**Supplemental Appendix**

Table S1. Pairwise Differences1 in Total and Monthly Facility-level CDI Rates and *C. difficile* Testing Rates, January 2019 – December 2020

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Total** | **Jan.** | **Feb.** | **Mar.** | **Apr.** | **May** | **Jun.** | **Jul.** | **Aug.** | **Sept.** | **Oct.** | **Nov.** | **Dec.** |
| **CO-CDI2 per 10,000 Discharges** | | | | | | | | | | | | | |
| **20194** | 20.0 | 21.4 | 19.8 | 19.9 | 21.2 | 19.6 | 19.7 | 20.0 | 20.8 | 20.5 | 18.9 | 18.6 | 19.0 |
| **20204** | 15.8 | 18.9 | 18.6 | 17.9 | 14.7 | 14.4 | 15.4 | 15.0 | 14.5 | 15.5 | 15.7 | 14.9 | 13.0 |
| **Q1 difference5** | -14.4 | -12.0 | -11.2 | -15.0 | -20.7 | -13.9 | -13.6 | -15.4 | -17.4 | -15.5 | -12.5 | -12.8 | -14.2 |
| **Median difference5** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Q3 difference5** | 3.2 | 7.4 | 8.1 | 7.5 | 1.2 | 2.0 | 2.9 | 2.2 | 0.9 | 2.6 | 4.3 | 4.3 | 0.9 |
| **P-value6** | <.0001 | 0.0431 | 0.1673 | 0.0094 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | 0.0029 | 0.0007 | <.0001 |
| **HO-CDI3 per 10,000 PD** | | | | | | | | | | | | | |
| **20194** | 3.3 | 3.7 | 3.7 | 3.5 | 3.4 | 3.5 | 3.1 | 3.3 | 3.2 | 3.0 | 3.0 | 3.1 | 3.3 |
| **20204** | 3.2 | 3.1 | 3.2 | 3.1 | 3.1 | 3.2 | 3.1 | 3.3 | 3.0 | 3.2 | 3.3 | 3.0 | 3.1 |
| **Q1 difference5** | -1.1 | -1.4 | -1.7 | -1.6 | -1.5 | -1.8 | -0.9 | -1.1 | -0.9 | -0.5 | -0.2 | -1.3 | -0.8 |
| **Median difference5** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Q3 difference5** | 0.6 | 0.1 | 0.1 | 0.7 | 0.7 | 0.5 | 0.8 | 0.5 | 0.9 | 0.6 | 1.3 | 0.6 | 0.3 |
| **P-value6** | 0.0163 | 0.0227 | 0.0252 | 0.0891 | 0.3577 | 0.0353 | 0.9817 | 0.6205 | 0.9373 | 0.4371 | 0.0786 | 0.3654 | 0.9811 |
| ***C. difficile* Tests Obtained on Hospital Day < 4 per 10,000 Discharges** | | | | | | | | | | | | | |
| **20194** | 239.6 | 248.6 | 247.9 | 252.6 | 253.1 | 245.6 | 237.3 | 240.8 | 236.5 | 234.2 | 228.2 | 222.1 | 228.4 |
| **20204** | 214.8 | 232.0 | 228.0 | 228.5 | 212.3 | 212.9 | 208.7 | 214.2 | 212.5 | 211.7 | 208.1 | 209.5 | 195.4 |
| **Q1 difference5** | -89.7 | -85.2 | -85.9 | -93.5 | -115.1 | -88.8 | -91.4 | -86.8 | -98.0 | -87.6 | -81.9 | -74.1 | -94.2 |
| **Median difference5** | -13.6 | -11.7 | -10.2 | -12.5 | -25.5 | -16.9 | -17.3 | -12.9 | -11.6 | -8.8 | -11.0 | -4.9 | -23.5 |
| **Q3 difference5** | 40.6 | 41.3 | 42.5 | 45.0 | 39.0 | 37.2 | 31.0 | 37.3 | 39.4 | 48.1 | 48.5 | 47.7 | 28.2 |
| **P-value6** | <.0001 | <.0001 | 0.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | 0.0006 | <.0001 |
| ***C. difficile* Tests Obtained on Hospital Day ≥ 4 per 10,000 Discharges** | | | | | | | | | | | | | |
| **20194** | 119.4 | 137.3 | 134.2 | 129.6 | 126.6 | 117.7 | 112.9 | 116.9 | 110.4 | 109.9 | 111.5 | 112.3 | 113.4 |
| **20204** | 122.8 | 118.4 | 119.4 | 127.3 | 136.1 | 125.5 | 119.2 | 120.5 | 117.1 | 118.7 | 119.9 | 122.6 | 133.1 |
| **Q1 difference5** | -29.9 | -53.8 | -44.3 | -40.5 | -22.8 | -30.4 | -27.4 | -29.9 | -22.6 | -22.1 | -24.5 | -21.7 | -19.9 |
| **Median difference5** | 0.0 | -6.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 |
| **Q3 difference5** | 38.6 | 14.6 | 22.4 | 37.0 | 55.0 | 41.2 | 37.7 | 38.5 | 42.6 | 36.5 | 43.5 | 46.0 | 55.1 |
| **P-value6** | <.0001 | <.0001 | 0.0011 | 0.2218 | <.0001 | 0.2592 | 0.0327 | 0.2080 | 0.0002 | 0.0026 | 0.0011 | 0.0005 | <.0001 |
| 1Difference=2020 rate–2019 rate.  2Inpatients diagnosed with CO-CDI were defined as those with an ICD-10-CM diagnosis code of A04.71 or A04.72 in the primary diagnostic position and inpatient treatment with metronidazole (parenteral or oral), fidaxomicin, or vancomycin (oral) initiated during the hospitalization.  3Inpatients diagnosed with HO-CDI were defined as those with an A04.71 or A04.72 ICD-10-CM diagnosis code in any secondary diagnostic position and inpatient treatment with metronidazole (parenteral or oral), fidaxomicin, or vancomycin (oral) initiated after admission on hospital day 4 or later.  4Pooled overall rate and pooled monthly rates.  5Facility-level differences in rates.  6P-value associated with median difference. | | | | | | | | | | | | | |

Table S2.Differences1 in Total and Monthly Facility-level CO-CDI and HO-CDI Percent Positivity, January 2019 – December 2020

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Total** | **Jan.** | **Feb.** | **Mar.** | **Apr.** | **May** | **Jun.** | **Jul.** | **Aug.** | **Sept.** | **Oct.** | **Nov.** | **Dec.** |
| **Percent Positive Tests Obtained on Hospital Day <4** | | | | | | | | | | | | | |
| 2019 Total Tests | 182,908 | 16,282 | 14,819 | 16,632 | 15,906 | 16,026 | 14,699 | 15,383 | 15,367 | 14,466 | 14,875 | 13,781 | 14,672 |
| 2020 Total Tests | 149,498 | 15,397 | 13,957 | 13,307 | 9,626 | 11,139 | 11,805 | 12,969 | 12,623 | 12,337 | 12,659 | 11,960 | 11,719 |
| 2019 Pooled Rates | 8.3 | 8.6 | 8.0 | 7.9 | 8.4 | 8.0 | 8.3 | 8.3 | 8.8 | 8.7 | 8.3 | 8.4 | 8.3 |
| 2020 Pooled Rates | 7.4 | 8.1 | 8.1 | 7.9 | 6.9 | 6.8 | 7.4 | 7.0 | 6.8 | 7.3 | 7.6 | 7.1 | 6.7 |
| Q1 Difference | -6.7 | -5.5 | -5.4 | -5.9 | -9.1 | -6.6 | -6.1 | -6.3 | -7.2 | -8.3 | -6.6 | -7.1 | -7.5 |
| Median Difference | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Q3 Difference | 3.8 | 5.0 | 5.0 | 5.6 | 3.1 | 2.5 | 3.4 | 3.2 | 2.1 | 3.4 | 4.2 | 4.0 | 3.4 |
| P-value | <.0001 | 0.6577 | 0.9114 | 0.8034 | <.0001 | 0.0013 | 0.0109 | 0.0015 | <.0001 | <.0001 | 0.0464 | 0.0055 | 0.0003 |
| **Percent Positive Tests Obtained on Hospital Day ≥4** | | | | | | | | | | | | | |
| 2019 Total Tests | 91,133 | 8,994 | 8,022 | 8,533 | 7,953 | 7,684 | 6,994 | 7,468 | 7,176 | 6,790 | 7,270 | 6,967 | 7,282 |
| 2020 Total Tests | 85,494 | 7,855 | 7,307 | 7,414 | 6,168 | 6,569 | 6,739 | 7,293 | 6,954 | 6,918 | 7,296 | 6,998 | 7,983 |
| 2019 Pooled Rates | 12.3 | 12.3 | 12.3 | 12.1 | 12.0 | 13.1 | 12.0 | 12.6 | 12.5 | 11.9 | 11.9 | 12.0 | 13.0 |
| 2020 Pooled Rates | 11.9 | 12.2 | 12.3 | 11.3 | 10.9 | 11.6 | 11.7 | 12.5 | 12.0 | 12.3 | 12.9 | 11.5 | 11.8 |
| Q1 Difference | -8.3 | -6.6 | -9.7 | -9.3 | -9.9 | -10.0 | -8.3 | -10.8 | -9.5 | -6.1 | -6.2 | -11.1 | -6.6 |
| Median Difference | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Q3 Difference | 8.1 | 6.6 | 6.7 | 8.3 | 5.5 | 7.1 | 7.7 | 8.3 | 9.3 | 9.1 | 10.0 | 8.3 | 7.5 |
| P-value | 0.3156 | 0.9496 | 0.1580 | 0.8522 | 0.0641 | 0.0411 | 0.4980 | 0.4358 | 0.7220 | 0.2907 | 0.0289 | 0.2520 | 0.3493 |
| 1Difference=2020 rate–2019 rate. | | | | | | | | | | | | | |

Figure S1. Observed vs. Predicted CO-CDI Rates, January 2019 – December 2020

Chart

Description automatically generated

1Baseline monthly trend: 0.99 (p=0.0036).

2Level change around March 2020: 0.97 (p=0.5021).

3Trend change: 0.99 (p=0.0433).

4Monthly trend after March 2020: 0.98 (p=0.0015).

599% confidence bands for modeled CO-CDI rates.

Figure S2. Observed vs. Predicted HO-CDI Rates, January 2019 – December 2020

Chart

Description automatically generated

1Baseline monthly trend: 0.99 (p<.0001).

2Level change around March 2020: 1.11 (p=0.0314).

3Trend change: 1.01 (p=0.2509).

4Monthly trend after March 2020: 0.99 (p=0.2851).

599% confidence bands for modeled HO-CDI rates.