

# *C. difficile* surveillance

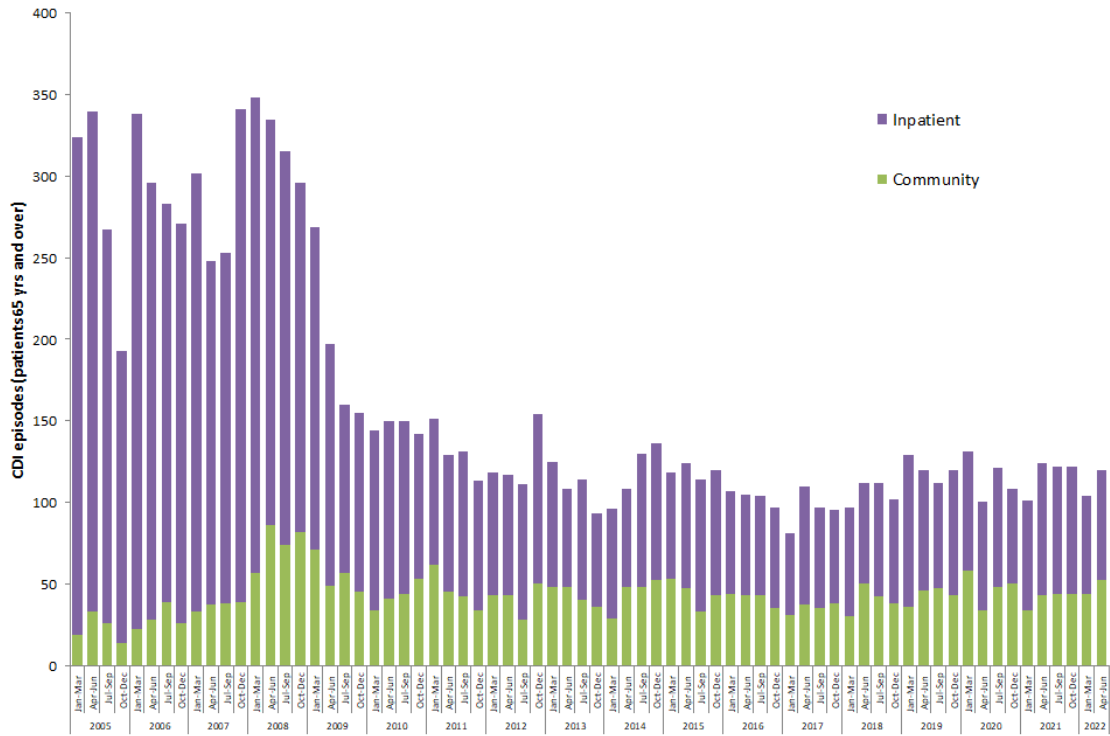
## Quarterly report

### April – June 2022

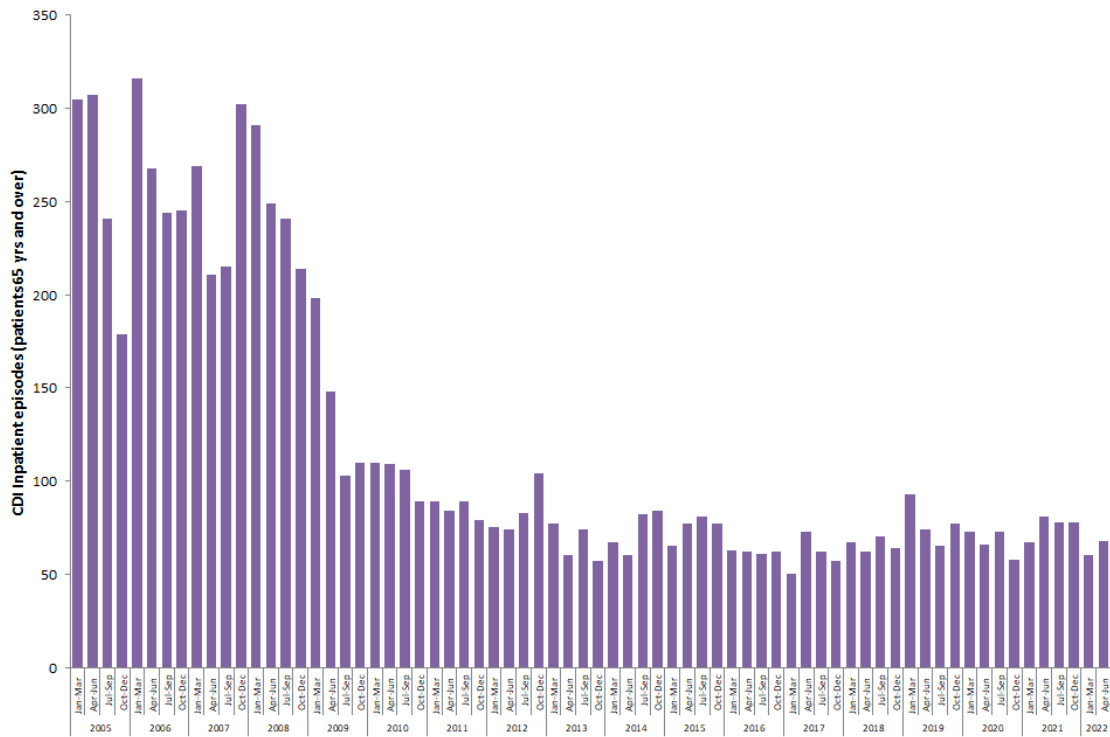
#### Key points

- CDI reports for hospital inpatients aged 65 years and over increased by 13% (from 60 to 68 episodes) during April - June 2022 compared to January - March 2022.
- CDI rate per 1,000 bed days increased by 17% during April - June 2022 compared to January - March 2022.
- CDI reports for community patients aged 65 years and over increased by 18% (from 44 to 52 episodes) during April - June 2022 compared to January - March 2022.
- Total CDI reports, for hospital inpatients and community patients combined, aged two years and over, increased by 14% during April - June 2022 compared to January - March 2022 (from 133 to 151 episodes).
- CDI reports for hospital inpatients aged 65 years and over increased by 13% between the 2020/21 and 2021/22 financial years.
- During April - June 2022 the most prevalent ribotypes for CDI inpatients are 078 (16%), 020 (11%) and 193 (11%) (Table 1). The most predominate community ribotypes are 020 (13%), 014 (11%) and 078 (11%) (Table 2).

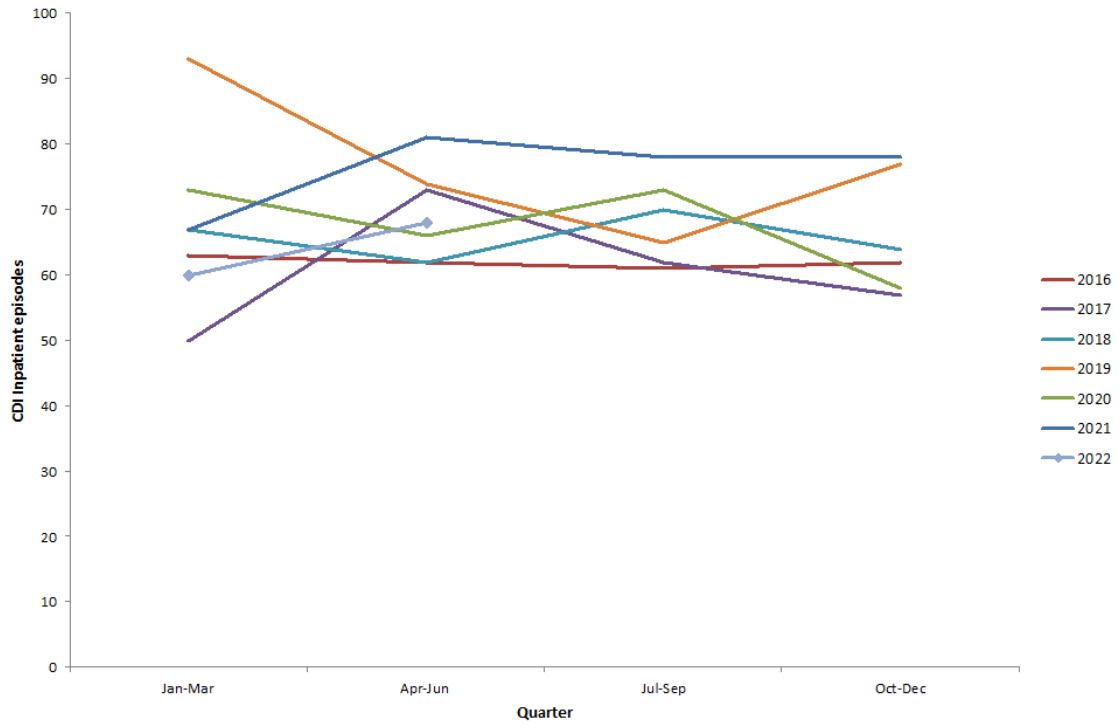
For further information or clarification on HCAI definitions, please refer to previous reports or contact [hcaini@hscni.net](mailto:hcaini@hscni.net)



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



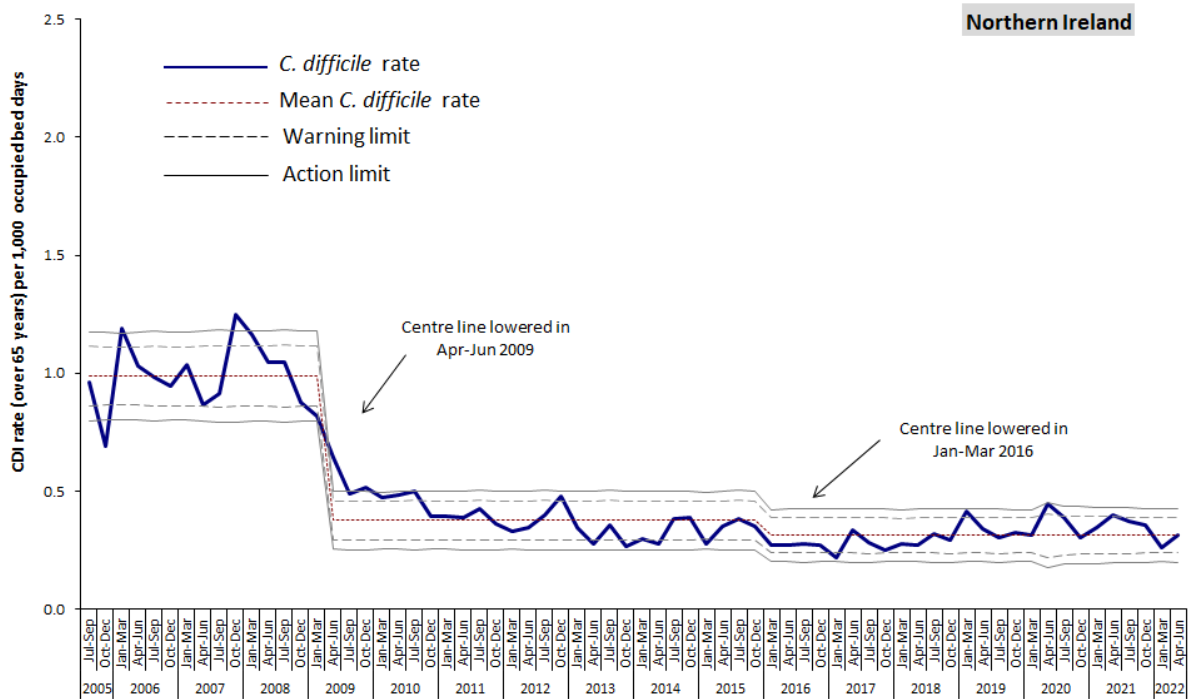
**Figure 2a: Total CDI inpatient episodes in Northern Ireland, by quarter (patients ≥ 65 years), between 2005 and 2022**



**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, July 2021 – June 2022.**

Ribotype	Jul - Sep 2021		Oct - Dec 2021		Jan - Mar 2022		Apr - Jun 2022	
	Number	%	Number	%	Number	%	Number	%
001	0	0.0	1	1.0	2	2.4	1	1.1
002	11	10.7	9	8.7	8	9.6	8	9.0
005	8	7.8	7	6.7	6	7.2	3	3.4
011	2	1.9	2	1.9	2	2.4	1	1.1
014	5	4.9	7	6.7	9	10.8	7	7.9
015	8	7.8	6	5.8	3	3.6	5	5.6
018	2	1.9	3	2.9	0	0.0	0	0.0
020	5	4.9	9	8.7	8	9.6	10	11.2
023	4	3.9	0	0.0	4	4.8	2	2.2
078	20	19.4	16	15.4	12	14.5	14	15.7
193	2	1.9	2	1.9	3	3.6	10	11.2
Other	20	19.4	23	22.1	17	20.5	16	18.0
Not groupable**	4	3.9	9	8.7	5	6.0	7	7.9
Not on ribotype list	8	7.8	7	6.7	3	3.6	4	4.5
Not isolated***	4	3.9	3	2.9	1	1.2	1	1.1
<b>Total</b>	<b>103</b>		<b>104</b>		<b>83</b>		<b>89</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 2021 – June 2022.**

Ribotype	Jul - Sep 2021		Oct - Dec 2021		Jan - Mar 2022		Apr - Jun 2022	
	Number	%	Number	%	Number	%	Number	%
001	1	1.6	0	0.0	0	0.0	1	1.6
002	4	6.5	12	20.3	10	20.0	6	9.7
005	3	4.8	7	11.9	7	14.0	3	4.8
011	1	1.6	1	1.7	0	0.0	4	6.5
014	3	4.8	4	6.8	5	10.0	7	11.3
015	4	6.5	1	1.7	4	8.0	4	6.5
018	1	1.6	3	5.1	1	2.0	1	1.6
020	6	9.7	4	6.8	3	6.0	8	12.9
023	1	1.6	0	0.0	1	2.0	2	3.2
078	12	19.4	5	8.5	6	12.0	7	11.3
193	0	0.0	1	1.7	1	2.0	6	9.7
Other	13	21.0	13	22.0	8	16.0	6	9.7
Not groupable**	5	8.1	3	5.1	1	2.0	2	3.2
Not on ribotype list	8	12.9	5	8.5	2	4.0	3	4.8
Not isolated***	0	0.0	0	0.0	1	2.0	2	3.2
<b>Total</b>	<b>62</b>		<b>59</b>		<b>50</b>		<b>62</b>	

\* 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, 020 and 193 in Northern Ireland Hospital Inpatients and Community Patients, April - June 2022.**

	078 (n = 21)		020 (n = 18)		193 (n = 16)	
<b>Age</b>						
range	67 - 96		56 - 94		28 - 89	
median	85		80		77	
<b>Sex</b>						
	n	%	n	%	n	%
Female	14	66.7	11	61.1	8	50.0
Male	7	33.3	7	38.9	8	50.0
<b>Trust</b>						
Belfast	2	9.5	3	16.7	1	6.3
Northern	6	28.6	4	22.2	3	18.8
South Eastern	3	14.3	2	11.1	4	25.0
Southern	4	19.0	5	27.8	6	37.5
Western	6	28.6	4	22.2	2	12.5
<b>Source</b>						
Inpatient	14	66.7	10	55.6	10	62.5
Community*	7	33.3	8	44.4	6	37.5

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

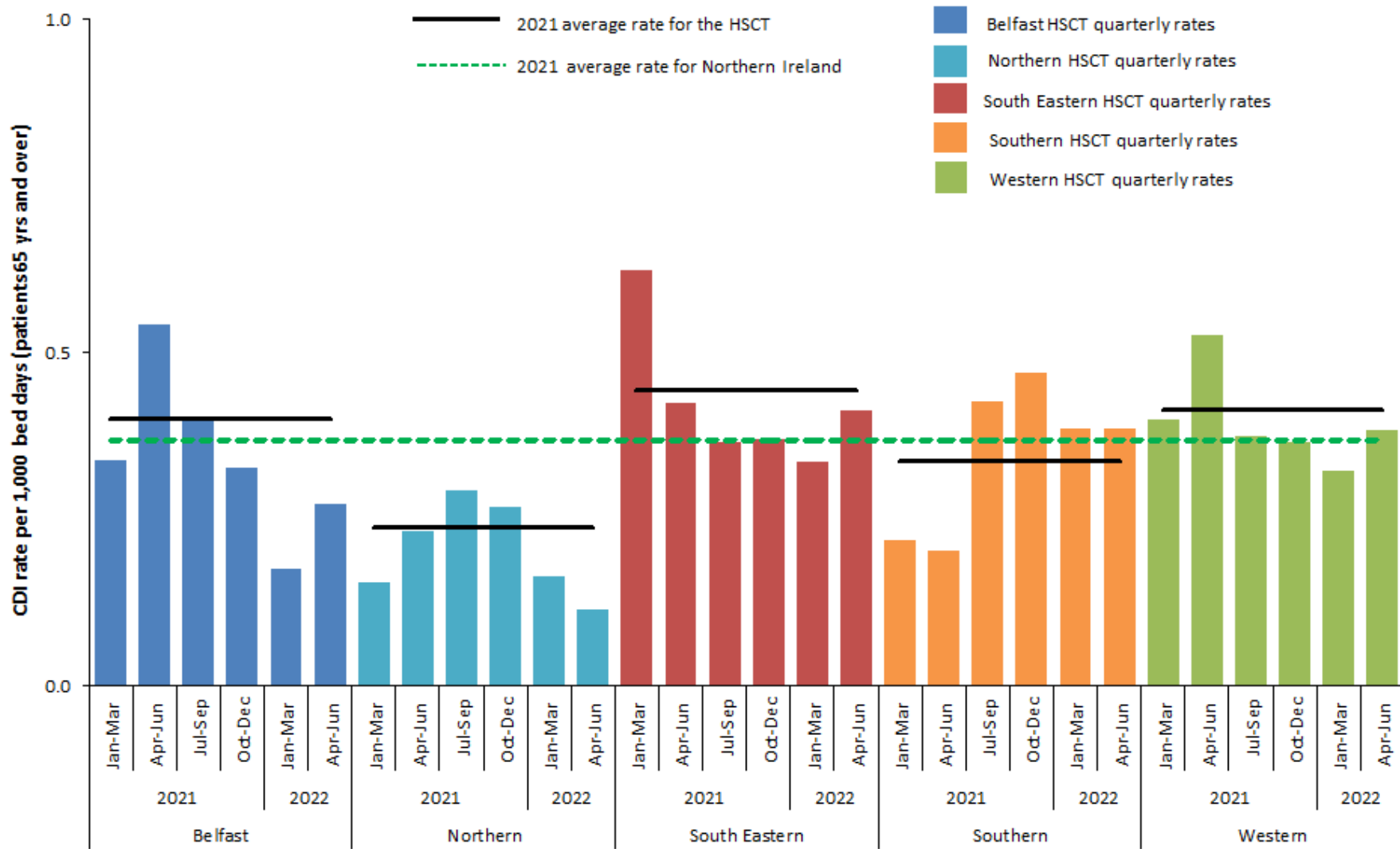


Figure 4: Quarterly rates of *C. difficile* among inpatients aged 65 years and over, by HSCT, January 2021 – June 2022, compared with annual Northern Ireland and HSCT rates for 2021



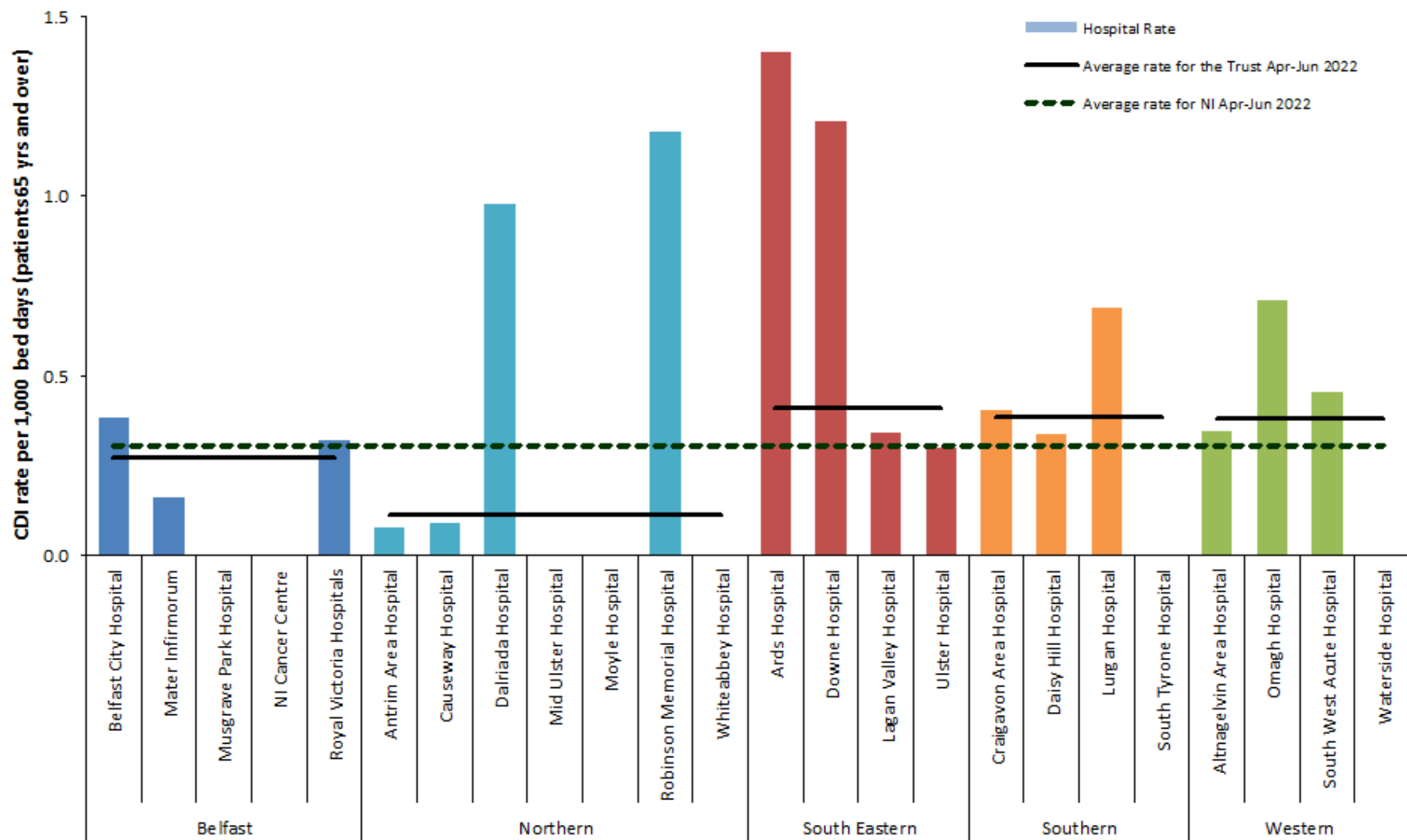


Figure 5: *C. difficile* rates during April - June 2022 Inpatients aged 65 years and over, by hospital, including HSCT rates and average rate for Northern Ireland (see appendix A, Table 4)

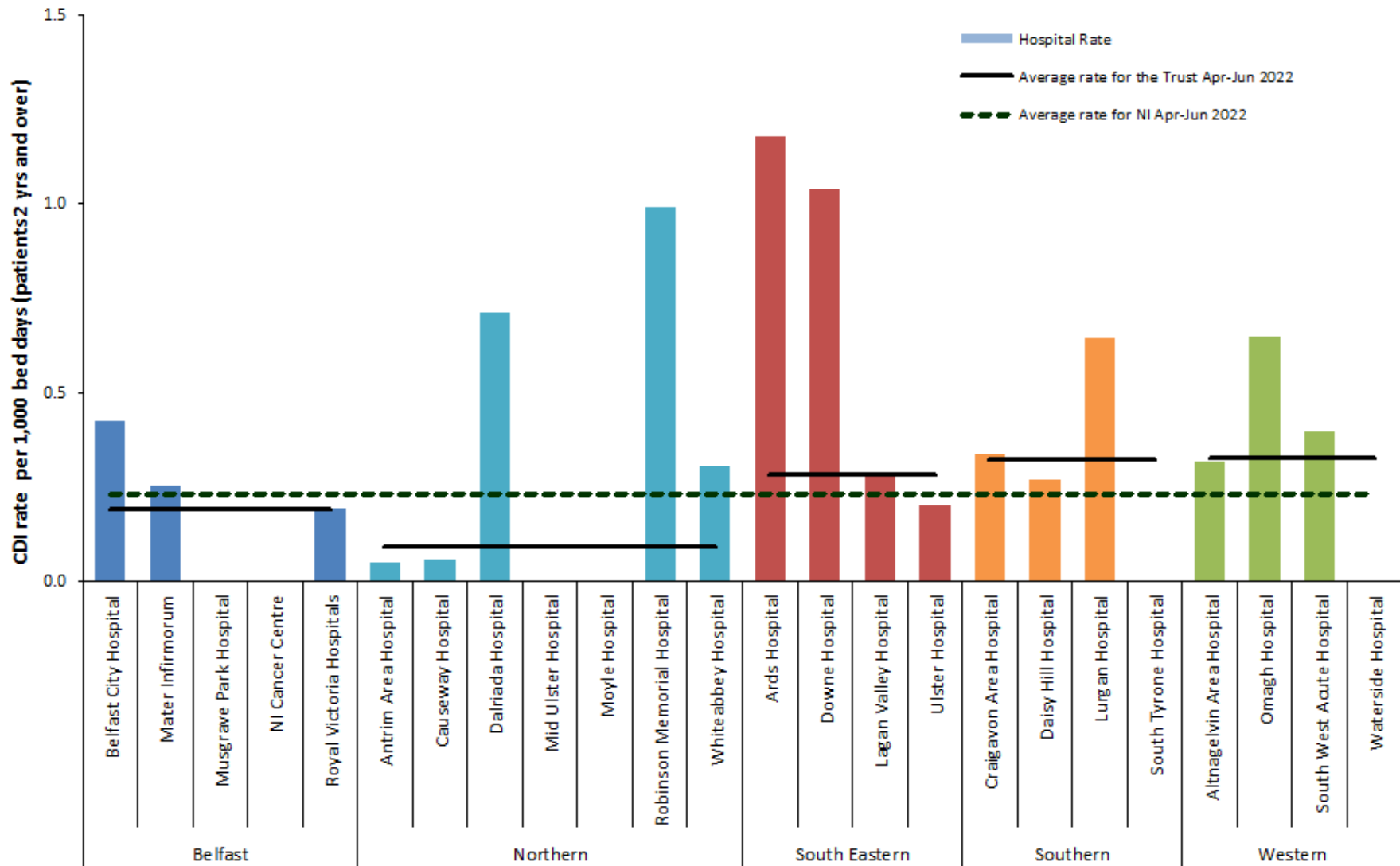


Figure 6: *C. difficile* rates April - June 2022 Inpatients aged two years and over, by hospital, including HSCT rates and average rate for Northern Ireland (see appendix A, Table 6)

## Appendix A

**Table 4: Quarterly rates of *C. difficile* in patients aged 65 years and over, by hospital, Jul 21 – Jun 22.**

Hospital	Jul - Sep 2021	Oct - Dec 2021	Jan - Mar 2022	Apr - Jun 2022
Belfast City Hospital	0.254	1.058	0.230	0.385
Mater Infirmorum	0.492	0.176	0.084	0.163
Musgrave Park Hospital	0.113	0.101	0.101	0.000
NICCO	0.000	0.952	0.524	0.000
Royal Group of Hospitals	0.488	0.300	0.200	0.321
<b>Belfast Health &amp; Social Care Trust</b>	<b>0.400</b>	<b>0.326</b>	<b>0.175</b>	<b>0.272</b>
Antrim Area Hospital	0.343	0.334	0.158	0.078
Causeway Hospital	0.383	0.298	0.294	0.093
Dalriada Hospital	0.000	0.000	0.000	0.979
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	1.181
Whiteabbey Hospital	0.000	0.000	0.000	0.000
<b>Northern Health &amp; Social Care Trust</b>	<b>0.292</b>	<b>0.266</b>	<b>0.162</b>	<b>0.114</b>
Ards Hospital	0.707	0.000	0.000	1.400
Downe Hospital	0.000	0.000	0.000	1.209
Lagan Valley Hospital	0.388	0.383	0.180	0.344
Ulster Hospital	0.383	0.422	0.411	0.302
<b>South Eastern Health &amp; Social Care Trust</b>	<b>0.365</b>	<b>0.370</b>	<b>0.334</b>	<b>0.412</b>
Craigavon Area Hospital	0.410	0.541	0.408	0.404
Daisy Hill Hospital	0.583	0.669	0.448	0.339
Lurgan Hospital	0.478	0.000	0.000	0.688
South Tyrone Hospital	0.000	0.000	0.510	0.000
<b>Southern Health &amp; Social Care Trust</b>	<b>0.426</b>	<b>0.469</b>	<b>0.385</b>	<b>0.385</b>
Altnagelvin Area Hospital	0.564	0.507	0.444	0.347
Omagh Hospital	0.000	0.359	0.345	0.711
South West Acute Hospital	0.178	0.162	0.246	0.455
Waterside Hospital	0.289	0.288	0.000	0.000
<b>Western Health &amp; Social Care Trust</b>	<b>0.374</b>	<b>0.365</b>	<b>0.321</b>	<b>0.382</b>
<b>NI TOTAL</b>	<b>0.373</b>	<b>0.354</b>	<b>0.264</b>	<b>0.308</b>

**Table 5: Quarterly *C. difficile* reports in patients aged 65 years and over, by HSCT, Jul 21 – Jun 22.**

Trust	Jul - Sep 2021 Episodes	Oct - Dec 2021 Episodes	Jan - Mar 2022 Episodes	Apr - Jun 2022 Episodes
Belfast Health & Social Care Trust	23	20	11	15
Northern Health & Social Care Trust	12	11	7	5
South Eastern Health & Social Care Trust	14	15	14	18
Southern Health & Social Care Trust	16	18	15	15
Western Health & Social Care Trust	13	14	13	15
<b>NI TOTAL</b>	<b>78</b>	<b>78</b>	<b>60</b>	<b>68</b>
<b>NI community TOTAL</b>	<b>44</b>	<b>44</b>	<b>44</b>	<b>52</b>

## Appendix A

**Table 6: Quarterly rates of *C. difficile* in patients aged two years and over, by hospital, Jul 21 – Jun 22.**

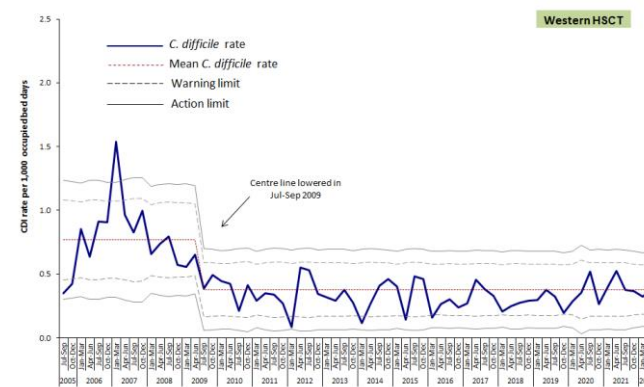
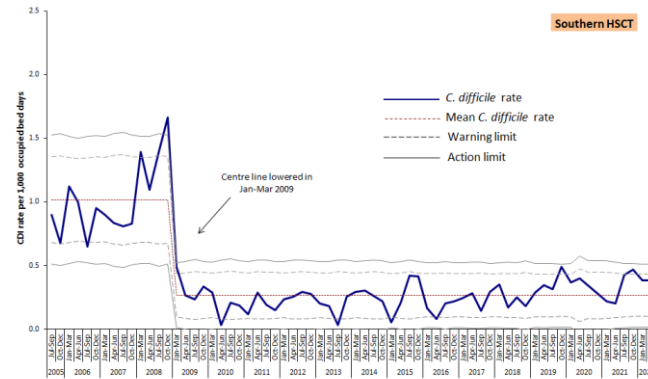
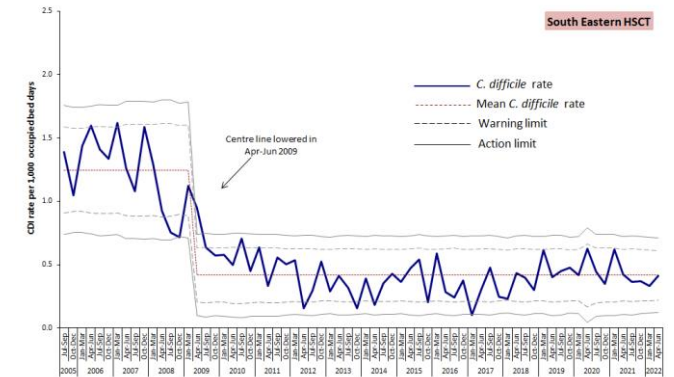
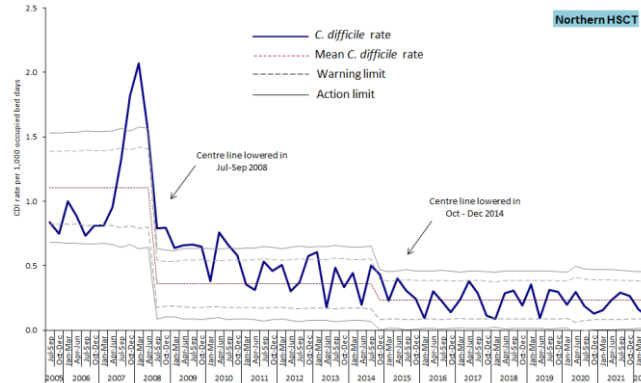
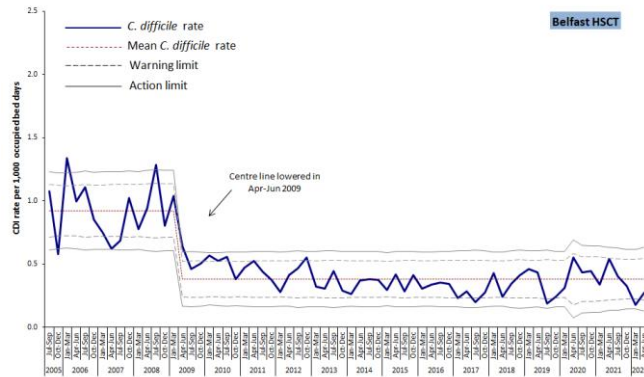
Hospital	Jul - Sep 2021	Oct - Dec 2021	Jan - Mar 2022	Apr - Jun 2022
Belfast City Hospital	0.190	0.857	0.385	0.425
Mater Infirmorum	0.441	0.133	0.135	0.254
Musgrave Park Hospital	0.074	0.067	0.068	0.000
NICCO	0.539	1.001	0.505	0.000
Royal Group of Hospitals	0.275	0.185	0.183	0.191
<b>Belfast Health &amp; Social Care Trust</b>	<b>0.272</b>	<b>0.250</b>	<b>0.191</b>	<b>0.191</b>
Antrim Area Hospital	0.231	0.299	0.126	0.049
Causeway Hospital	0.394	0.173	0.177	0.056
Dalriada Hospital	0.000	0.000	0.000	0.711
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	0.992
Whiteabbey Hospital	0.000	0.000	0.000	0.306
<b>Northern Health &amp; Social Care Trust</b>	<b>0.247</b>	<b>0.226</b>	<b>0.123</b>	<b>0.090</b>
Ards Hospital	0.654	0.000	0.000	1.180
Downe Hospital	0.000	0.000	0.000	1.038
Lagan Valley Hospital	0.289	0.290	0.144	0.279
Ulster Hospital	0.257	0.311	0.246	0.201
<b>South Eastern Health &amp; Social Care Trust</b>	<b>0.256</b>	<b>0.282</b>	<b>0.215</b>	<b>0.282</b>
Craigavon Area Hospital	0.338	0.355	0.337	0.336
Daisy Hill Hospital	0.452	0.496	0.316	0.270
Lurgan Hospital	0.455	0.000	0.000	0.646
South Tyrone Hospital	0.000	0.000	0.488	0.000
<b>Southern Health &amp; Social Care Trust</b>	<b>0.359</b>	<b>0.348</b>	<b>0.317</b>	<b>0.323</b>
Altnagelvin Area Hospital	0.400	0.404	0.347	0.316
Omagh Hospital	0.000	0.335	0.333	0.649
South West Acute Hospital	0.233	0.225	0.173	0.395
Waterside Hospital	0.181	0.181	0.384	0.000
<b>Western Health &amp; Social Care Trust</b>	<b>0.311</b>	<b>0.328</b>	<b>0.299</b>	<b>0.329</b>
<b>NI TOTAL</b>	<b>0.286</b>	<b>0.280</b>	<b>0.222</b>	<b>0.233</b>

**Table 7: Quarterly *C. difficile* reports in patients aged two years and over, by HSCT, Jul 21 – Jun 22.**

Trust	Jul - Sep 2021 Episodes	Oct - Dec 2021 Episodes	Jan - Mar 2022 Episodes	Apr - Jun 2022 Episodes
Belfast Health & Social Care Trust	31	30	23	24
Northern Health & Social Care Trust	16	15	8	6
South Eastern Health & Social Care Trust	16	17	14	19
Southern Health & Social Care Trust	22	22	20	20
Western Health & Social Care Trust	18	20	18	20
<b>NI TOTAL</b>	<b>103</b>	<b>104</b>	<b>83</b>	<b>89</b>
<b>NI community TOTAL</b>	<b>62</b>	<b>59</b>	<b>50</b>	<b>62</b>

## 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