Supplemental Table 1. Provider and Procedure Characteristics

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Colorectal** | | | | **Total Hysterectomy** | | | | **Ventral Hernia Repair** | | | |
| **Conventional Suture** | | **KTCD** | | **Conventional Suture** | | **KTCD** | | **Conventional Suture** | | **KTCD** | |
| **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **All** | **15,207** | **100.0** | **668** | **100.0** | **160,888** | **100.0** | **15,075** | **100.0** | **25,693** | **100.0** | **6,776** | **100.0** |
| **Urban or Rural** | | | | | | | | | | | | |
| Rural | 1,253 | 8.2 | 52 | 7.8 | 11,421 | 7.1 | 1,262 | 8.4 | 2,366 | 9.2 | 449 | 6.6 |
| Urban | 13,954 | 91.8 | 616 | 92.2 | 149,467 | 92.9 | 13,813 | 91.6 | 23,327 | 90.8 | 6,327 | 93.4 |
| **Teaching status** | | | | | | | | | | | | |
| No | 7,273 | 47.8 | 361 | 54.0 | 83,160 | 51.7 | 6,432 | 42.7 | 14,756 | 57.4 | 4,024 | 59.4 |
| Yes | 7,934 | 52.2 | 307 | 46.0 | 77,728 | 48.3 | 8,643 | 57.3 | 10,937 | 42.6 | 2,752 | 40.6 |
| **Provider region** | | | | | | | | | | | | |
| Midwest | 3,386 | 22.3 | 104 | 15.6 | 48,129 | 29.9 | 3,169 | 21.0 | 7,442 | 29.0 | 2,699 | 39.8 |
| Northeast | 2,606 | 17.1 | 43 | 6.4 | 18,452 | 11.5 | 112 | 0.7 | 3,298 | 12.8 | 105 | 1.5 |
| South | 6,805 | 44.7 | 455 | 68.1 | 62,004 | 38.5 | 10,585 | 70.2 | 9,922 | 38.6 | 3,625 | 53.5 |
| West | 2,410 | 15.8 | 66 | 9.9 | 32,303 | 20.1 | 1,209 | 8.0 | 5,031 | 19.6 | 347 | 5.1 |
| **Provider division** | | | | | | | | | | | | |
| East North Central | 2,513 | 16.5 | 104 | 15.6 | 35,557 | 22.1 | 2,904 | 19.3 | 5,532 | 21.5 | 2,685 | 39.6 |
| East South Central | 1,317 | 8.7 | 134 | 20.1 | 14,793 | 9.2 | 2,828 | 18.8 | 1,288 | 5.0 | 914 | 13.5 |
| Middle Atlantic | 2,354 | 15.5 | 43 | 6.4 | 13,613 | 8.5 | 61 | 0.4 | 2,651 | 10.3 | 79 | 1.2 |
| Mountain | 1,391 | 9.1 | 9 | 1.3 | 18,766 | 11.7 | 484 | 3.2 | 3,718 | 14.5 | 9 | 0.1 |
| New England | 252 | 1.7 | 0 | 0.0 | 4,839 | 3.0 | 51 | 0.3 | 647 | 2.5 | 26 | 0.4 |
| Pacific | 1,019 | 6.7 | 57 | 8.5 | 13,537 | 8.4 | 725 | 4.8 | 1,313 | 5.1 | 338 | 5.0 |
| South Atlantic | 3,844 | 25.3 | 197 | 29.5 | 31,497 | 19.6 | 5,179 | 34.4 | 6,483 | 25.2 | 1,712 | 25.3 |
| West North Central | 873 | 5.7 | 0 | 0.0 | 12,572 | 7.8 | 265 | 1.8 | 1,910 | 7.4 | 14 | 0.2 |
| West South Central | 1,644 | 10.8 | 124 | 18.6 | 15,714 | 9.8 | 2,578 | 17.1 | 2,151 | 8.4 | 999 | 14.7 |

KTCD: knotless tissue control device; N: number

Supplemental Table 1. Provider and Procedure Characteristics, continued

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Colorectal** | | | | | | | | | **Total Hysterectomy** | | | | | | | | **Ventral Hernia Repair** | | | | | | |
| **Conventional Suture** | | | | | **KTCD** | | | | **Conventional Suture** | | | | **KTCD** | | | | **Conventional Suture** | | | | **KTCD** | | |
| **N** | | | **%** | | **N** | | **%** | | **N** | **%** | | | **N** | | **%** | | **N** | | **%** | | **N** | **%** |
| **Hospital size (No. of beds)** | | | | | | | | | | | | | | | | | | | | | | | |
| 000-099 | | 458 | 3.0 | | 16 | | 2.4 | | 3,099 | | | 1.9 | 746 | | 4.9 | | 1,475 | | 5.7 | | 722 | | 10.7 |
| 100-199 | | 1,645 | 10.8 | | 36 | | 5.4 | | 20,862 | | | 13.0 | 1,731 | | 11.5 | | 3,799 | | 14.8 | | 1,115 | | 16.5 |
| 200-299 | | 2,139 | 14.1 | | 147 | | 22.0 | | 18,790 | | | 11.7 | 1,446 | | 9.6 | | 4,321 | | 16.8 | | 985 | | 14.5 |
| 300-499 | | 4,250 | 27.9 | | 240 | | 35.9 | | 49,488 | | | 30.8 | 4,675 | | 31.0 | | 7,741 | | 30.1 | | 1,517 | | 22.4 |
| 500+ | | 6,715 | 44.2 | | 229 | | 34.3 | | 68,649 | | | 42.7 | 6,477 | | 43.0 | | 8,357 | | 32.5 | | 2,437 | | 36.0 |
| **Procedural physician specialty** | | | | | | | | | | | | | | | | | | | | | | | |
| Colorectal | | 6,440 | 42.3 | | 374 | | 56.0 | | 21 | | | 0.0 | 2 | | 0.0 | | 661 | | 2.6 | | 75 | | 1.1 |
| General surgery | | 7,467 | 49.1 | | 269 | | 40.3 | | 467 | | | 0.3 | 16 | | 0.1 | | 18,585 | | 72.3 | | 3,623 | | 53.5 |
| Obstetrics/gynecology | | 14 | 0.1 | | 0 | | 0.0 | | 86,660 | | | 53.9 | 5,033 | | 33.4 | | 14 | | 0.1 | | 3 | | 0.0 |
| Oncology | | 292 | 1.9 | | 13 | | 1.9 | | 31,577 | | | 19.6 | 4,389 | | 29.1 | | 71 | | 0.3 | | 6 | | 0.1 |
| Orthopedic | | 91 | 0.6 | | 0 | | 0.0 | | 44 | | | 0.0 | 0 | | 0.0 | | 199 | | 0.8 | | 11 | | 0.2 |
| Other | | 239 | 1.6 | | 10 | | 1.5 | | 1,681 | | | 1.0 | 125 | | 0.8 | | 416 | | 1.6 | | 150 | | 2.2 |
| Unknown | | 664 | 4.4 | | 2 | | 0.3 | | 40,438 | | | 25.1 | 5,510 | | 36.6 | | 5,747 | | 22.4 | | 2,908 | | 42.9 |
| **Procedure Volume Bucket** | | | | | | | | | | | | | | | | | | | | | | | |
| 0 - 100 | | 4,575 | 30.1 | | 219 | | 32.8 | | 8,345 | | | 5.2 | 817 | | 5.4 | | 2,091 | | 8.1 | | 401 | | 5.9 |
| 101 - 200 | | 5,526 | 36.3 | | 286 | | 42.8 | | 21,421 | | | 13.3 | 2,058 | | 13.7 | | 7,009 | | 27.3 | | 2,228 | | 32.9 |
| 201 - 300 | | 2,900 | 19.1 | | 149 | | 22.3 | | 20,333 | | | 12.6 | 2,529 | | 16.8 | | 5,717 | | 22.3 | | 1,941 | | 28.6 |
| 301 - 400 | | 1,609 | 10.6 | | 14 | | 2.1 | | 18,033 | | | 11.2 | 1,177 | | 7.8 | | 3,994 | | 15.5 | | 473 | | 7.0 |
| 401 - 500 | | 530 | 3.5 | | 0 | | 0.0 | | 17,637 | | | 11.0 | 1,174 | | 7.8 | | 2,584 | | 10.1 | | 549 | | 8.1 |
| 500+ | | 67 | 0.4 | | 0 | | 0.0 | | 75,119 | | | 46.7 | 7,320 | | 48.6 | | 4,298 | | 16.7 | | 1,184 | | 17.5 |

KTCD: knotless tissue control device; N: number

Supplemental Table 1. Provider and Procedure Characteristics, continued

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Colorectal** | | | | | | | | **TLH** | | | | | | | | **VHR** | | | | | | | | |
| **Conventional Suture** | | | | **KTCD** | | | | **Conventional Suture** | | | | **KTCD** | | | | **Conventional Suture** | | | | **KTCD** | | | | |
| **N** | | **%** | | **N** | | **%** | | **N** | | **%** | | **N** | | **%** | | **N** | | **%** | | **N** | | **%** | |
| **Discharge Status** | | | | | | | | | | | | | | | | | | | | | | | | |
| Home/HHO | 14,231 | 93.6 | | 635 | | 95.1 | | 159,808 | | 99.3 | | 14,982 | | 99.4 | | 25,354 | | 98.7 | | 6,731 | | 99.3 | |
| SNF & Other | 976 | 6.4 | | 33 | | 4.9 | | 1,080 | | 0.7 | | 93 | | 0.6 | | 339 | | 1.3 | | 45 | | 0.7 | |
| **Admission Year** | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 301 | 2.0 | | 6 | | 0.9 | | 5,968 | | 3.7 | | 181 | | 1.2 | | 389 | | 1.5 | | 54 | | 0.8 | |
| 2016 | 1,653 | 10.9 | | 30 | | 4.5 | | 23,026 | | 14.3 | | 810 | | 5.4 | | 1,986 | | 7.7 | | 216 | | 3.2 | |
| 2017 | 2,359 | 15.5 | | 60 | | 9.0 | | 23,357 | | 14.5 | | 1,539 | | 10.2 | | 3,101 | | 12.1 | | 541 | | 8.0 | |
| 2018 | 2,681 | 17.6 | | 134 | | 20.1 | | 24,163 | | 15.0 | | 2,132 | | 14.1 | | 3,790 | | 14.8 | | 1,022 | | 15.1 | |
| 2019 | 2,839 | 18.7 | | 153 | | 22.9 | | 26,051 | | 16.2 | | 3,068 | | 20.4 | | 4,438 | | 17.3 | | 1,343 | | 19.8 | |
| 2020 | 2,336 | 15.4 | | 126 | | 18.9 | | 21,269 | | 13.2 | | 2,833 | | 18.8 | | 4,090 | | 15.9 | | 1,286 | | 19.0 | |
| 2021 | 2,188 | 14.4 | | 112 | | 16.8 | | 26,433 | | 16.4 | | 3,245 | | 21.5 | | 5,583 | | 21.7 | | 1,621 | | 23.9 | |
| 2022 | 850 | 5.6 | | 47 | | 7.0 | | 10,621 | | 6.6 | | 1,267 | | 8.4 | | 2,316 | | 9.0 | | 693 | | 10.2 | |
| **Discharge Year** | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | 289 | 1.9 | | 6 | | 0.9 | | 5,936 | | 3.7 | | 179 | | 1.2 | | 384 | | 1.5 | | 54 | | 0.8 | |
| 2016 | 1,645 | 10.8 | | 30 | | 4.5 | | 23,048 | | 14.3 | | 812 | | 5.4 | | 1,987 | | 7.7 | | 215 | | 3.2 | |
| 2017 | 2,358 | 15.5 | | 60 | | 9.0 | | 23,360 | | 14.5 | | 1,539 | | 10.2 | | 3,104 | | 12.1 | | 542 | | 8.0 | |
| 2018 | 2,683 | 17.6 | | 133 | | 19.9 | | 24,150 | | 15.0 | | 2,129 | | 14.1 | | 3,782 | | 14.7 | | 1,020 | | 15.1 | |
| 2019 | 2,835 | 18.6 | | 153 | | 22.9 | | 26,036 | | 16.2 | | 3,061 | | 20.3 | | 4,443 | | 17.3 | | 1,342 | | 19.8 | |
| 2020 | 2,337 | 15.4 | | 126 | | 18.9 | | 21,285 | | 13.2 | | 2,843 | | 18.9 | | 4,084 | | 15.9 | | 1,289 | | 19.0 | |
| 2021 | 2,194 | 14.4 | | 113 | | 16.9 | | 26,443 | | 16.4 | | 3,244 | | 21.5 | | 5,588 | | 21.7 | | 1,621 | | 23.9 | |
| 2022 | 866 | 5.7 | | 47 | | 7.0 | | 10,630 | | 6.6 | | 1,268 | | 8.4 | | 2,321 | | 9.0 | | 693 | | 10.2 | |

KTCD: knotless tissue control device; N: number