

C. difficile surveillance

Quarterly report

October - December 2024

Key points

- CDI reports for hospital inpatients aged 2 years and over increased by 12% (from 97 to 109 episodes) during October-December 2024 compared to July-September 2024.
- CDI rate per 100,000 bed days also increased by 12% during October-December 2024 compared to July-September 2024.
- CDI reports for community patients aged 2 years and over decreased by 20% (from 100 to 80 episodes) during October-December 2024 compared to July-September 2024.
- During October-December 2024 the most prevalent CDI ribotypes are 014 (11%), 015 (11%) and 002 (8%) (Table 3).
- Bed day data were not available for BHSCT, NHSCT, SEHSCT hospitals and South Tyrone hospital (SHSCT) and provisional figures were used this quarter (figures taken from Oct-Dec 2023).
- Rates presented throughout this report have changed to 100,000 occupied bed days to align with the Targets.

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

Surveillance of *C. difficile* infection (CDI)

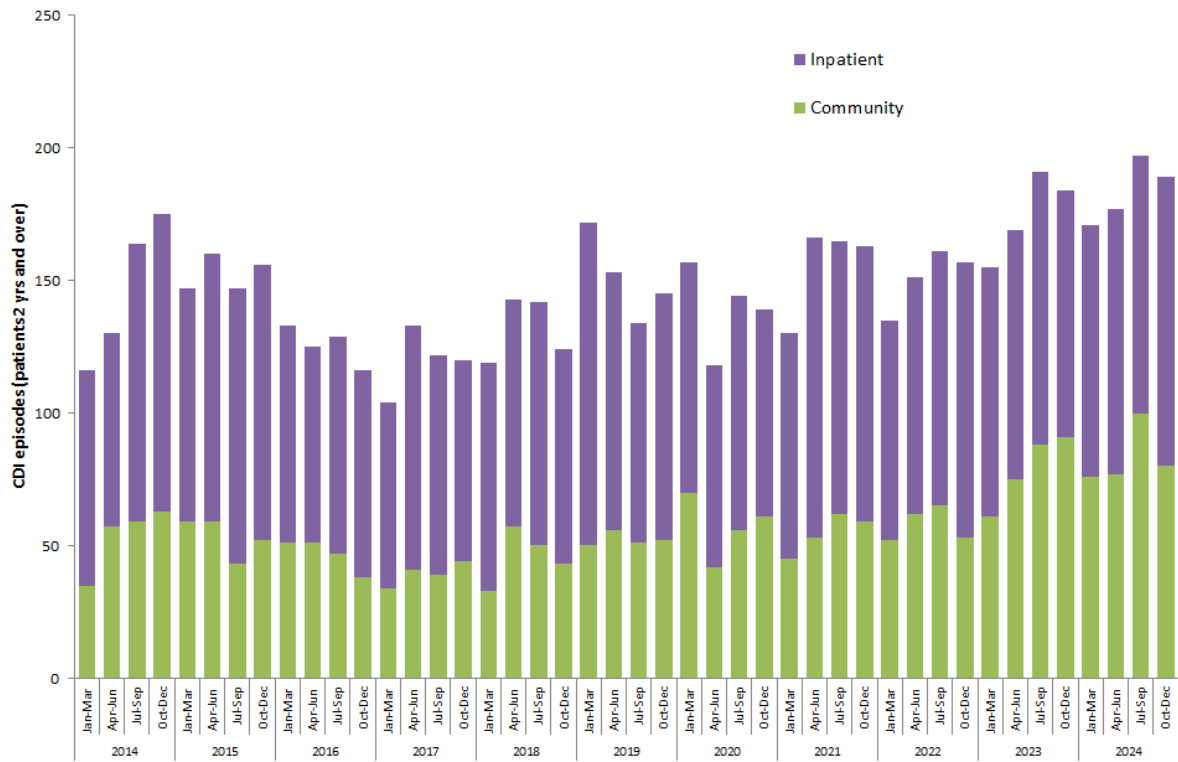


Figure 1: Total CDI episodes, inpatient and community, in Northern Ireland, by quarter (patients \geq 2 years), between 2014 and 2024

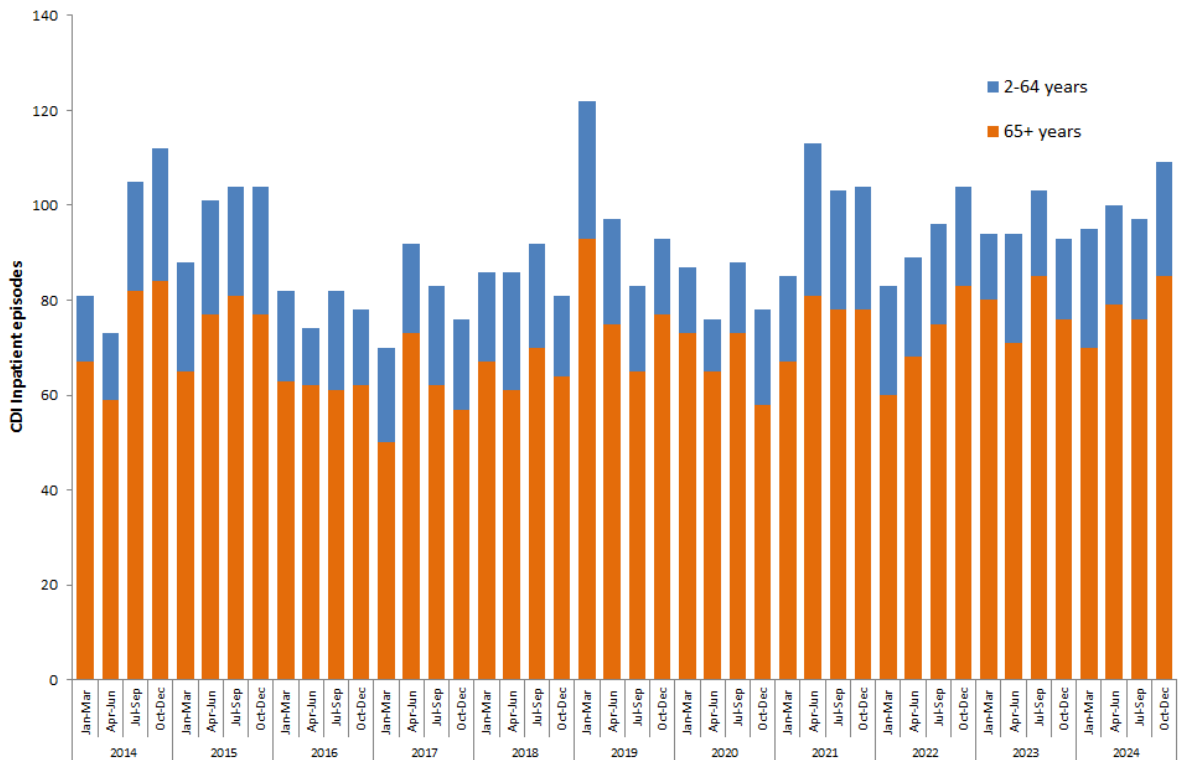


Figure 2a: Total CDI inpatient episodes, by age band, in Northern Ireland, by quarter, between 2014 and 2024

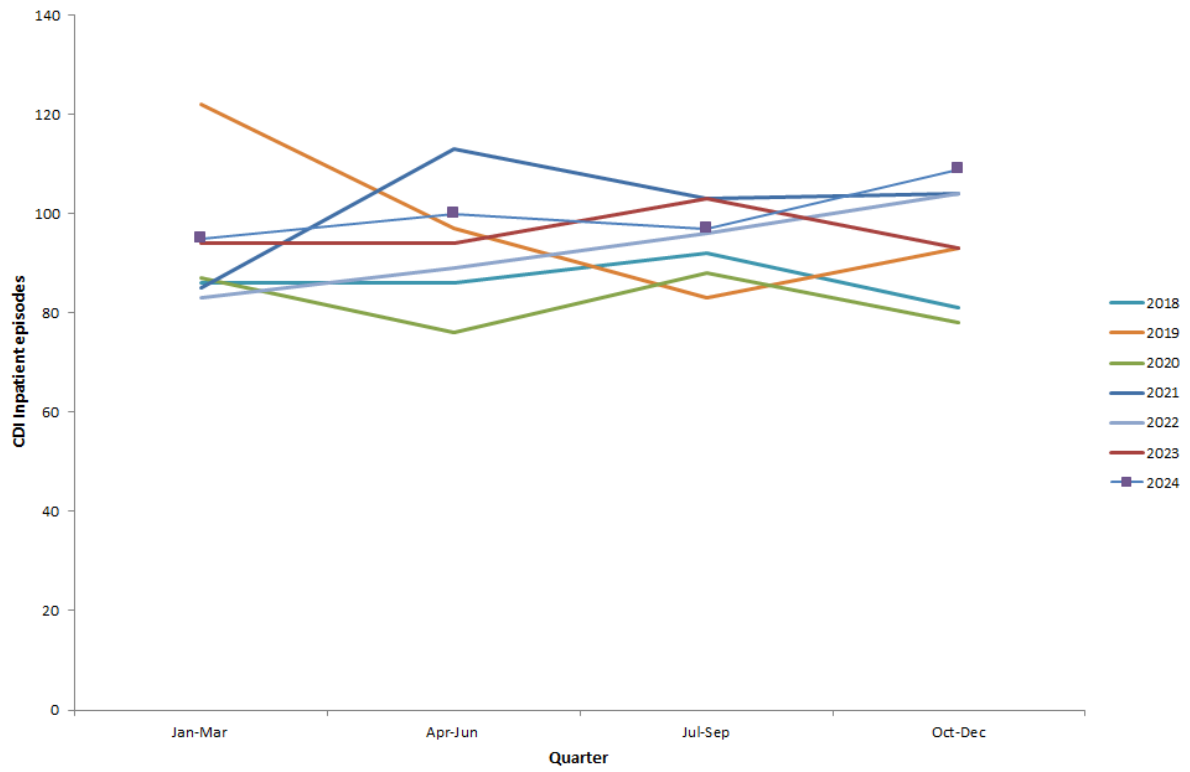


Figure 2b: Total CDI inpatient episodes in Northern Ireland, by quarter (patients \geq 2 years), between 2018 and 2024

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 Jan 2014 are shown for each HSCT in appendix B.

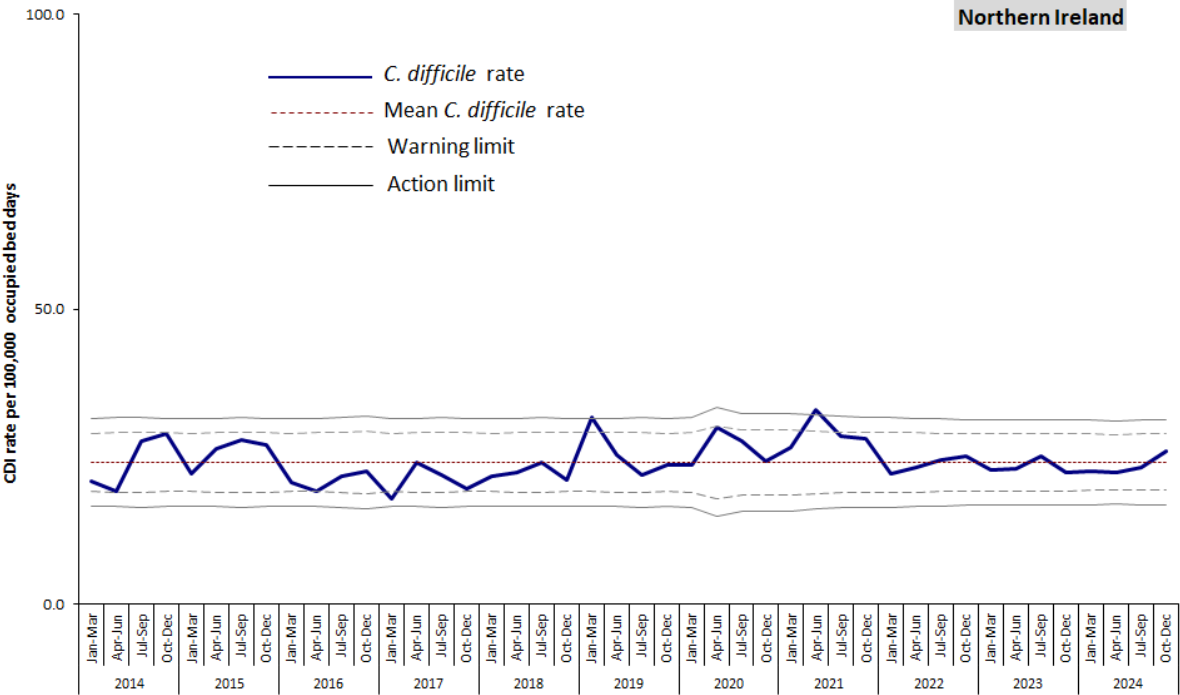


Figure 3: Statistical process control chart for quarterly *C. difficile* rates among inpatients in Northern Ireland aged 2 years and over (for HSCT level, see appendix B)

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, January - December 2024.

| Ribotype | Jan - Mar 2024 | | Apr - Jun 2024 | | Jul - Sep 2024 | | Oct - Dec 2024 | |
|----------------------|----------------|------|----------------|------|----------------|------|----------------|------|
| | Number | % | Number | % | Number | % | Number | % |
| 001 | 1 | 1.1 | 2 | 2.0 | 3 | 3.1 | 4 | 3.7 |
| 002 | 10 | 10.5 | 6 | 6.0 | 10 | 10.3 | 6 | 5.5 |
| 005 | 5 | 5.3 | 9 | 9.0 | 5 | 5.2 | 7 | 6.4 |
| 011 | 0 | 0.0 | 6 | 6.0 | 2 | 2.1 | 4 | 3.7 |
| 014 | 11 | 11.6 | 12 | 12.0 | 6 | 6.2 | 12 | 11.0 |
| 015 | 3 | 3.2 | 8 | 8.0 | 5 | 5.2 | 8 | 7.3 |
| 018 | 1 | 1.1 | 0 | 0.0 | 1 | 1.0 | 1 | 0.9 |
| 020 | 5 | 5.3 | 8 | 8.0 | 10 | 10.3 | 8 | 7.3 |
| 023 | 11 | 11.6 | 8 | 8.0 | 12 | 12.4 | 12 | 11.0 |
| 078-like* | 13 | 13.7 | 10 | 10.0 | 10 | 10.3 | 3 | 2.8 |
| Other | 31 | 32.6 | 26 | 26.0 | 23 | 23.7 | 32 | 29.4 |
| Not groupable** | 2 | 2.1 | 2 | 2.0 | 1 | 1.0 | 3 | 2.8 |
| Not on ribotype list | 1 | 1.1 | 3 | 3.0 | 9 | 9.3 | 9 | 8.3 |
| Not isolated*** | 1 | 1.1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Total | 95 | | 100 | | 97 | | 109 | |

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 - December 2024.

| Ribotype | Jan - Mar 2024 | | Apr - Jun 2024 | | Jul - Sep 2024 | | Oct - Dec 2024 | |
|----------------------|----------------|------|----------------|------|----------------|------|----------------|------|
| | Number | % | Number | % | Number | % | Number | % |
| 001 | 2 | 2.6 | 0 | 0.0 | 4 | 4.0 | 1 | 1.3 |
| 002 | 9 | 11.8 | 9 | 11.7 | 6 | 6.0 | 10 | 12.5 |
| 005 | 2 | 2.6 | 5 | 6.5 | 10 | 10.0 | 5 | 6.3 |
| 011 | 1 | 1.3 | 3 | 3.9 | 0 | 0.0 | 2 | 2.5 |
| 014 | 5 | 6.6 | 6 | 7.8 | 8 | 8.0 | 9 | 11.3 |
| 015 | 10 | 13.2 | 4 | 5.2 | 4 | 4.0 | 13 | 16.3 |
| 018 | 0 | 0.0 | 2 | 2.6 | 1 | 1.0 | 4 | 5.0 |
| 020 | 8 | 10.5 | 7 | 9.1 | 4 | 4.0 | 2 | 2.5 |
| 023 | 8 | 10.5 | 4 | 5.2 | 9 | 9.0 | 3 | 3.8 |
| 027 | 0 | 0.0 | 1 | 1.3 | 0 | 0.0 | 0 | 0.0 |
| 078-like* | 6 | 7.9 | 8 | 10.4 | 15 | 15.0 | 4 | 5.0 |
| Other | 15 | 19.7 | 23 | 29.9 | 29 | 29.0 | 14 | 17.5 |
| Not groupable** | 3 | 3.9 | 3 | 3.9 | 3 | 3.0 | 3 | 3.8 |
| Not on ribotype list | 6 | 7.9 | 2 | 2.6 | 6 | 6.0 | 9 | 11.3 |
| Not isolated*** | 1 | 1.3 | 0 | 0.0 | 1 | 1.0 | 1 | 1.3 |
| Total | 76 | | 77 | | 100 | | 80 | |

* 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, 015 and 002 in Northern Ireland Hospital Inpatients and Community Patients, October - December 2024.

| | | 014 (n= 21) | | 015 (n= 21) | | 002 (n = 16) | |
|---------------|--|-------------|------|-------------|------|--------------|------|
| Age | | | | | | | |
| range | | 4-91 | | 32-89 | | 30-96 | |
| median | | 72 | | 69 | | 80 | |
| Sex | | | | | | | |
| | | n | % | n | % | n | % |
| Female | | 13 | 61.9 | 10 | 47.6 | 12 | 75.0 |
| Male | | 8 | 38.1 | 11 | 52.4 | 4 | 25.0 |
| Trust | | | | | | | |
| Belfast | | 3 | 14.3 | 6 | 28.6 | 2 | 12.5 |
| Northern | | 4 | 19.0 | 3 | 14.3 | 1 | 6.3 |
| South Eastern | | 7 | 33.3 | 5 | 23.8 | 4 | 25.0 |
| Southern | | 6 | 28.6 | 5 | 23.8 | 7 | 43.8 |
| Western | | 1 | 4.8 | 2 | 9.5 | 2 | 12.5 |
| Source | | | | | | | |
| Inpatient | | 12 | 57.1 | 8 | 38.1 | 6 | 37.5 |
| Community~ | | 9 | 42.9 | 13 | 61.9 | 10 | 62.5 |

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

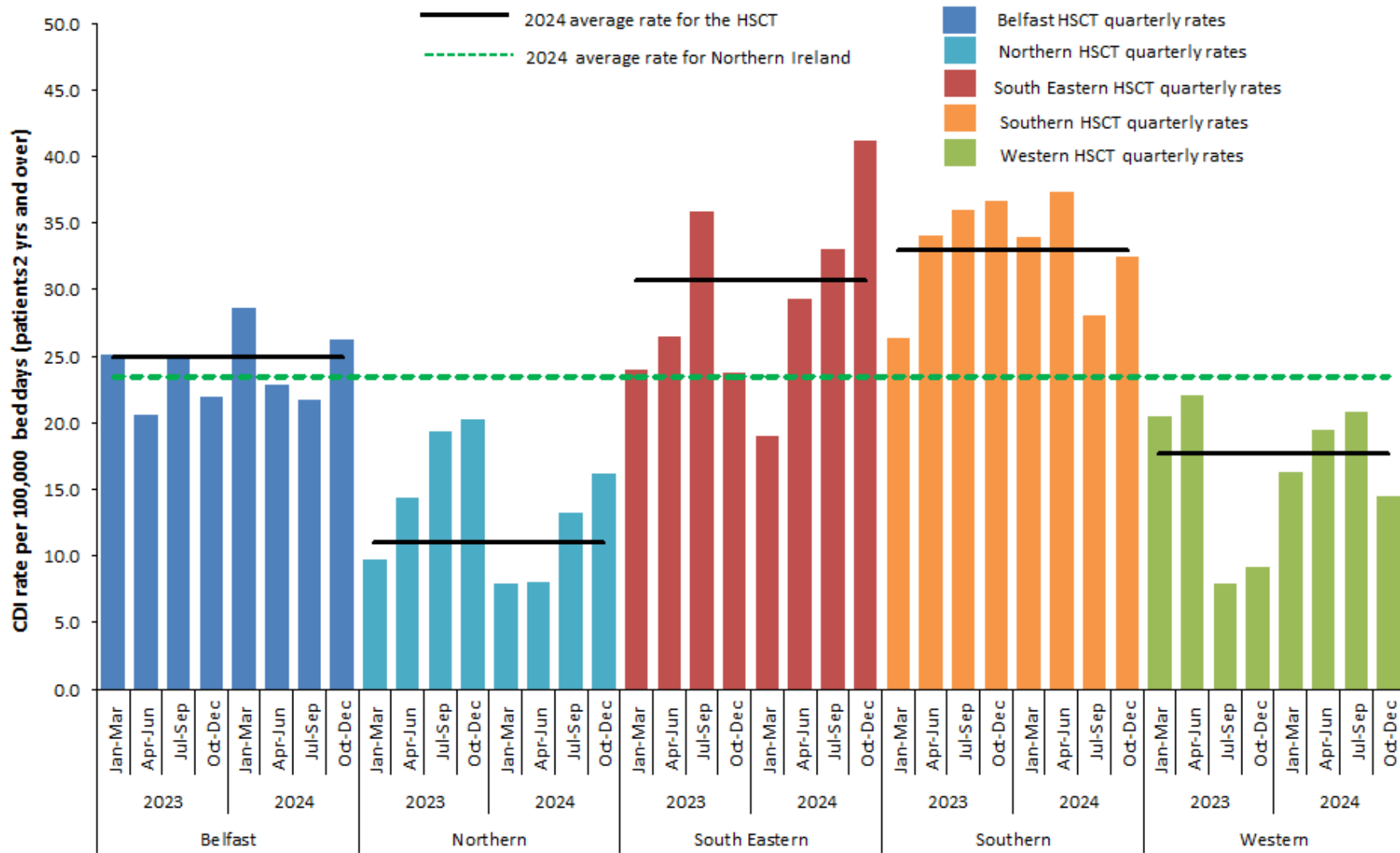


Figure 4: Quarterly rates of *C. difficile* among inpatients aged 2 years and over, by HSCT, January 2023 – December 2024, compared with annual Northern Ireland and HSCT rates for 2024

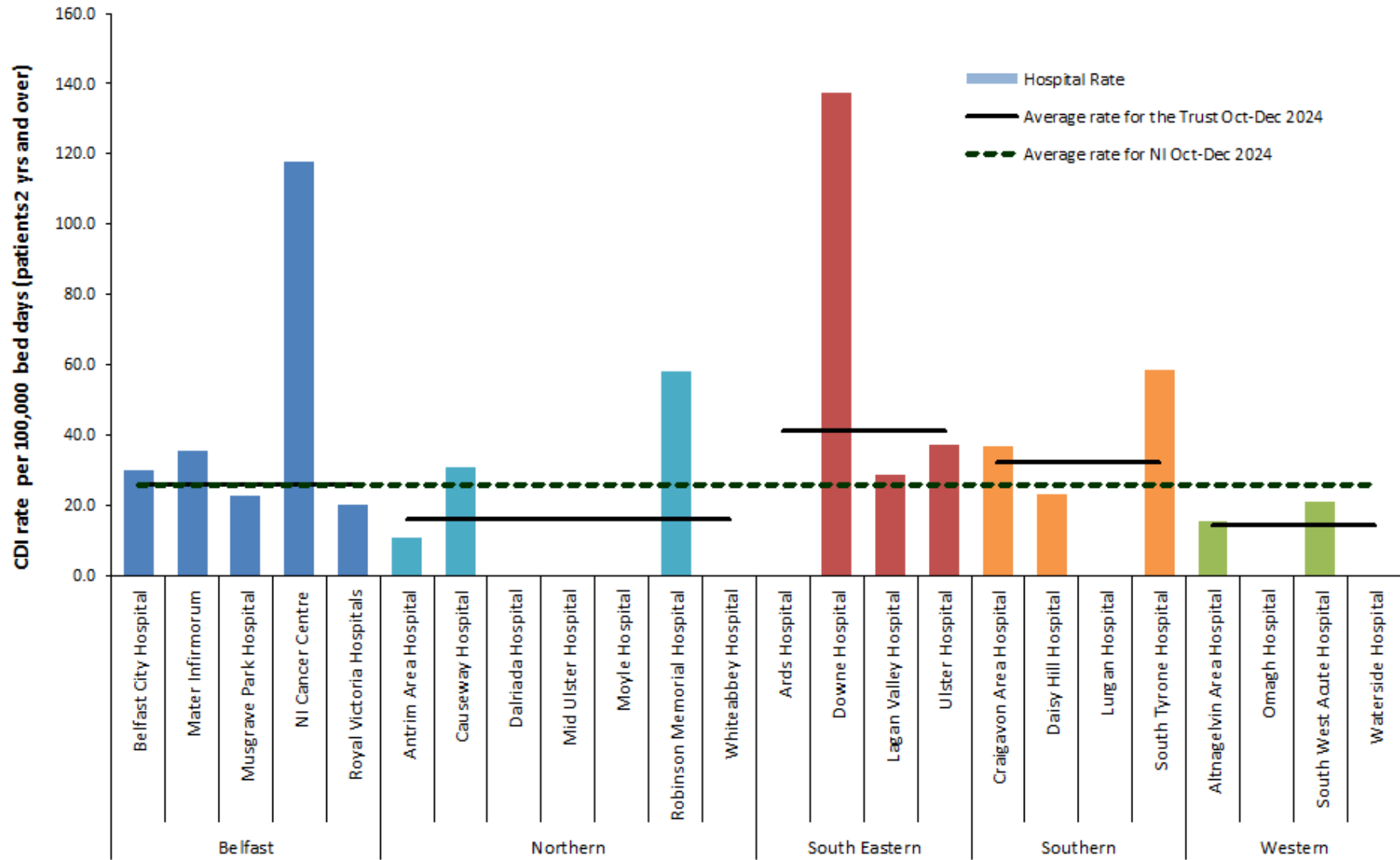


Figure 5: *C. difficile* rates during October - December 2024 Inpatients aged 2 years and over, by hospital, including HSC Trust rates and average rate for Northern Ireland (see appendix A, Table 4)

Appendix A

Table 4: Quarterly rates* of *C. difficile* reports in patients aged 2 years and over, by hospital, Jan-Dec 2024.

| Hospital | Jan-Mar 2024 | Apr-Jun 2024 | Jul-Sep 2024 | Oct-Dec 2024 |
|---|--------------|--------------|--------------|--------------|
| Belfast City Hospital | 43.70 | 22.08 | 29.35 | 30.03 |
| Mater Infirmorum | 45.26 | 30.77 | 22.02 | 35.59 |
| Musgrave Park Hospital | 16.73 | 22.58 | 18.46 | 22.97 |
| NICCO | 71.65 | 23.57 | 69.51 | 117.67 |
| Royal Group of Hospitals | 23.46 | 21.38 | 18.73 | 20.16 |
| Belfast Health & Social Care Trust | 28.66 | 22.80 | 21.77 | 26.22 |
| Antrim Area Hospital | 8.45 | 7.81 | 18.71 | 10.73 |
| Causeway Hospital | 10.35 | 12.10 | 5.20 | 30.92 |
| Dalriada Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Mid Ulster Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Moyle Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Robinson Memorial Hospital | 0.00 | 0.00 | 0.00 | 58.28 |
| Whiteabbey Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Northern Health & Social Care Trust | 7.94 | 8.01 | 13.20 | 16.16 |
| Ards Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Downe Hospital | 27.26 | 23.04 | 114.21 | 137.25 |
| Lagan Valley Hospital | 14.60 | 26.72 | 39.28 | 28.65 |
| Ulster Hospital | 19.57 | 30.91 | 27.17 | 37.32 |
| South Eastern Health & Social Care Trust | 19.01 | 29.26 | 33.07 | 41.19 |
| Craigavon Area Hospital | 39.37 | 42.00 | 31.60 | 37.10 |
| Daisy Hill Hospital | 11.80 | 36.67 | 25.60 | 23.29 |
| Lurgan Hospital | 41.31 | 20.52 | 0.00 | 0.00 |
| South Tyrone Hospital | 53.79 | 0.00 | 28.63 | 58.79 |
| Southern Health & Social Care Trust | 33.89 | 37.32 | 28.00 | 32.41 |
| Altnagelvin Area Hospital | 15.06 | 23.32 | 21.31 | 15.62 |
| Omagh Hospital | 29.16 | 0.00 | 29.48 | 0.00 |
| South West Acute Hospital | 21.65 | 21.91 | 26.92 | 21.14 |
| Waterside Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Western Health & Social Care Trust | 16.26 | 19.44 | 20.83 | 14.54 |
| NI TOTAL | 22.45 | 22.38 | 23.08 | 25.87 |

Table 5: Quarterly *C. difficile* reports in patients aged 2 years and over, by HSCT, Jan-Dec 2024.

| Trust | Jan-Mar 2024 Episodes | Apr-Jun 2024 Episodes | Jul-Sep 2024 Episodes | Oct-Dec 2024 Episodes |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Belfast Health & Social Care Trust | 41 | 31 | 29 | 37 |
| Northern Health & Social Care Trust | 6 | 8 | 10 | 12 |
| South Eastern Health & Social Care Trust | 12 | 21 | 24 | 26 |
| Southern Health & Social Care Trust | 25 | 27 | 20 | 24 |
| Western Health & Social Care Trust | 11 | 13 | 14 | 10 |
| NI TOTAL | 95 | 100 | 97 | 109 |
| NI community TOTAL | 76 | 77 | 100 | 80 |

*Note: Rates displayed are per 100,000 occupied bed days. Previous reports presented rates per 1,000 occupied bed days.

Bed day data were not available for BHSCT, NHSC, SEHSCT hospitals and South Tyrone hospital (SHSCT) - provisional figures were used this quarter (figures taken from Oct-Dec 2023).

Appendix A

Table 6: Quarterly rates* of *C. difficile* reports in patients aged 65 years and over, by hospital, Jan-Dec 2024.

| Hospital | Jan-Mar 2024 | Apr-Jun 2024 | Jul-Sep 2024 | Oct-Dec 2024 |
|---|--------------|--------------|--------------|--------------|
| Belfast City Hospital | 47.69 | 51.61 | 50.91 | 16.50 |
| Mater Infirmorum | 47.65 | 40.10 | 16.27 | 38.22 |
| Musgrave Park Hospital | 16.31 | 26.49 | 28.43 | 26.80 |
| NICCO | 89.33 | 53.71 | 46.36 | 180.34 |
| Royal Group of Hospitals | 23.87 | 26.53 | 20.93 | 30.06 |
| Belfast Health & Social Care Trust | 30.55 | 31.54 | 24.60 | 34.30 |
| Antrim Area Hospital | 12.39 | 13.38 | 24.91 | 13.03 |
| Causeway Hospital | 8.30 | 24.15 | 7.86 | 24.59 |
| Dalriada Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Mid Ulster Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Moyle Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Robinson Memorial Hospital | 0.00 | 0.00 | 0.00 | 69.40 |
| Whiteabbey Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Northern Health & Social Care Trust | 9.65 | 14.01 | 17.38 | 16.08 |
| Ards Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Downe Hospital | 24.12 | 24.61 | 120.34 | 123.58 |
| Lagan Valley Hospital | 15.04 | 29.88 | 43.57 | 28.70 |
| Ulster Hospital | 26.29 | 46.38 | 39.02 | 49.67 |
| South Eastern Health & Social Care Trust | 23.70 | 40.66 | 45.18 | 51.39 |
| Craigavon Area Hospital | 52.86 | 61.95 | 39.90 | 50.21 |
| Daisy Hill Hospital | 9.69 | 20.71 | 20.01 | 27.59 |
| Lurgan Hospital | 48.60 | 23.43 | 0.00 | 0.00 |
| South Tyrone Hospital | 54.75 | 0.00 | 28.63 | 63.29 |
| Southern Health & Social Care Trust | 43.05 | 44.59 | 30.88 | 40.97 |
| Altnagelvin Area Hospital | 25.44 | 26.28 | 34.99 | 16.88 |
| Omagh Hospital | 0.00 | 0.00 | 29.90 | 0.00 |
| South West Acute Hospital | 28.13 | 21.39 | 35.60 | 21.67 |
| Waterside Hospital | 0.00 | 0.00 | 0.00 | 0.00 |
| Western Health & Social Care Trust | 22.21 | 20.44 | 31.50 | 15.61 |
| NI TOTAL | 26.01 | 30.27 | 29.30 | 32.02 |

Table 7: Quarterly *C. difficile* reports in patients aged 65 years and over, by HSCT, Jan-Dec 2024.

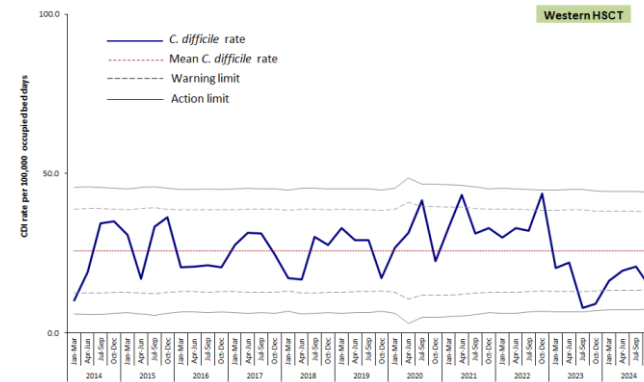
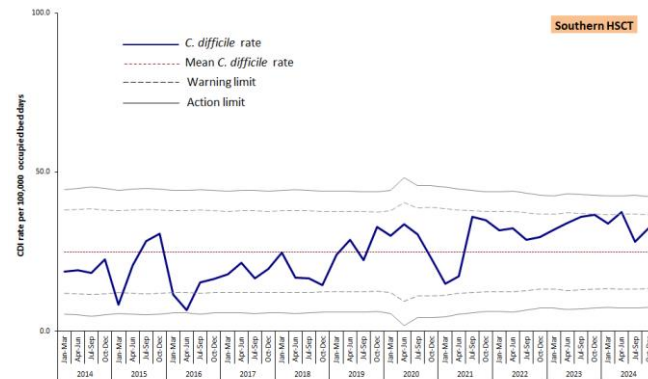
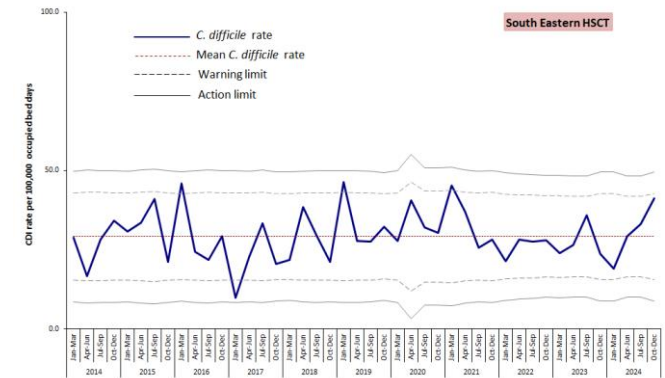
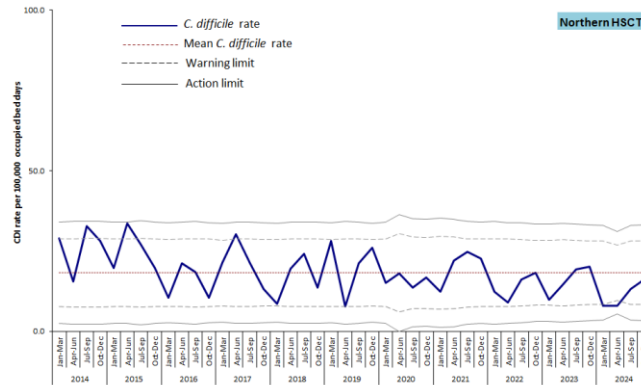
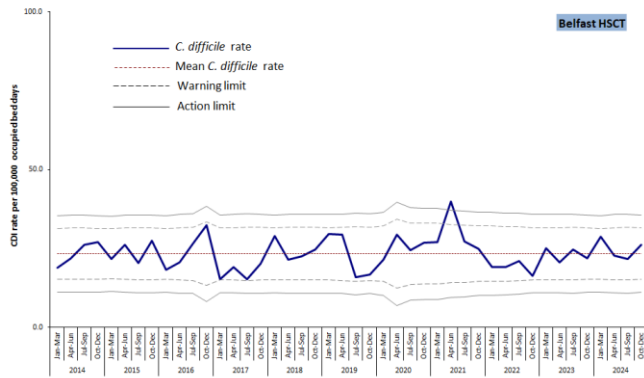
| Trust | Jan-Mar 2024 Episodes | Apr-Jun 2024 Episodes | Jul-Sep 2024 Episodes | Oct-Dec 2024 Episodes |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Belfast Health & Social Care Trust | 23 | 23 | 17 | 26 |
| Northern Health & Social Care Trust | 5 | 7 | 9 | 8 |
| South Eastern Health & Social Care Trust | 12 | 20 | 22 | 25 |
| Southern Health & Social Care Trust | 20 | 20 | 14 | 19 |
| Western Health & Social Care Trust | 10 | 9 | 14 | 7 |
| NI TOTAL | 70 | 79 | 76 | 85 |
| NI community TOTAL | 54 | 71 | 83 | 65 |

*Note: Rates displayed are per 100,000 occupied bed days. Previous reports presented rates per 1,000 occupied bed days.

Bed day data were not available for BHSCT & NHSCT hospitals and South Tyrone hospital (SHSCT) - provisional figures were used this quarter (figures taken from Oct-Dec 2023).

Appendix B

Trends in *C. difficile* rates in inpatients aged 2 years and over, by HSCT and quarter, 2014 – 2024



Appendix C

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

| HSCT | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|------------------|---------|---------|---------|---------|---------|---------|
| Belfast | 132 | 107 | 101 | 128 | 107 | 133 |
| Northern | 57 | 47 | 34 | 52 | 37 | 45 |
| South Eastern | 83 | 72 | 76 | 69 | 75 | 72 |
| Southern | 44 | 71 | 50 | 74 | 79 | 99 |
| Western | 65 | 63 | 66 | 80 | 81 | 36 |
| | | | | | | |
| Northern Ireland | 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 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|------------------|---------|---------|---------|---------|---------|---------|
| Belfast | 98 | 80 | 80 | 84 | 78 | 94 |
| Northern | 48 | 39 | 27 | 39 | 31 | 40 |
| South Eastern | 67 | 68 | 68 | 60 | 66 | 63 |
| Southern | 32 | 57 | 37 | 56 | 62 | 78 |
| Western | 41 | 45 | 51 | 58 | 66 | 27 |
| | | | | | | |
| Northern Ireland | 286 | 289 | 263 | 297 | 303 | 302 |