# Appendix B. Statistical significance tests comparing the rates of change in opioid-related stays between pairs of time periods (pre-transition vs. ICD transition; and pre-transition vs. post-transition).

**Table B.1** Inpatient stays with any opioid-related diagnosis by patient age, 2015 quarter 1 through 2016 quarter 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year and Quarter | All Ages | Ages 0–24 | Ages 25–44 | Ages 45–64 | Ages 65 and older |
| 2015 Q1 | 48,412 | 5,080 | 19,455 | 16,677 | 7,196 |
| 2015 Q2 | 50,846 | 5,094 | 21,130 | 17,385 | 7,235 |
| 2015 Q3 | 53,422 | 5,392 | 22,392 | 18,107 | 7,525 |
| 2015 Q4 | 60,936 | 5,467 | 22,844 | 21,281 | 11,338 |
| 2016 Q1 | 60,985 | 5,322 | 22,672 | 21,471 | 11,518 |
| 2016 Q2 | 62,871 | 5,196 | 24,101 | 21,998 | 11,574 |
| 2016 Q3 | 65,282 | 5,163 | 25,554 | 22,601 | 11,957 |
| Compare trend before the ICD transition (Q1–Q3 2015) to during the ICD transition (Q3–Q4 2015) | | | | | |
| Chi-square statistic | 4.338 | -1.712 | -9.434 | 5.806 | 17.925 |
| p-value | 0.000 | 0.087 | 0.000 | 0.000 | 0.000 |
| Compare trend before the ICD transition (Q1–Q3 2015) to after the ICD transition (Q1–Q3 2016) | | | | | |
| Chi-square statistic | -4.031 | -3.295 | -1.701 | -2.279 | -0.358 |
| p-value | 0.000 | 0.001 | 0.089 | 0.023 | 0.720 |

Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, State Inpatient Databases, 2015–2016, 14 States.

**Table B.2** Inpatient stays with any opioid-related diagnosis by patient age, 2015 quarter 1 through 2016 quarter 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year and Quarter | All Ages | Ages 0–24 | Ages 25–44 | Ages 45–64 | Ages 65 and older |
| 2015 Q1 | 48,412 | 5,080 | 19,455 | 16,677 | 7,196 |
| 2015 Q2 | 50,846 | 5,094 | 21,130 | 17,385 | 7,235 |
| 2015 Q3 | 53,422 | 5,392 | 22,392 | 18,107 | 7,525 |
| 2015 Q4 | 60,936 | 5,467 | 22,844 | 21,281 | 11,338 |
| 2016 Q1 | 60,985 | 5,322 | 22,672 | 21,471 | 11,518 |
| 2016 Q2 | 62,871 | 5,196 | 24,101 | 21,998 | 11,574 |
| 2016 Q3 | 65,282 | 5,163 | 25,554 | 22,601 | 11,957 |
| Compare trend before the ICD transition (Q1–Q3 2015) to during the ICD transition (Q3–Q4 2015) | | | | | |
| Chi-square statistic | 4.338 | -1.712 | -9.434 | 5.806 | 17.925 |
| p-value | 0.000 | 0.087 | 0.000 | 0.000 | 0.000 |
| Compare trend before the ICD transition (Q1–Q3 2015) to after the ICD transition (Q1–Q3 2016) | | | | | |
| Chi-square statistic | -4.031 | -3.295 | -1.701 | -2.279 | -0.358 |
| p-value | 0.000 | 0.001 | 0.089 | 0.023 | 0.720 |

Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, State Inpatient Databases, 2015–2016, 14 States.

**Table B.3** Inpatient stays with a diagnosis of opioid abuse by patient age, 2015 quarter 1 through 2016 quarter 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year and Quarter | All Ages | Ages 0–24 | Ages 25–44 | Ages 45–64 | Ages 65 and older |
| 2015 Q1 | 11,209 | 1,529 | 5,327 | 3,913 | 439 |
| 2015 Q2 | 12,267 | 1,599 | 6,045 | 4,099 | 523 |
| 2015 Q3 | 13,229 | 1,715 | 6,592 | 4,400 | 521 |
| 2015 Q4 | 10,441 | 1,306 | 5,231 | 3,498 | 406 |
| 2016 Q1 | 10,033 | 1,205 | 4,912 | 3,511 | 405 |
| 2016 Q2 | 10,445 | 1,253 | 5,290 | 3,465 | 436 |
| 2016 Q3 | 11,337 | 1,218 | 5,947 | 3,779 | 392 |
| Compare trend before the ICD transition (Q1–Q3 2015) to during the ICD transition (Q3–Q4 2015) | | | | | |
| Chi-square statistic | -21.433 | -7.202 | -16.596 | -10.577 | -4.357 |
| p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Compare trend before the ICD transition (Q1–Q3 2015) to after the ICD transition (Q1–Q3 2016) | | | | | |
| Chi-square statistic | -2.500 | -2.003 | -0.895 | -1.429 | -2.191 |
| p-value | 0.012 | 0.045 | 0.371 | 0.153 | 0.028 |

Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, State Inpatient Databases, 2015–2016, 14 States.

**Table B.4** Inpatient stays with a diagnosis of opioid dependence by patient age, 2015 quarter 1 through 2016 quarter 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year and Quarter | All Ages | Ages 0–24 | Ages 25–44 | Ages 45–64 | Ages 65 and older |
| 2015 Q1 | 25,812 | 2,730 | 12,263 | 8,739 | 2,078 |
| 2015 Q2 | 26,968 | 2,703 | 13,129 | 9,100 | 2,035 |
| 2015 Q3 | 28,098 | 2,879 | 13,792 | 9,340 | 2,083 |
| 2015 Q4 | 29,681 | 2,722 | 13,636 | 10,492 | 2,829 |
| 2016 Q1 | 29,746 | 2,728 | 13,401 | 10,709 | 2,906 |
| 2016 Q2 | 30,748 | 2,498 | 14,140 | 11,038 | 3,072 |
| 2016 Q3 | 31,669 | 2,463 | 14,819 | 11,179 | 3,208 |
| Compare trend before the ICD transition (Q1–Q3 2015) to during the ICD transition (Q3–Q4 2015) | | | | | |
| Chi-square statistic | -2.683 | -2.893 | -7.732 | 2.552 | 7.600 |
| p-value | 0.007 | 0.004 | 0.000 | 0.011 | 0.000 |
| Compare trend before the ICD transition (Q1–Q3 2015) to after the ICD transition (Q1–Q3 2016) | | | | | |
| Chi-square statistic | -2.018 | -3.985 | -1.050 | -1.216 | 2.474 |
| p-value | 0.044 | 0.000 | 0.294 | 0.224 | 0.013 |

Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, State Inpatient Databases, 2015–2016, 14 States.

**Table B.5** Inpatient stays with a diagnosis of adverse effects of opioids by patient age, 2015 quarter 1 through 2016 quarter 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year and Quarter | All Ages | Ages 0–24 | Ages 25–44 | Ages 45–64 | Ages 65 and older |
| 2015 Q1 | 8,436 | 478 | 1,062 | 2,784 | 4,112 |
| 2015 Q2 | 8,588 | 410 | 1,131 | 2,914 | 4,133 |
| 2015 Q3 | 9,086 | 460 | 1,248 | 3,013 | 4,364 |
| 2015 Q4 | 14,826 | 734 | 1,902 | 5,107 | 7,082 |
| 2016 Q1 | 15,065 | 706 | 2,029 | 5,165 | 7,165 |
| 2016 Q2 | 15,330 | 750 | 2,093 | 5,325 | 7,161 |
| 2016 Q3 | 15,706 | 801 | 2,163 | 5,339 | 7,398 |
| Compare trend before the ICD transition (Q1–Q3 2015) to during the ICD transition (Q3–Q4 2015) | | | | | |
| Chi-square statistic | 22.767 | 6.040 | 5.216 | 14.106 | 15.989 |
| p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Compare trend before the ICD transition (Q1–Q3 2015) to after the ICD transition (Q1–Q3 2016) | | | | | |
| Chi-square statistic | -1.787 | 2.033 | -1.955 | -1.441 | -1.032 |
| p-value | 0.074 | 0.042 | 0.051 | 0.150 | 0.302 |

Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, State Inpatient Databases, 2015–2016, 14 States.

**Table B.6** Inpatient stays with a diagnosis of opioid poisoning by patient age, 2015 quarter 1 through 2016 quarter 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year and Quarter | All Ages | Ages 0–24 | Ages 25–44 | Ages 45–64 | Ages 65 and older |
| 2015 Q1 | 5,588 | 682 | 1,906 | 2,222 | 776 |
| 2015 Q2 | 5,835 | 706 | 2,055 | 2,310 | 762 |
| 2015 Q3 | 6,126 | 711 | 2,114 | 2,521 | 779 |
| 2015 Q4 | 5,367 | 514 | 1,691 | 2,209 | 950 |
| 2016 Q1 | 5,317 | 498 | 1,636 | 2,188 | 995 |
| 2016 Q2 | 5,586 | 515 | 1,811 | 2,249 | 1,011 |
| 2016 Q3 | 5,911 | 508 | 1,986 | 2,400 | 1,017 |
| Compare trend before the ICD transition (Q1–Q3 2015) to during the ICD transition (Q3–Q4 2015) | | | | | |
| Chi-square statistic | -8.443 | -4.244 | -6.909 | -6.223 | 2.899 |
| p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 |
| Compare trend before the ICD transition (Q1–Q3 2015) to after the ICD transition (Q1–Q3 2016) | | | | | |
| Chi-square statistic | 0.557 | -0.267 | 2.092 | -0.857 | 0.269 |
| p-value | 0.578 | 0.789 | 0.036 | 0.391 | 0.788 |

Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, State Inpatient Databases, 2015–2016, 14 States.

**Table B.7** Inpatient stays with a diagnosis of opioid use, unspecified, by patient age, 2015 quarter 4 through 2016 quarter 3a

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year and Quarter | All Ages | Ages 0–24 | Ages 25–44 | Ages 45–64 | Ages 65 and older |
| 2015 Q4 | 4,041 | 512 | 1,695 | 1,304 | 529 |
| 2016 Q1 | 4,363 | 551 | 1,930 | 1,359 | 523 |
| 2016 Q2 | 4,466 | 518 | 2,135 | 1,377 | 436 |
| 2016 Q3 | 4,517 | 507 | 2,108 | 1,412 | 489 |

a Codes that identify opioid use, unspecified, are only available under ICD-10-CM (starting in quarter 4 of 2015). No significance tests were conducted for this diagnosis type.

Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, State Inpatient Databases, 2015–2016, 14 States.