

Non-shoppable health care services: inpatient hospitalizations

Average spending and length of stay (LOS) for non-shoppable services in Medicare Advantage (MA) and employer-sponsored insurance (ESI) populations

Growing interest in health care price transparency has led to research focused on the impact of consumers “shopping” for health care.¹ Less attention has been paid to the spending associated with health care services that are not shoppable either due to the type or the urgency of the services needed. However, to fully understand the impact to the health care system of shopping for care, it is necessary to understand the magnitudes of non-shoppable services relative to other health care services. In this data brief HCCI reports on the average spending and length of stay (LOS) of a set of inpatient hospital admissions that are non-shoppable.

The analysis included a broad set of potentially non-shoppable hospital admissions defined as inpatient facility admissions that began in the emergency department (ED).² Because urgent or unexpected health care needs limits or prohibits patients’ ability to shop we focused on hospital admissions that are not planned (i.e., admissions for non-discretionary or emergent medical needs). However, some admissions that began with ED services may not have resulted from a medical emergency. Thus, we also identified the subset of hospital admissions that included ambulance services on the same day as an admission that included ED services. The need for an ambulance was assumed to be associated with more urgent health care needs and limits on a patients’ ability to “shop” for a hospital.

We report average inpatient hospital expenditures and LOS for two analysis groups: the no-ambulance admission group, i.e., the “walk-in group” and the

ambulance services group, i.e., the “ambulance group”.³ The reported expenditures do not include the costs of ambulance services, which are billed separately. (Summary statistics of ambulance expenditures and utilization by ambulance type – ground, rotary, and fixed wing – are provided in appendix tables A1-A4.⁴)

Separate analyses were conducted for two populations to allow for comparisons. One population was individuals covered by employer-sponsored insurance (ESI), ages 0 through 64. The other population was individuals with Medicare Advantage (MA) coverage, ages 65 and older. The HCCI data analyzed for this brief included health insurance membership and claims from ESI and MA enrollees in all 50 states and the District of Columbia. On average, the HCCI data accounted for approximately 25% of the national ESI population and 25% of the MA population in both years of the study.

The admissions included in the analyses were distinguished by diagnosis related groups (DRGs). Separately for both the ESI and MA populations, the 10 DRGs with the most admissions in a year were identified for the ambulance group. We reported average spending and LOS for both analysis groups for the identified set of 10 most common DRGs in each population-year combination. Analyses were also performed on two years of data (2010 and 2014) for both populations due to potential variation in the most frequent admissions over time.

Inpatient admissions with ED visits in the ESI population

The set of DRGs included in the analy-

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KEY FINDINGS

Average inpatient spending in the ESI population was higher for patients that arrived to a hospital by ambulance than those who did not, but LOS was similar.

In 2014, for example, the difference in average spending for DRG 871 was \$6,585.78. However, for the same DRG in that year, the difference in average LOS was 0.69 days.

In the MA population, average inpatient spending and LOS were similar for patients that arrived to a hospital by ambulance and those who did not.

In 2014, the difference in average spending for the most common DRG (871) was \$82.68 and the difference in average LOS was 0.25 days.

sis was similar in both years, but of the 10 most common DRGs for the ESI ambulance admission group in 2010 and 2014, only 3 and 5 DRGs were in the top 10 for the walk-in group, respectively. Overall, hospital admissions that included an ambulance trip appeared to differ in average spending but not LOS from the same type of admission that did not include an ambulance trip.

Tables 1 and 2 show the average allowed amounts and LOS by DRG in the ESI population for 2010 and 2014. Allowed amounts are the actual amounts paid by the insurer to the provider and any patient cost sharing. The average LOS measures the average number of days from the date a patient was admitted to the hospital to the date the patient was discharged.

Across the DRGs studied, the average allowed amounts varied, ranging from around \$5,000 (DRG 312 in 2010; Table 1) to over \$30,000 (DRG 247 in 2014; Table 2). In the population covered by ESI, the average allowed amount for each DRG studied was

higher for the ambulance admission group than for the walk-in group. There was also considerable difference in average spending by ambulance group within a DRG. In 2010, (Table 1) the difference in spending between groups was as low as \$360 (DRG 101), and as much as \$5,162 (DRG 871). The within DRG average spending difference increased in 2014 (Table 2), where the smallest difference was about \$600 (DRG 918), and the largest difference rose to \$6,585 (DRG 871).

One potential explanation for higher average spending for admissions that included an ambulance trip could be that patients arriving in an ambulance were sicker and required a longer stay or more services. However, we did not find large differences between the ambulance and walk-in groups in the average LOS for the DRGs studied. In 2010, across all of the DRGs studied the largest difference in the average LOS within a DRG was 0.53 days (DRG 494; Table 1), and it was just 0.69 days in 2014 (DRG 871; Table 2).

Inpatient admissions with ED visits in the MA population

Across average spending and LOS, for the MA population, hospital admissions varied little depending on whether or not an individual arrived at the ED via ambulance. The MA population results are presented in Tables 3 and 4.

Similar to ESI, the 10 most common DRGs for the MA ambulance group and the walk-in admission group tended to differ. Around half of the DRGs that were on the top 10 ranked list for the ambulance admissions group also appeared in the top 10 for the walk-in group. However, the 10 most common DRGs for the ambulance group were generally similar over time.

In contrast to the ESI results, the average allowed amounts were similar within DRGs between the MA ambulance and no ambulance groups. The largest difference between the average spending for a DRG was just over \$238 for an admission with an ambulance ride compared to the same admission without an ambu-

lance ride (DRG 65 in 2014; Table 4).

Similarity between admission groups within a DRG was also found in the average LOS. Like the ESI population, the MA ambulance admission group had a longer average LOS for each DRG studied than the MA walk-in group but that difference was always less than 1 day. The largest difference was 0.73 days (DRG 65 in 2014; Table 4).

Comparison of admissions in the ESI and MA populations

An illustrative example of the results discussed above is DRG 871 (septicemia or severe sepsis without mechanical ventilation 96+ hours with MCC). In 2014, DRG 871 was the most common DRG for both MA admission groups and for the ESI ambulance admission group, as well as the fifth most common DRG for the ESI walk-in admission group (Tables 2 and 4).

For the MA population, the average allowed amounts and average LOS for DRG 871 were similar between the ambulance and walk-in groups (Table 4). About 54% of the DRG 871 admissions were in the walk-in admission group, and 46% were in the ambulance group. The average spending was nearly identical: the average allowed amount was \$11,293 for the walk-in admission group and \$11,375 for the ambulance admission group. Finally, the walk-in group had a slightly lower average LOS (6.04 days) than did the ambulance group (6.29 days).

In contrast, for the ESI population, results varied widely across the two admission groups (Table 2). For DRG 871, 84% were admissions that did not include an ambulance trip. The average spending for a DRG 871 admission in the ambulance group was 35% higher than the cost of the walk-in group: an average allowed amount of \$25,333 compared to \$18,747. However, the ESI ambulance group average LOS was only approximately 13% higher than the walk-in group LOS (6.09 days versus 5.40 days). Moreover, compared to the MA population, the average allowed amount for a DRG 871 admission in the ESI ambu-

lance group was over twice as high as the cost for either of the MA groups but there were not substantial differences in average LOS between comparable groups across populations.

In general, for both the ESI and MA populations, within each DRG, a larger percentage of admissions were in the walk-in group. In the 2014 MA population, the difference in the percentage of admissions between the admission groups ranged from 8% to 45% (excluding DRG 481 where a larger percentage of the admissions included an ambulance trip). The percentage differences in the MA population were much smaller than the differences in percentages of admissions across admission groups in the ESI population, which in 2014 ranged from 7% to 89%. This was consistent with the higher rate of ambulance use in the MA population (appendix tables A1-A4).

Conclusion

For the population covered by ESI, we found that the average allowed amount of a studied type of hospital admission varied by whether patients received ambulance services the same day as their admission. Average spending for an admission was as much as \$6,500 higher when the hospital admission was preceded by an ambulance trip. This difference in spending was not explained by length of time spent in the hospital. The average LOS was generally similar between the admission groups for all of the DRGs studied. In some instances, the LOS was even slightly longer for the walk-in group. In contrast, the average DRG costs in the MA population were similar across admission groups. Indeed, for the three most frequent DRGs in the ambulance group in both 2010 and 2014, the difference between the average allowed amounts was under \$100.

This data brief has identified important topics about the relationship between spending, health services, and insurance types that remain open for future research. We observed differences in inpatient hospital expenditures based on whether a patient utilized ambulance

services the same day as admission. Interestingly, while there were spending differences within DRGs, largely in the ESI population, there was very little difference in the average LOS within DRGs.

We did not investigate potential underlying reasons for the observed similarities and differences; however, the results present interesting areas for future research. Higher spending may reflect more or different service utilization by the patients who arrived via ambulance. For example, if inpatient services are billed on the percentage of charges basis, more services resulting in more charges will lead to higher spending. However, it appears that there may also be differences in the spending-utilization relationship based on the type of insurance or the underlying population – ESI vs. MA. Further, it is possible that ambulances may take patients to higher cost hospitals, while patients who do not use an ambulance may choose lower cost hospitals.

Data and Methods

There were two populations of insureds from the HCCI data set used for this analysis. The first was individuals between the ages of 0 and 64, enrolled in an ESI plan. The second was individuals aged 65 and older enrolled in a MA plan. Both samples included individuals from all 50 states and the District of Columbia for the years 2010 and/or 2014.

Ambulance trips were identified for this study by Healthcare Common Procedure Coding System (HCPCS) codes (fixed wing: A0430, A0435; rotary: A0431, A0436; ground: A0425-A0429, A0433). Billed charges, allowed amounts, and units were summed by patient, by day, and by relevant HCPCS code to categorize an ambulance trip and associated spending. Trips were excluded if allowed amounts, billed charges, or units were less than or equal to 0. The top and bottom 1% of billed charges were also excluded within each ambulance code-population-year combination (e.g., A0425-MA-2010).

Ambulance services appear in claims data through two sets of codes: codes

for the ambulances services and codes for the mileage associated with the trips. Instances of patient-day ambulance service codes with greater than 2 units were excluded. This criterion was applied to ensure ambulance services were limited to at most a round trip. Among the mileage code units, outliers above the 99th percentile were trimmed. Claims were included in the analysis if they had both an ambulance code and associated mileage. Finally, ambulance claims were excluded if the sum of allowed charges for the ambulance and mileage were less than 10% of billed charges or greater than 100% billed charges.

Inpatient hospital admissions were included in the study if any claim lines for that admission included an ED revenue code (0450-0459 and 0981). Admissions were identified for inclusion in the ambulance group if there was an ambulance claim with the same date of service as the hospital admission date. All other admissions without an ambulance claim on the date of the hospital admission were included in the walk-in group. Inpatient claim outliers were removed by excluding any claims with a LOS less than 1 day and all claims with a LOS greater than the 99th percentile of LOS in the insured population. Additionally, all inpatient claims with negative or 0 allowed amounts were removed as were claims with allowed amounts less than 10% of billed charges or greater than 99th percentile of the allowed charges in the insured population.

The count of total admissions by DRG were used to identify the 10 most common admission types for the ambulance groups. Descriptive statistics such as the average and standard deviation of inpatient spending per patient were calculated from the allowed amounts (i.e., the negotiated amount the insurer pays the provider), including any patient cost sharing (copayments, co-insurance, and/or deductibles).

Limitations

Although, this report provides new statistics on the utilization of health care

within the ESI and MA populations, the results may not be generalizable to all ESI and MA plans or members. The HCCI data set is a convenience sample from three national insurers and may not reflect the spending or utilization of the respective national populations composed of all payers.

There were likely numerous factors influencing the estimates of average spending and LOS, however, the analyses did not attempt to identify specific factors underlying the results. Moreover, no causal inferences can be drawn from the results presented in this brief and any influencing factors. Additionally, the scope of this brief was limited to inpatient spending and utilization metrics. There are many other measures of health care services utilization and expenditures, which may provide additional insight into the utilization patterns of the MA and ESI populations.

Endnotes

1. For example, in 2013 the Robert Wood Johnson Foundation funded a variety of price transparency related research projects: <http://www.hcfo.org/news/new-grants-examine-use-price-data-health-care>.
2. However, some types of hospital admissions that might include an ED visit still might be shoppable by patients. Hospital admissions for childbirth would be one example. Costs associated with childbirth are cited as frequently shopped for using health care price transparency tools (Sinaiko and Rosenthal, 2015).
3. The walk-in group excludes the patients included in the ambulance group.
4. It is possible that ambulance or paramedic services provided through a municipality, such as a local fire department, will not result in an insurance claim. Therefore, the costs of these services is not reflected in the utilization or spending reported in the appendix tables.

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This HCCI research project was independently performed by the authors in response to suggestions by external stakeholders. The authors retain control over all methods, content, and dissemination of the results.

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Table 1: Summary of Inpatient Admissions by Type of Arrival at Facility for the Commercially Insured, 2010

| Code | DRG Description | Rank by number of admissions | | Distribution of admissions | | Average of allowed amount (Standard deviation) | | Average length of stay in days (Standard deviation) | |
|------|---------------------------------------------------------------|------------------------------|--------------|----------------------------|--------------|------------------------------------------------|------------------------------|-----------------------------------------------------|----------------|
| | | Ambulance | No ambulance | Ambulance | No ambulance | Ambulance | No ambulance | Ambulance | No ambulance |
| 392 | ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS W/O MCC | 1 | 1 | 0.061 | 0.939 | \$7,919.02 (\$6,682.70) | \$7,158.56 (\$5,865.59) | 2.83 (2.09) | 2.71 (1.86) |
| 494 | LOWER EXTREM & HUMER PROC EXCEPT HIP, FOOT, FEMUR W/O CC/ MCC | 2 | 46 | 0.384 | 0.616 | \$17,393.33 (\$13,326.08) | \$14,523.80 (\$11,269.94) | 3.24 (2.50) | 2.71 (2.29) |
| 918 | POISONING & TOXIC EFFECTS OF DRUGS W/O MCC | 3 | 34 | 0.345 | 0.655 | \$6,753.52 (\$5,812.32) | \$6,367.35 (\$6,316.53) | 2.09 (1.62) | 1.94 (1.50) |
| 101 | SEIZURES W/O MCC | 4 | 44 | 0.371 | 0.629 | \$7,530.72 (\$5,293.35) | \$7,170.58 (\$6,068.93) | 2.21 (1.56) | 2.26 (1.67) |
| 312 | SYNCOPE & COLLAPSE | 5 | 14 | 0.222 | 0.778 | \$7,059.56 (\$5,193.52) | \$5,065.72 (\$5,181.04) | 2.08 (1.44) | 2.12 (1.57) |
| 313 | CHEST PAIN | 6 | 2 | 0.114 | 0.886 | \$5,824.91 (\$3,868.98) | \$5,222.14 (\$4,389.26) | 1.62 (1.10) | 1.55 (1.02) |
| 247 | PERC CARDIOVASC PROC W DRUG-ELUTING STENT W/O MCC | 7 | 17 | 0.207 | 0.793 | \$27,486.16 (\$13,763.72) | \$24,992.97 (\$14,320.92) | 2.66 (1.22) | 2.46 (1.27) |
| 287 | CIRCULATORY DISORDERS EXCEPT AMI, W CARD CATH W/O MCC | 8 | 8 | 0.147 | 0.853 | \$12,236.89 (\$8,395.67) | \$11,269.04 (\$7,935.17) | 2.52 (1.77) | 2.46 (1.70) |
| 871 | SEPTICEMIA OR SEVERE SEPSIS W/O MV 96+ HOURS W MCC | 9 | 15 | 0.176 | 0.824 | \$19,963.08 (\$13,816.34) | \$14,800.77 (\$14,055.43) | 6.03 (3.88) | 5.52 (3.65) |
| 885 | PSYCHOSES | 10 | 5 | 0.122 | 0.878 | \$8,615.01 (\$7,106.59) | \$7,485.98 (\$6,522.92) | 5.62 (3.89) | 5.41 (3.64) |

Source: HCCI, 2017

Table 2: Summary of Inpatient Admissions by Type of Arrival at Facility for the Commercially Insured, 2014

| Code | DRG Description | Rank by number of admissions | | Distribution of admissions | | Average of allowed amount (Standard deviation) | | Average length of stay in days (Standard deviation) | |
|------|---------------------------------------------------------------------|------------------------------|--------------|----------------------------|--------------|------------------------------------------------|------------------------------|-----------------------------------------------------|----------------|
| | | Ambulance | No ambulance | Ambulance | No ambulance | Ambulance | No ambulance | Ambulance | No ambulance |
| 871 | SEPTICEMIA OR SEVERE SEPSIS W/O MV 96+ HOURS W MCC | 1 | 5 | 0.160 | 0.840 | \$25,332.50 (\$17,431.96) | \$18,746.72 (\$16,737.35) | 6.09 (4.14) | 5.40 (3.66) |
| 885 | PSYCHOSES | 2 | 4 | 0.143 | 0.857 | \$9,547.95 (\$8,434.52) | \$8,215.54 (\$7,443.75) | 5.73 (3.65) | 5.53 (3.57) |
| 247 | PERC CARDIOVASC PROC W DRUG-ELUTING STENT W/O MCC | 3 | 9 | 0.218 | 0.782 | \$31,964.24 (\$15,580.14) | \$30,120.46 (\$16,942.74) | 2.48 (1.09) | 2.40 (1.27) |
| 101 | SEIZURES W/O MCC | 4 | 45 | 0.357 | 0.643 | \$10,089.44 (\$7,353.91) | \$10,220.74 (\$8,844.17) | 2.30 (1.78) | 2.46 (2.05) |
| 918 | POISONING & TOXIC EFFECTS OF DRUGS W/O MCC | 5 | 47 | 0.352 | 0.648 | \$9,464.33 (\$8,586.14) | \$8,886.39 (\$8,851.09) | 2.27 (1.73) | 2.26 (1.74) |
| 392 | ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS W/O MCC | 6 | 1 | 0.055 | 0.945 | \$10,481.87 (\$7,072.63) | \$9,506.59 (\$7,290.55) | 3.08 (2.10) | 2.95 (1.96) |
| 494 | LOWER EXTREM & HUMER PROC EXCEPT HIP, FOOT, FEMUR W/O CC/ MCC | 7 | 59 | 0.382 | 0.618 | \$21,211.82 (\$12,549.71) | \$19,235.85 (\$12,675.18) | 2.83 (1.66) | 2.49 (1.58) |
| 917 | POISONING & TOXIC EFFECTS OF DRUGS W MCC | 8 | 90 | 0.466 | 0.534 | \$18,279.57 (\$14,204.70) | \$15,394.80 (\$13,078.51) | 3.81 (3.01) | 3.60 (2.93) |
| 897 | ALCOHOL/DRUG ABUSE OR DEPENDENCE W/O REHABILITATION THERAPY W/O MCC | 9 | 27 | 0.198 | 0.802 | \$10,014.70 (\$8,358.17) | \$8,144.32 (\$7,194.52) | 3.51 (2.56) | 3.51 (2.27) |
| 872 | SEPTICEMIA OR SEVERE SEPSIS W/O MV 96+ HOURS W/O MCC | 10 | 6 | 0.080 | 0.920 | \$15,631.91 (\$11,835.95) | \$12,255.01 (\$9,686.49) | 4.37 (2.73) | 3.77 (2.34) |

Source: HCCI, 2017

Table 3: Summary of Inpatient Admissions by Type of Arrival at Facility for the MA Population, 2010

| DRG | | Rank by number of admissions | | Distribution of admissions | | Average of allowed amount (Standard deviation) | | Average length of stay in days (Standard deviation) | |
|------|-----------------------------------------------------|------------------------------|--------------|----------------------------|--------------|------------------------------------------------|-----------------------------|-----------------------------------------------------|----------------|
| Code | Description | Ambulance | No ambulance | Ambulance | No ambulance | Ambulance | No ambulance | Ambulance | No ambulance |
| 871 | SEPTICEMIA OR SEVERE SEPSIS W/O MV 96+ HOURS W MCC | 1 | 2 | 0.458 | 0.542 | \$11,099.09 (\$3,014.75) | \$11,074.88 (\$3,179.74) | 6.41 (4.28) | 6.21 (4.16) |
| 291 | HEART FAILURE & SHOCK W MCC | 2 | 4 | 0.369 | 0.631 | \$8,674.45 (\$2,871.53) | \$8,618.03 (\$2,664.63) | 5.90 (3.76) | 5.44 (3.54) |
| 312 | SYNCOPE & COLLAPSE | 3 | 13 | 0.459 | 0.541 | \$4,480.85 (\$1,560.50) | \$4,505.76 (\$1,631.06) | 2.89 (1.89) | 2.69 (1.94) |
| 690 | KIDNEY & URINARY TRACT INFECTIONS W/O MCC | 4 | 7 | 0.365 | 0.635 | \$4,692.52 (\$1,303.40) | \$4,698.13 (\$1,322.37) | 3.92 (2.29) | 3.41 (2.11) |
| 292 | HEART FAILURE & SHOCK W CC | 5 | 3 | 0.301 | 0.699 | \$6,019.17 (\$2,008.42) | \$6,000.38 (\$1,878.30) | 4.31 (2.58) | 3.93 (2.42) |
| 194 | SIMPLE PNEUMONIA & PLEURISY W CC | 6 | 5 | 0.290 | 0.710 | \$6,084.41 (\$1,816.78) | \$6,103.54 (\$1,886.46) | 4.70 (2.61) | 4.17 (2.54) |
| 193 | SIMPLE PNEUMONIA & PLEURISY W MCC | 7 | 17 | 0.372 | 0.628 | \$8,489.32 (\$2,652.82) | \$8,474.77 (\$2,495.80) | 6.10 (3.60) | 5.54 (3.34) |
| 481 | HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT W CC | 8 | 49 | 0.634 | 0.366 | \$11,272.27 (\$2,985.65) | \$11,274.87 (\$2,942.32) | 5.63 (2.69) | 5.41 (2.65) |
| 65 | INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION W CC | 9 | 21 | 0.401 | 0.599 | \$7,077.31 (\$2,441.46) | \$6,912.77 (\$2,329.44) | 4.86 (2.98) | 4.21 (2.89) |
| 190 | CHRONIC OBSTRUCTIVE PULMONARY DISEASE W MCC | 10 | 6 | 0.284 | 0.716 | \$7,097.63 (\$2,187.18) | \$7,076.67 (\$2,077.10) | 5.03 (2.94) | 4.67 (2.86) |

Source: HCCI, 2017.

Table 4: Summary of Inpatient Admissions by Type of Arrival at Facility for the MA Population, 2014

| DRG | | Rank by number of admissions | | Distribution of admissions | | Average of allowed amount (Standard deviation) | | Average length of stay in days (Standard deviation) | |
|------|----------------------------------------------------------------------|------------------------------|--------------|----------------------------|--------------|------------------------------------------------|-----------------------------|-----------------------------------------------------|----------------|
| Code | Description | Ambulance | No ambulance | Ambulance | No ambulance | Ambulance | No ambulance | Ambulance | No ambulance |
| 871 | SEPTICEMIA OR SEVERE SEPSIS W/O MV 96+ HOURS W MCC | 1 | 1 | 0.457 | 0.543 | \$11,375.30 (\$2,968.56) | \$11,292.62 (\$3,130.62) | 6.29 (4.12) | 6.04 (4.01) |
| 291 | HEART FAILURE & SHOCK W MCC | 2 | 4 | 0.372 | 0.628 | \$9,290.37 (\$2,474.72) | \$9,225.02 (\$2,550.90) | 5.78 (3.63) | 5.48 (3.61) |
| 481 | HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT W CC | 3 | 43 | 0.655 | 0.345 | \$12,297.31 (\$2,818.30) | \$12,349.84 (\$2,977.33) | 5.50 (2.58) | 5.34 (2.58) |
| 292 | HEART FAILURE & SHOCK W CC | 4 | 3 | 0.273 | 0.727 | \$6,533.64 (\$1,790.59) | \$6,487.94 (\$1,772.63) | 4.52 (2.61) | 4.16 (2.54) |
| 690 | KIDNEY & URINARY TRACT INFECTIONS W/O MCC | 5 | 10 | 0.359 | 0.641 | \$5,298.00 (\$1,490.20) | \$5,292.19 (\$1,682.08) | 4.07 (2.30) | 3.56 (2.19) |
| 193 | SIMPLE PNEUMONIA & PLEURISY W MCC | 6 | 13 | 0.369 | 0.631 | \$8,762.88 (\$2,255.41) | \$8,655.00 (\$2,394.24) | 5.87 (3.37) | 5.35 (3.29) |
| 189 | PULMONARY EDEMA & RESPIRATORY FAILURE | 7 | 14 | 0.370 | 0.630 | \$7,884.77 (\$2,324.75) | \$7,726.98 (\$2,113.33) | 4.99 (3.21) | 4.54 (2.90) |
| 683 | RENAL FAILURE W CC | 8 | 7 | 0.307 | 0.693 | \$6,308.38 (\$1,788.47) | \$6,278.10 (\$1,633.41) | 4.69 (2.71) | 3.98 (2.46) |
| 65 | INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION W CC OR TPA IN 24 HRS | 9 | 16 | 0.402 | 0.598 | \$7,282.14 (\$2,693.56) | \$7,043.31 (\$2,223.20) | 4.78 (3.07) | 4.05 (2.73) |
| 872 | SEPTICEMIA OR SEVERE SEPSIS W/O MV 96+ HOURS W/O MCC | 10 | 11 | 0.334 | 0.666 | \$6,978.12 (\$1,777.35) | \$6,941.64 (\$1,815.67) | 4.85 (2.65) | 4.36 (2.61) |

Source: HCCI, 2017.

Table A1: Distribution of Allowed Amounts for Types of Ambulances for the Commercially and Medicare Advantage Insured, 2010

| | Ambulance Trips per 10,000 members | Average | Standard Deviation | 5th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 95th Percentile |
|-----------------------------|------------------------------------|--------------|--------------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Commercially Insured | | | | | | | | |
| Fixed-Wing Air Ambulance | 0.28 | \$ 25,114.40 | \$ 19,217.41 | \$ 5,466.89 | \$ 13,088.00 | \$ 20,081.60 | \$ 32,582.00 | \$ 66,872.35 |
| Rotary-Wing Air Ambulance | 3.01 | \$ 16,150.22 | \$ 7,632.63 | \$ 5,533.13 | \$ 10,960.00 | \$ 15,635.70 | \$ 19,999.86 | \$ 29,358.96 |
| Ground Ambulance | 156.39 | \$ 904.89 | \$ 969.67 | \$ 317.85 | \$ 538.43 | \$ 738.56 | \$ 1,036.19 | \$ 1,930.47 |
| Medicare Advantage | | | | | | | | |
| Fixed-Wing Air Ambulance | 0.87 | \$ 8,360.61 | \$ 3,873.91 | \$ 4,159.26 | \$ 5,591.61 | \$ 6,780.24 | \$ 10,981.73 | \$ 14,190.94 |
| Rotary-Wing Air Ambulance | 14.07 | \$ 6,569.14 | \$ 2,711.45 | \$ 3,551.48 | \$ 4,754.44 | \$ 6,234.18 | \$ 7,270.13 | \$ 12,373.66 |
| Ground Ambulance | 1,158.60 | \$ 788.35 | \$ 1,712.87 | \$ 284.02 | \$ 415.00 | \$ 483.39 | \$ 844.10 | \$ 1,885.22 |

Source: HCCI, 2017

Table A2: Distribution of Allowed Amounts for Types of Ambulances for the Commercially and Medicare Advantage Insured, 2014

| | Ambulance Trips per 10,000 members | Average | Standard Deviation | 5th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 95th Percentile |
|-----------------------------|------------------------------------|--------------|--------------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Commercially Insured | | | | | | | | |
| Fixed-Wing Air Ambulance | 0.33 | \$ 45,885.60 | \$ 40,727.24 | \$ 9,722.48 | \$ 21,932.24 | \$ 34,390.82 | \$ 54,270.52 | \$ 122,098.80 |
| Rotary-Wing Air Ambulance | 2.58 | \$ 26,693.39 | \$ 13,677.69 | \$ 6,902.27 | \$ 16,003.52 | \$ 26,550.00 | \$ 35,133.98 | \$ 49,999.00 |
| Ground Ambulance | 154.00 | \$ 1,086.52 | \$ 1,418.63 | \$ 348.94 | \$ 580.75 | \$ 868.00 | \$ 1,262.04 | \$ 2,428.39 |
| Medicare Advantage | | | | | | | | |
| Fixed-Wing Air Ambulance | 0.43 | \$ 8,635.62 | \$ 4,413.83 | \$ 4,619.49 | \$ 5,710.13 | \$ 7,003.31 | \$ 11,497.29 | \$ 15,416.99 |
| Rotary-Wing Air Ambulance | 12.00 | \$ 6,902.64 | \$ 2,567.40 | \$ 3,785.74 | \$ 5,761.03 | \$ 6,460.79 | \$ 7,411.30 | \$ 12,758.00 |
| Ground Ambulance | 1,158.32 | \$ 835.31 | \$ 1,923.63 | \$ 309.36 | \$ 425.13 | \$ 504.55 | \$ 879.43 | \$ 1,988.51 |

Source: HCCI, 2017

Table A3: Distribution of Billed Charges for Types of Ambulances for the Commercially and Medicare Advantage Insured, 2010

| | Ambulance Trips per 10,000 members | Average | Standard Deviation | 5th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 95th Percentile |
|-----------------------------|------------------------------------|--------------|--------------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Commercially Insured | | | | | | | | |
| Fixed-Wing Air Ambulance | 0.28 | \$ 28,703.74 | \$ 22,099.38 | \$ 7,258.00 | \$ 14,432.50 | \$ 22,556.70 | \$ 36,740.00 | \$ 74,456.85 |
| Rotary-Wing Air Ambulance | 3.01 | \$ 18,186.79 | \$ 7,554.65 | \$ 8,870.00 | \$ 13,101.84 | \$ 17,010.00 | \$ 21,449.64 | \$ 32,456.00 |
| Ground Ambulance | 156.39 | \$ 1,040.95 | \$ 1,275.22 | \$ 447.65 | \$ 615.00 | \$ 821.00 | \$ 1,158.00 | \$ 2,194.95 |
| Medicare Advantage | | | | | | | | |
| Fixed-Wing Air Ambulance | 0.87 | \$ 21,171.32 | \$ 12,152.77 | \$ 7,190.00 | \$ 13,386.51 | \$ 18,330.00 | \$ 26,357.50 | \$ 45,806.00 |
| Rotary-Wing Air Ambulance | 14.07 | \$ 16,533.69 | \$ 8,053.65 | \$ 6,618.94 | \$ 10,650.00 | \$ 15,414.00 | \$ 20,439.12 | \$ 31,874.00 |
| Ground Ambulance | 1,158.60 | \$ 1,419.78 | \$ 3,411.60 | \$ 441.95 | \$ 630.00 | \$ 905.05 | \$ 1,510.51 | \$ 3,536.60 |

Source: HCCI, 2017

Table A4: Distribution of Billed Charges for Types of Ambulances for the Commercially and Medicare Advantage Insured, 2014

| | Ambulance Trips per 10,000 members | Average | Standard Deviation | 5th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 95th Percentile |
|-----------------------------|------------------------------------|--------------|--------------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Commercially Insured | | | | | | | | |
| Fixed-Wing Air Ambulance | 0.33 | \$ 53,344.82 | \$ 46,687.87 | \$ 12,415.00 | \$ 27,300.00 | \$ 39,392.00 | \$ 59,780.00 | \$ 144,623.70 |
| Rotary-Wing Air Ambulance | 2.58 | \$ 30,361.67 | \$ 12,695.69 | \$ 12,903.40 | \$ 20,366.25 | \$ 29,859.14 | \$ 37,787.84 | \$ 51,987.00 |
| Ground Ambulance | 154.00 | \$ 1,305.05 | \$ 1,893.75 | \$ 510.00 | \$ 741.00 | \$ 1,010.00 | \$ 1,469.57 | \$ 2,828.40 |
| Medicare Advantage | | | | | | | | |
| Fixed-Wing Air Ambulance | 0.43 | \$ 32,292.54 | \$ 17,314.13 | \$ 8,213.50 | \$ 19,958.00 | \$ 30,224.26 | \$ 42,997.79 | \$ 62,665.60 |
| Rotary-Wing Air Ambulance | 12.00 | \$ 30,263.73 | \$ 12,899.89 | \$ 13,746.36 | \$ 20,680.88 | \$ 29,179.88 | \$ 36,726.89 | \$ 51,840.04 |
| Ground Ambulance | 1,158.32 | \$ 1,711.37 | \$ 4,029.13 | \$ 484.00 | \$ 733.64 | \$ 1,080.46 | \$ 1,840.00 | \$ 4,324.64 |

Source: HCCI, 2017