Appendix Table 1. The proportion of incident episodes occurring at tertiary hospitals in Seoul before and after the benefit expansion policy by admission type

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All tertiary hospitals in Seoul** | | | **Five largest hospitals** | | | **The other tertiary**  **hospitals in Seoul** | | |
|  | **Before policy** | **After policy** | **Diff.**  **(%p)** | **Before policy** | **After policy** | **Diff.**  **(%p)** | **Before policy** | **After policy** | **Diff.**  **(%p)** |
|  | **2011-2013** | **2014-2016** | **2011-2013** | **2014-2016** | **2011-2013** | **2014-2016** |
| **Medical episodes** |  |  |  |  |  |  |  |  |  |
| **Total** | 31.1 | 33.6 | 2.5\*\* | 21.8 | 24.3 | 2.5\*\* | 9.2 | 9.2 | 0.0\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Income** |  |  |  |  |  |  |  |  |  |
| Medical Aid | 12.9 | 15.1 | 2.2\*\* | 7.6 | 8.9 | 1.3\*\* | 5.3 | 6.2 | 0.9\*\* |
| 1 (lowest) | 27.5 | 30.1 | 2.6\*\* | 17.9 | 20.7 | 2.8\*\* | 9.5 | 9.4 | -0.1\*\* |
| 2 | 28.3 | 30.2 | 1.9\*\* | 19.0 | 20.8 | 1.8\*\* | 9.3 | 9.4 | 0.1\*\* |
| 3 | 31.2 | 33.5 | 2.3\*\* | 21.7 | 23.8 | 2.1\*\* | 9.5 | 9.7 | 0.2\*\* |
| 4 | 35.4 | 37.8 | 2.4\*\* | 25.7 | 28.3 | 2.6\*\* | 9.7 | 9.6 | -0.1\*\* |
| 5 (highest) | 40.2 | 42.6 | 2.4\*\* | 30.7 | 33.5 | 2.8\*\* | 9.5 | 9.1 | -0.4\*\* |
| Missing | 31.1 | 35.0 | 3.9\*\* | 22.7 | 26.5 | 3.8\*\* | 8.3 | 8.5 | 0.2\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Residential area** |  |  |  |  |  |  |  |  |  |
| Seoul | 64.3 | 65.1 | 0.8\*\* | 38.1 | 39.4 | 1.3\*\* | 26.2 | 25.7 | -0.5\*\* |
| Gyeonggi, Incheon | 31.4 | 33.0 | 1.6\*\* | 22.5 | 24.7 | 2.2\*\* | 8.9 | 8.4 | -0.5\*\* |
| Chungbuk | 34.4 | 39.1 | 4.7\*\* | 27.3 | 32.0 | 4.7\*\* | 7.1 | 7.1 | 0.0\*\* |
| The Chungnam area | 26.7 | 32.9 | 6.2\*\* | 21.6 | 27.3 | 5.7\*\* | 5.1 | 5.5 | 0.4\*\* |
| Gangwon | 26.2 | 29.1 | 2.9\*\* | 20.8 | 23.4 | 2.6\*\* | 5.4 | 5.7 | 0.3\*\* |
| Junbuk | 18.8 | 21.5 | 2.7\*\* | 15.2 | 18.3 | 3.1\*\* | 3.6 | 3.2 | -0.4\*\* |
| The Junnam area | 16.1 | 18.0 | 1.9\*\* | 13.0 | 15.2 | 2.2\*\* | 3.1 | 2.8 | -0.3\*\* |
| The Gyeongbuk area | 17.9 | 20.2 | 2.3\*\* | 15.1 | 17.1 | 2.0\*\* | 2.8 | 3.0 | 0.2\*\* |
| The Gyeongnam area | 13.9 | 15.4 | 1.5\*\* | 12.0 | 13.5 | 1.5\*\* | 2.0 | 1.9 | -0.1\*\* |
| Jeju | 26.4 | 31.2 | 4.8\*\* | 21.7 | 26.7 | 5.0\*\* | 4.7 | 4.6 | -0.1\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Residential area type** |  |  |  |  |  |  |  |  |  |
| Urban | 34.4 | 37.0 | 2.6\*\* | 23.3 | 25.8 | 2.5\*\* | 11.1 | 11.2 | 0.1\*\* |
| Suburban | 28.1 | 30.4 | 2.3\*\* | 21.1 | 23.6 | 2.5\*\* | 7.0 | 6.8 | -0.2\*\* |
| Rural | 21.8 | 23.3 | 1.5\*\* | 16.9 | 18.8 | 1.9\*\* | 5.0 | 4.6 | -0.4\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Surgical episodes** |  |  |  |  |  |  |  |  |  |
| **Total** | 36.7 | 37.6 | 0.9\*\* | 27.3 | 28.8 | 1.5\*\* | 9.4 | 8.7 | -0.7\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Income** |  |  |  |  |  |  |  |  |  |
| Medical Aid | 16.0 | 17.0 | 1.0\*\* | 10.5 | 11.2 | 0.7\*\* | 5.5 | 5.9 | 0.4\*v |
| 1 (lowest) | 31.9 | 33.2 | 1.3\*\* | 22.8 | 24.4 | 1.6\*\* | 9.1 | 8.8 | -0.3\*\* |
| 2 | 32.8 | 33.2 | 0.4\*\* | 23.7 | 24.8 | 1.1\*\* | 9.1 | 8.5 | -0.6\*\* |
| 3 | 36.3 | 37.3 | 1.0\*\* | 26.8 | 28.3 | 1.5\*\* | 9.5 | 9.0 | -0.5\*\* |
| 4 | 40.9 | 41.5 | 0.6\*\* | 30.8 | 32.5 | 1.7\*\* | 10.1 | 9.0 | -1.1\*\* |
| 5 (highest) | 46.3 | 47.3 | 1.0\*\* | 36.1 | 38.1 | 2.0\*\* | 10.2 | 9.2 | -1.0\*\* |
| Missing | 36.2 | 38.3 | 2.1\*\* | 27.9 | 30.2 | 2.3\*\* | 8.3 | 8.0 | -0.3\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Residential area** |  |  |  |  |  |  |  |  |  |
| Seoul | 67.3 | 68.6 | 1.3\*\* | 42.7 | 45.0 | 2.3\*\* | 24.6 | 23.6 | -1.0\*\* |
| Gyeonggi, Incheon | 34.4 | 34.1 | -0.3\*\* | 25.6 | 26.3 | 0.7\*\* | 8.8 | 7.8 | -1.0\*\* |
| Chungbuk | 42.4 | 42.9 | 0.5\*\* | 36.0 | 36.7 | 0.7\*\* | 6.4 | 6.2 | -0.2\*\* |
| The Chungnam area1 | 34.0 | 36.0 | 2.0\*\* | 28.3 | 30.7 | 2.4\*\* | 5.6 | 5.4 | -0.2\*\* |
| Gangwon | 37.0 | 39.1 | 2.1\*\* | 31.4 | 33.7 | 2.3\*\* | 5.6 | 5.4 | -0.2\*\* |
| Junbuk | 24.8 | 27.8 | 3.0\*\* | 20.9 | 24.1 | 3.2\*\* | 3.9 | 3.7 | -0.2\*\* |
| The Junnam area2 | 23.3 | 26.1 | 2.8\*\* | 19.7 | 22.5 | 2.8\*\* | 3.7 | 3.6 | -0.1\*\* |
| The Gyeongbuk area3 | 23.9 | 25.0 | 1.1\*\* | 20.4 | 21.8 | 1.4\*\* | 3.5 | 3.2 | -0.3\*\* |
| The Gyeongnam area4 | 20.1 | 21.3 | 1.2\*\* | 17.6 | 18.7 | 1.1\*\* | 2.5 | 2.6 | 0.1\*\* |
| Jeju | 37.3 | 39.5 | 2.2\*\* | 31.6 | 34.0 | 2.4\*\* | 5.7 | 5.5 | -0.2\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Residential area type** |  |  |  |  |  |  |  |  |  |
| Urban | 38.6 | 39.3 | 0.7\*\* | 27.6 | 29.1 | 1.5\*\* | 11.0 | 10.2 | -0.8\*\* |
| Suburban | 35.1 | 36.3 | 1.2\*\* | 27.7 | 29.4 | 1.7\*\* | 7.4 | 6.8 | -0.6\*\* |
| Rural | 30.0 | 30.6 | 0.6\*\* | 24.7 | 25.8 | 1.1\*\* | 5.4 | 4.7 | -0.7\*\* |

Values are presented as %.

Diff, difference.

1Daejeon, Sejeong, Chungnam.

2Gwangju, Jeonnam.

3Daegu, Gyeongbuk.

4Busan, Ulsan, Gyeongnam.

\* *p* < 0.05, \*\* *p* <0.001.

Appendix Table 2. The proportion of prevalent episodes occurring at tertiary hospitals in Seoul before and after the benefit expansion policy by admission type

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All tertiary hospitals in Seoul** | | | **Five largest hospitals** | | | **The other tertiary**  **hospitals in Seoul** | | |
|  | **Before policy** | **After policy** | **Diff.**  **(%p)** | **Before policy** | **After policy** | **Diff.**  **(%p)** | **Before policy** | **After policy** | **Diff.**  **(%p)** |
|  | **2011-2013** | **2014-2016** | **2011-2013** | **2014-2016** | **2011-2013** | **2014-2016** |
| **Medical episodes** |  |  |  |  |  |  |  |  |  |
| **Total** | 33.9 | 35.7 | 1.8\*\* | 24.4 | 26.6 | 2.2\*\* | 9.5 | 9.1 | -0.4\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Income** |  |  |  |  |  |  |  |  |  |
| Medical Aid | 17.0 | 19.6 | 2.6\*\* | 10.4 | 12.5 | 2.1\*\* | 6.6 | 7.1 | 0.5\*\* |
| 1 (lowest) | 31.1 | 32.5 | 1.4\*\* | 21.0 | 23.4 | 2.4\*\* | 10.1 | 9.1 | -1.0\*\* |
| 2 | 31.1 | 32.8 | 1.7\*\* | 21.2 | 22.9 | 1.7\*\* | 10.0 | 9.9 | -0.1\*\* |
| 3 | 33.9 | 36.0 | 2.1\*\* | 24.2 | 26.6 | 2.4\*\* | 9.7 | 9.5 | -0.2\*\* |
| 4 | 37.9 | 38.9 | 1.0\*\* | 28.2 | 29.5 | 1.3\*\* | 9.7 | 9.3 | -0.4\*\* |
| 5 (highest) | 43.7 | 45.1 | 1.4\*\* | 34.3 | 36.4 | 2.1\*\* | 9.4 | 8.7 | -0.7\*\* |
| Missing | 33.9 | 38.6 | 4.7\*\* | 24.3 | 29.4 | 5.1\*\* | 9.6 | 9.1 | -0.5\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Residential area** |  |  |  |  |  |  |  |  |  |
| Seoul | 67.7 | 67.6 | -0.1\*\* | 42.1 | 43.7 | 1.6\*\* | 25.7 | 24.0 | -1.7\*\* |
| Gyeonggi, Incheon | 37.4 | 38.2 | 0.8\*\* | 27.7 | 29.4 | 1.7\*\* | 9.7 | 8.8 | -0.9\*\* |
| Chungbuk | 36.3 | 42.5 | 6.2\*\* | 28.0 | 35.3 | 7.3\*\* | 8.3 | 7.2 | -1.1\*\* |
| The Chungnam area | 29.8 | 34.3 | 4.5\*\* | 24.2 | 28.6 | 4.4\*\* | 5.6 | 5.7 | 0.1\*\* |
| Gangwon | 27.6 | 29.9 | 2.3\*\* | 22.5 | 24.2 | 1.7\*\* | 5.1 | 5.6 | 0.5\*\* |
| Junbuk | 20.2 | 22.5 | 2.3\*\* | 16.6 | 18.7 | 2.1\*\* | 3.6 | 3.8 | 0.2\*\* |
| The Junnam area | 16.7 | 18.0 | 1.3\*\* | 13.5 | 14.8 | 1.3\*\* | 3.2 | 3.2 | 0.0\*\* |
| The Gyeongbuk area | 18.8 | 21.6 | 2.8\*\* | 15.5 | 18.2 | 2.7\*\* | 3.3 | 3.4 | 0.1\*\* |
| The Gyeongnam area | 13.9 | 14.9 | 1.0\*\* | 11.8 | 12.8 | 1.0\*\* | 2.1 | 2.1 | 0.1\*\* |
| Jeju | 26.1 | 29.8 | 3.7\*\* | 22.0 | 25.1 | 3.1\*\* | 4.1 | 4.7 | 0.6\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Residential area type** |  |  |  |  |  |  |  |  |  |
| Urban | 37.3 | 39.0 | 1.7\*\* | 26.1 | 28.2 | 2.1\*\* | 11.3 | 10.8 | -0.5\*\* |
| Suburban | 31.2 | 33.0 | 1.8\*\* | 23.5 | 25.8 | 2.3\*\* | 7.7 | 7.2 | -0.5\*\* |
| Rural | 23.6 | 24.9 | 1.3\*\* | 18.4 | 19.8 | 1.4\*\* | 5.2 | 5.0 | -0.2\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Surgical episodes** |  |  |  |  |  |  |  |  |  |
| **Total** | 46.5 | 46.3 | -0.2\*\* | 38.4 | 38.5 | 0.1\*\* | 8.1 | 7.7 | -0.4\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Income** |  |  |  |  |  |  |  |  |  |
| Medical Aid | 24.6 | 26.4 | 1.8\*\* | 18.4 | 20.0 | 1.6\*\* | 6.3 | 6.3 | 0.1\*\* |
| 1 (lowest) | 41.6 | 41.8 | 0.2\*\* | 32.8 | 33.6 | 0.8\*\* | 8.7 | 8.2 | -0.5\*\* |
| 2 | 43.5 | 42.5 | -1.0\*\* | 34.7 | 34.6 | -0.1\*\* | 8.8 | 7.9 | -0.9\*\* |
| 3 | 45.8 | 46.2 | 0.4\*\* | 37.6 | 38.0 | 0.4\*\* | 8.2 | 8.2 | 0.0\*\* |
| 4 | 51.2 | 50.6 | -0.6\*\* | 43.3 | 43.0 | -0.3\*\* | 7.9 | 7.6 | -0.3\*\* |
| 5 (highest) | 58.0 | 57.3 | -0.7\*\* | 50.7 | 49.9 | -0.8\*\* | 7.3 | 7.4 | 0.1\*\* |
| Missing | 46.3 | 47.5 | 1.2\*\* | 37.7 | 40.1 | 2.4\*\* | 8.6 | 7.4 | -1.2\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Residential area** |  |  |  |  |  |  |  |  |  |
| Seoul | 73.2 | 73.9 | 0.7\*\* | 53.3 | 53.8 | 0.5\*\* | 19.9 | 20.1 | 0.2\*\* |
| Gyeonggi, Incheon | 45.2 | 43.2 | -2.0\*\* | 37.3 | 36.0 | -1.3\*\* | 7.9 | 7.2 | -0.7\*\* |
| Chungbuk | 51.6 | 54.6 | 3.0\*\* | 46.2 | 49.1 | 2.9\*\* | 5.4 | 5.5 | 0.1\*\* |
| The Chungnam area1 | 43.9 | 44.8 | 0.9\*\* | 38.9 | 40.3 | 1.4\*\* | 5.0 | 4.5 | -0.5\*\* |
| Gangwon | 45.1 | 47.5 | 2.4\*\* | 40.7 | 43.3 | 2.6\*\* | 4.5 | 4.3 | -0.2\*\* |
| Junbuk | 36.4 | 37.6 | 1.2\*\* | 32.5 | 34.4 | 1.9\*\* | 3.9 | 3.2 | -0.7\*\* |
| The Junnam area2 | 34.4 | 36.7 | 2.3\*\* | 30.8 | 33.0 | 2.2\*\* | 3.5 | 3.8 | 0.3\*\* |
| The Gyeongbuk area3 | 35.9 | 36.3 | 0.4\*\* | 32.6 | 33.1 | 0.5\*\* | 3.3 | 3.1 | -0.2\*\* |
| The Gyeongnam area4 | 29.3 | 29.0 | -0.3\*\* | 27.3 | 27.0 | -0.3\*\* | 1.9 | 2.0 | 0.1\*\* |
| Jeju | 44.7 | 41.7 | -3.0\*\* | 40.1 | 37.8 | -2.3\*\* | 4.6 | 3.9 | -0.7\*\* |
|  |  |  |  |  |  |  |  |  |  |
| **Residential area type** |  |  |  |  |  |  |  |  |  |
| Urban | 48.0 | 47.4 | -0.6\*\* | 38.8 | 38.5 | -0.3\*\* | 9.2 | 9.0 | -0.2\*\* |
| Suburban | 45.9 | 45.8 | -0.1\*\* | 39.0 | 39.5 | 0.5\*\* | 6.9 | 6.3 | -0.6\*\* |
| Rural | 40.3 | 41.3 | 1.0\*\* | 35.2 | 36.6 | 1.4\*\* | 5.1 | 4.7 | -0.4\*v |

Values are presented as %.

Diff, difference.

1Daejeon, Sejeong, Chungnam.

2Gwangju, Jeonnam.

3Daegu, Gyeongbuk.

4Busan, Ulsan, Gyeongnam.

\* *p* < 0.05, \*\* *p* <0.001.

Appendix Table 3. Multiple logistic regression analysis of utilization of the 5 largest hospitals and the other tertiary hospitals in Seoul for medical episodes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Five largest hospitals** | | **The other tertiary hospitals in Seoul** | | |
|  | **Incident** **episodes** | **Prevalent episodes** | **Incident episodes** | **Prevalent episodes** | |
| **Sex** |  |  |  | |  | |
| Men | 1.27 (1.26 - 1.28) | 1.14 (1.14 - 1.15) | 0.81 (0.8 - 0.82) | | 0.85 (0.84 - 0.85) | |
| Women | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | 1.00 (reference) | |
|  |  |  |  | |  | |
| **Age** |  |  |  | |  | |
| 0-29 | 7.56 (7.44 - 7.69) | 7.58 (7.47 - 7.69) | 0.60 (0.58 - 0.62) | | 0.55 (0.54 - 0.57) | |
| 30-39 | 2.53 (2.49 - 2.57) | 2.36 (2.32 - 2.4) | 1.25 (1.22 - 1.28) | | 1.11 (1.08 - 1.14) | |
| 40-49 | 1.86 (1.84 - 1.88) | 1.79 (1.77 - 1.81) | 1.31 (1.29 - 1.34) | | 1.17 (1.15 - 1.19) | |
| 50-59 | 1.85 (1.83 - 1.86) | 1.74 (1.72 - 1.75) | 1.26 (1.24 - 1.27) | | 1.18 (1.16 - 1.2) | |
| 60-69 | 1.72 (1.7 - 1.73) | 1.59 (1.57 - 1.6) | 1.22 (1.2 - 1.24) | | 1.18 (1.16 - 1.2) | |
| 70+ | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | 1.00 (reference) | |
|  |  |  |  | |  | |
| **Income** |  |  |  | |  | |
| Medical Aid | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | 1.00 (reference) | |
| 1 (lowest) | 2.33 (2.28 - 2.38) | 2.13 (2.09 - 2.16) | 1.51 (1.47 - 1.55) | | 1.31 (1.28 - 1.34) | |
| 2 | 2.47 (2.41 - 2.52) | 2.11 (2.07 - 2.14) | 1.49 (1.45 - 1.54) | | 1.37 (1.34 - 1.4) | |
| 3 | 2.93 (2.86 - 2.99) | 2.58 (2.54 - 2.62) | 1.53 (1.48 - 1.57) | | 1.34 (1.31 - 1.36) | |
| 4 | 3.70 (3.62 - 3.79) | 3.14 (3.09 - 3.19) | 1.57 (1.52 - 1.61) | | 1.31 (1.28 - 1.34) | |
| 5 (highest) | 5.04 (4.93 - 5.15) | 4.40 (4.32 - 4.47) | 1.56 (1.51 - 1.6) | | 1.25 (1.22 - 1.28) | |
| Missing | 3.15 (3.05 - 3.25) | 2.68 (2.62 - 2.75) | 1.40 (1.34 - 1.47) | | 1.33 (1.28 - 1.37) | |
|  |  |  |  | |  | |
| **Residential area** |  |  |  | |  | |
| Seoul | 4.93 (4.87 - 4.99) | 6.14 (6.07 - 6.21) | 21.55 (20.99 - 22.12) | | 18.89 (18.46 - 19.34) | |
| Gyeonggi, Incheon | 1.98 (1.95 - 2) | 2.68 (2.65 - 2.71) | 4.42 (4.3 - 4.54) | | 4.46 (4.35 - 4.56) | |
| Chungbuk | 2.85 (2.79 - 2.91) | 3.25 (3.19 - 3.32) | 3.29 (3.16 - 3.43) | | 3.36 (3.23 - 3.48) | |
| The Chungnam area1 | 2.17 (2.13 - 2.2) | 2.48 (2.44 - 2.52) | 2.59 (2.5 - 2.68) | | 2.57 (2.49 - 2.65) | |
| Gangwon | 1.77 (1.73 - 1.81) | 1.99 (1.95 - 2.03) | 2.15 (2.06 - 2.24) | | 1.91 (1.84 - 1.98) | |
| Junbuk | 1.31 (1.29 - 1.34) | 1.48 (1.45 - 1.51) | 1.46 (1.4 - 1.53) | | 1.49 (1.43 - 1.55) | |
| The Junnam area2 | 1.08 (1.06 - 1.1) | 1.15 (1.13 - 1.17) | 1.32 (1.27 - 1.37) | | 1.33 (1.29 - 1.38) | |
| The Gyeongbuk area3 | 1.28 (1.26 - 1.3) | 1.38 (1.36 - 1.4) | 1.37 (1.33 - 1.42) | | 1.47 (1.43 - 1.52) | |
| The Gyeongnam area4 | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | 1.00 (reference) | |
| Jeju | 1.80 (1.74 - 1.86) | 1.82 (1.76 - 1.88) | 1.77 (1.65 - 1.89) | | 1.56 (1.46 - 1.66) | |
|  |  |  |  | |  | |
| **Residential area type** |  |  |  | |  | |
| Urban | 0.81 (0.8 - 0.83) | 0.82 (0.81 - 0.83) | 0.58 (0.57 - 0.59) | | 0.61 (0.6 - 0.62) | |
| Suburban | 1.09 (1.07 - 1.1) | 1.07 (1.05 - 1.08) | 1.01 (0.99 - 1.04) | | 1.05 (1.03 - 1.08) | |
| Rural | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | 1.00 (reference) | |
|  |  |  |  | |  | |
| **Time period** |  |  |  | |  | |
| Before policy | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | 1.00 (reference) | |
| After policy | 1.16 (1.15 - 1.17) | 1.15 (1.14 - 1.15) | 0.98 (0.97 - 0.99) | | 0.93 (0.93 - 0.94) | |

Values are presented as odds ratio (95% confidence interval).

1Daejeon, Sejeong, Chungnam.

2Gwangju, Jeonnam.

3Daegu, Gyeongbuk.

4Busan, Ulsan, Gyeongnam.

Appendix Table 4. Multiple logistic regression analysis of utilization of the 5 largest hospitals and the other tertiary hospitals in Seoul for surgical episodes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Five largest hospitals** | | **The other tertiary hospitals in Seoul** | | | |
|  | **Incident** **episodes** | **Prevalent episodes** | **Incident episodes** | | **Prevalent episodes** | |
| **Sex** |  |  |  | | |  | |
| Men | 1.26 (1.24 - 1.27) | 1.20  (1.18 - 1.22) | 0.87  (0.86 - 0.89) | | | 0.93  (0.9 - 0.95) | |
| Women | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | | 1.00 (reference) | |
|  |  |  |  | | |  | |
| **Age** |  |  |  | | |  | |
| 0-29 | 2.07 (2.01 - 2.14) | 3.33 (3.18 - 3.49) | 1.42 (1.36 - 1.49) | | | 0.63 (0.57 - 0.7) | |
| 30-39 | 1.61 (1.58 - 1.64) | 2.17 (2.08 - 2.25) | 1.69 (1.64 - 1.74) | | | 1.12 (1.05 - 1.19) | |
| 40-49 | 1.61 (1.59 - 1.63) | 2.00 (1.95 - 2.05) | 1.29 (1.26 - 1.32) | | | 1.02 (0.97 - 1.07) | |
| 50-59 | 1.68 (1.66 - 1.7) | 1.92 (1.88 - 1.96) | 1.14 (1.11 - 1.16) | | | 1.04 (1 - 1.07) | |
| 60-69 | 1.56 (1.54 - 1.58) | 1.63 (1.6 - 1.66) | 1.07 (1.04 - 1.09) | | | 1.04 (1 - 1.07) | |
| 70+ | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | | 1.00 (reference) | |
|  |  |  |  | | |  | |
| **Income** |  |  |  |  | |  | |
| Medical Aid | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | | 1.00 (reference) | |
| 1 (lowest) | 2.31 (2.24 - 2.39) | 2.11 (2.04 - 2.19) | 1.38 (1.32 - 1.45) | | | 1.29 (1.22 - 1.37) | |
| 2 | 2.42 (2.34 - 2.5) | 2.26 (2.18 - 2.34) | 1.38 (1.32 - 1.44) | | | 1.28 (1.2 - 1.35) | |
| 3 | 2.89 (2.79 - 2.98) | 2.62 (2.53 - 2.72) | 1.45 (1.38 - 1.51) | | | 1.27 (1.19 - 1.34) | |
| 4 | 3.56 (3.44 - 3.68) | 3.33 (3.21 - 3.45) | 1.51 (1.45 - 1.59) | | | 1.16 (1.1 - 1.24) | |
| 5 (highest) | 4.71 (4.56 - 4.87) | 4.52 (4.36 - 4.68) | 1.59 (1.52 - 1.67) | | | 1.11 (1.04 - 1.17) | |
| Missing | 3.10 (2.96 - 3.24) | 2.69 (2.54 - 2.85) | 1.28 (1.19 - 1.37) | | | 1.25 (1.13 - 1.38) | |
|  |  |  |  | | |  | |
| **Residential area** |  |  |  | | |  | |
| Seoul | 4.02 (3.96 - 4.09) | 3.57 (3.49 - 3.66) | 14.38 (13.9 - 14.89) | | | 15.55 (14.59 - 16.57) | |
| Gyeonggi, Incheon | 1.49 (1.46 - 1.51) | 1.45 (1.42 - 1.49) | 3.19 (3.08 - 3.3) | | | 3.75 (3.52 - 4) | |
| Chungbuk | 2.46 (2.39 - 2.53) | 2.37 (2.27 - 2.47) | 2.27 (2.15 - 2.41) | | | 2.37 (2.14 - 2.62) | |
| The Chungnam area1 | 1.82 (1.79 - 1.86) | 1.70 (1.65 - 1.76) | 2.05 (1.96 - 2.15) | | | 2.20 (2.03 - 2.39) | |
| Gangwon | 1.81 (1.76 - 1.87) | 1.63 (1.56 - 1.7) | 1.66 (1.56 - 1.76) | | | 1.54 (1.38 - 1.71) | |
| Junbuk | 1.19 (1.16 - 1.22) | 1.26 (1.2 - 1.31) | 1.26 (1.19 - 1.34) | | | 1.42 (1.28 - 1.59) | |
| The Junnam area2 | 1.11 (1.08 - 1.14) | 1.18 (1.15 - 1.22) | 1.23 (1.17 - 1.3) | | | 1.52 (1.4 - 1.66) | |
| The Gyeongbuk area3 | 1.15 (1.13 - 1.18) | 1.25 (1.21 - 1.29) | 1.20 (1.15 - 1.26) | | | 1.44 (1.32 - 1.56) | |
| The Gyeongnam area4 | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | | 1.00 (reference) | |
| Jeju | 1.74 (1.67 - 1.82) | 1.38 (1.3 - 1.48) | 1.62 (1.48 - 1.78) | | | 1.50 (1.28 - 1.75) | |
|  |  |  |  | | |  | |
| **Residential area type** |  |  |  | | |  | |
| Urban | 0.76 (0.74 - 0.77) | 0.76 (0.75 - 0.78) | 0.61 (0.59 - 0.63) | | | 0.54 (0.51 - 0.57) | |
| Suburban | 1.10 (1.08 - 1.12) | 1.07 (1.04 - 1.1) | 1.02 (0.99 - 1.06) | | | 0.99 (0.94 - 1.04) | |
| Rural | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | | 1.00 (reference) | |
|  |  |  |  | | |  | |
| **Time period** |  |  |  | | |  | |
| Before policy | 1.00 (reference) | 1.00 (reference) | 1.00 (reference) | | | 1.00 (reference) | |
| After policy | 1.11 (1.1 - 1.12) | 1.04 (1.03 - 1.06) | 0.95 (0.93 - 0.96) | | | 0.97 (0.95 - 1) | |

Values are presented as odds ratio (95% confidence interval).

1Daejeon, Sejeong, Chungnam.

2Gwangju, Jeonnam.

3Daegu, Gyeongbuk.

4Busan, Ulsan, Gyeongnam.