, including HSC Trust rates and average rate for Northern Ireland (see appendix A, Table 4)

## Appendix A

**Table 4: Quarterly rates of *C. difficile* reports in patients aged 2 years and over, by hospital, Jul 22 – Jun 23.**

Hospital	Jul - Sep 2022	Oct - Dec 2022	Jan - Mar 2023	Apr - Jun 2023
Belfast City Hospital	0.086	0.156	0.079	0.221
Mater Infirmorum	0.244	0.177	0.437	0.062
Musgrave Park Hospital	0.067	0.062	0.111	0.226
NICCO	0.000	0.000	0.000	0.471
Royal Group of Hospitals	0.261	0.188	0.283	0.261
<b>Belfast Health &amp; Social Care Trust</b>	<b>0.212</b>	<b>0.163</b>	<b>0.251</b>	<b>0.235</b>
Antrim Area Hospital	0.144	0.230	0.093	0.163
Causeway Hospital	0.277	0.106	0.153	0.161
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	0.302	0.000	0.000
<b>Northern Health &amp; Social Care Trust</b>	<b>0.162</b>	<b>0.182</b>	<b>0.097</b>	<b>0.144</b>
Ards Hospital	0.000	0.000	0.000	0.583
Downe Hospital	0.507	0.491	0.715	0.230
Lagan Valley Hospital	0.137	0.407	0.687	0.000
Ulster Hospital	0.286	0.258	0.156	0.292
<b>South Eastern Health &amp; Social Care Trust</b>	<b>0.276</b>	<b>0.280</b>	<b>0.240</b>	<b>0.265</b>
Craigavon Area Hospital	0.217	0.294	0.397	0.348
Daisy Hill Hospital	0.364	0.330	0.216	0.421
Lurgan Hospital	0.644	0.425	0.000	0.217
South Tyrone Hospital	0.277	0.000	0.000	0.000
<b>Southern Health &amp; Social Care Trust</b>	<b>0.287</b>	<b>0.296</b>	<b>0.305</b>	<b>0.341</b>
Altnagelvin Area Hospital	0.339	0.578	0.296	0.218
Omagh Hospital	0.000	0.647	0.301	0.000
South West Acute Hospital	0.385	0.158	0.000	0.343
Waterside Hospital	0.179	0.359	0.170	0.000
<b>Western Health &amp; Social Care Trust</b>	<b>0.320</b>	<b>0.437</b>	<b>0.205</b>	<b>0.221</b>
<b>NI TOTAL</b>	<b>0.244</b>	<b>0.252</b>	<b>0.225</b>	<b>0.240</b>

**Table 5: Quarterly *C. difficile* reports in patients aged 2 years and over, by HSCT, Jul 22 – Jun 23.**

Trust	Jul - Sep 2022 Episodes	Oct - Dec 2022 Episodes	Jan - Mar 2023 Episodes	Apr - Jun 2023 Episodes
Belfast Health & Social Care Trust	27	22	34	32
Northern Health & Social Care Trust	11	13	7	10
South Eastern Health & Social Care Trust	19	20	17	19
Southern Health & Social Care Trust	19	21	22	23
Western Health & Social Care Trust	20	28	13	14
<b>NI TOTAL</b>	<b>96</b>	<b>104</b>	<b>93</b>	<b>98</b>
<b>NI community TOTAL</b>	<b>65</b>	<b>53</b>	<b>61</b>	<b>72</b>

## Appendix A

**Table 6: Quarterly rates of *C. difficile* reports in patients aged 65 years and over, by hospital, Jul 22 – Jun 23.**

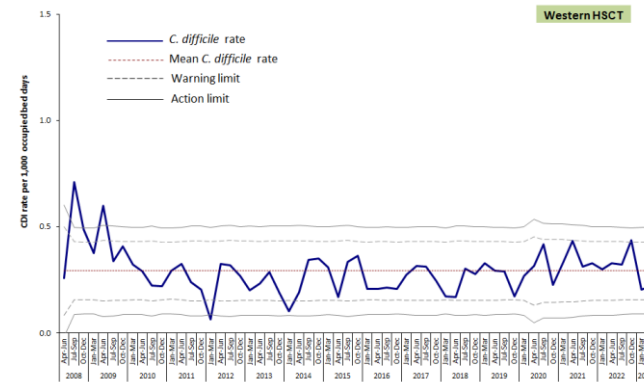
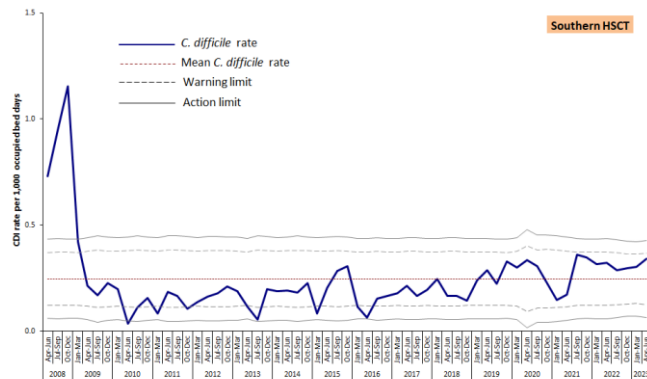
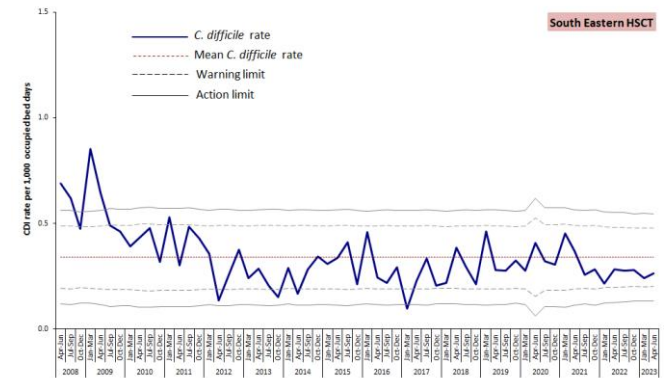
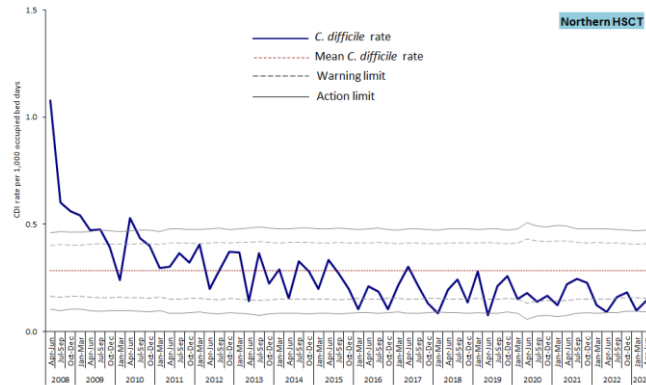
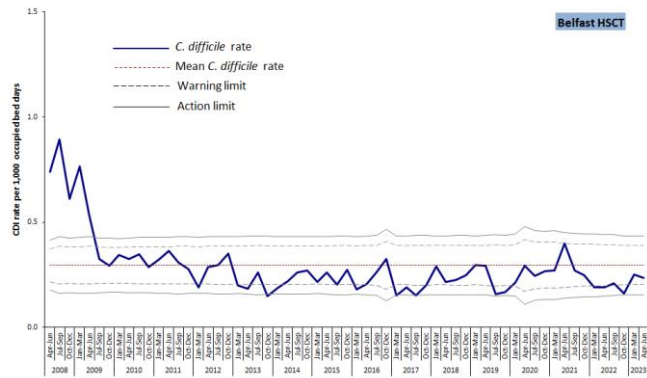
Hospital	Jul - Sep 2022	Oct - Dec 2022	Jan - Mar 2023	Apr - Jun 2023
Belfast City Hospital	0.000	0.326	0.000	0.344
Mater Infirmorum	0.236	0.230	0.478	0.080
Musgrave Park Hospital	0.108	0.095	0.169	0.265
NICCO	0.000	0.000	0.000	1.074
Royal Group of Hospitals	0.395	0.231	0.540	0.362
<b>Belfast Health &amp; Social Care Trust</b>	<b>0.279</b>	<b>0.211</b>	<b>0.414</b>	<b>0.315</b>
Antrim Area Hospital	0.185	0.323	0.108	0.174
Causeway Hospital	0.450	0.087	0.171	0.264
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	0.348	0.000	0.000
<b>Northern Health &amp; Social Care Trust</b>	<b>0.223</b>	<b>0.231</b>	<b>0.106</b>	<b>0.166</b>
Ards Hospital	0.000	0.000	0.000	0.641
Downe Hospital	0.583	0.533	0.829	0.259
Lagan Valley Hospital	0.000	0.491	0.806	0.000
Ulster Hospital	0.442	0.337	0.169	0.423
<b>South Eastern Health &amp; Social Care Trust</b>	<b>0.382</b>	<b>0.362</b>	<b>0.299</b>	<b>0.362</b>
Craigavon Area Hospital	0.357	0.440	0.516	0.348
Daisy Hill Hospital	0.102	0.362	0.355	0.592
Lurgan Hospital	0.455	0.479	0.000	0.229
South Tyrone Hospital	0.290	0.000	0.000	0.000
<b>Southern Health &amp; Social Care Trust</b>	<b>0.303</b>	<b>0.389</b>	<b>0.391</b>	<b>0.369</b>
Altnagelvin Area Hospital	0.439	0.779	0.453	0.271
Omagh Hospital	0.000	0.703	0.320	0.000
South West Acute Hospital	0.522	0.149	0.000	0.381
Waterside Hospital	0.271	0.543	0.264	0.000
<b>Western Health &amp; Social Care Trust</b>	<b>0.419</b>	<b>0.543</b>	<b>0.284</b>	<b>0.261</b>
<b>NI TOTAL</b>	<b>0.316</b>	<b>0.329</b>	<b>0.310</b>	<b>0.296</b>

**Table 7: Quarterly *C. difficile* reports in patients aged 65 years and over, by HSCT, Jul 22 – Jun 23.**

Trust	Jul - Sep 2022 Episodes	Oct - Dec 2022 Episodes	Jan - Mar 2023 Episodes	Apr - Jun 2023 Episodes
Belfast Health & Social Care Trust	18	15	30	23
Northern Health & Social Care Trust	10	11	5	8
South Eastern Health & Social Care Trust	17	17	14	17
Southern Health & Social Care Trust	13	18	18	16
Western Health & Social Care Trust	17	22	12	11
<b>NI TOTAL</b>	<b>75</b>	<b>83</b>	<b>79</b>	<b>75</b>
<b>NI community TOTAL</b>	<b>50</b>	<b>43</b>	<b>47</b>	<b>58</b>

## Appendix B

### Trends in *C. difficile* rates in inpatients aged 2 years and over, by HSCT and quarter, 2008 – 2023



## Appendix C

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

HSCT	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Belfast	197	169	163	110	139	129	114	113	132	107	101	128	107
Northern	120	94	80	64	62	59	48	49	57	47	34	52	37
South Eastern	98	91	61	56	67	86	52	61	83	72	76	69	75
Southern	22	33	42	32	39	53	34	50	44	71	50	74	82
Western	64	50	65	48	71	64	56	64	65	63	66	80	81
Northern Ireland	501	437	411	310	378	391	304	337	381	360	327	403	382

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

HSCT	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Belfast	147	117	124	90	103	102	90	83	98	80	80	84	78
Northern	103	75	73	56	54	43	39	37	48	39	27	39	31
South Eastern	80	72	50	50	53	70	39	50	67	68	68	60	66
Southern	17	28	33	25	27	40	27	39	32	57	37	56	64
Western	46	35	58	37	53	43	40	50	41	45	51	58	66
Northern Ireland	393	327	338	258	290	298	235	259	286	289	263	297	305