**Industry Analysis**

After calculating HHI index based on records and charges, we find out that the HHI rankings are the same while RR1 has the largest HHI among 5 RRs. Therefore, there is monopoly phenomenon and RR1 is the lion player in those 5 areas.

Table 1 HHI index based on records

|  |  |
| --- | --- |
| **RR** | **HHI** |
| RR1 | 6584.52 |
| RR5 | 5811.77 |
| RR2 | 5809.22 |
| RR3 | 5022.87 |
| RR4 | 2606.19 |

Table 2 HHI based on charges

|  |  |
| --- | --- |
| **RR** | **HHI** |
| RR1 | 8058.97 |
| RR5 | 6817.21 |
| RR2 | 5941.76 |
| RR3 | 5025.60 |
| RR4 | 2567.37 |

To find out which hospitals play important roles in each RR, especially in RR1, we calculate the market shares of each hospital based on records and charges. According to the following tables, we can find that for the lion player RR1, University of Vermont Medical Center (hnum2 = 5) has the largest market share.

As for the reason why University of Vermont Medical Center is the monopoly in the hospitals, we think Advanced technology and techniques is a vital factor. According to our clustering analysis last semester, we found that University of Vermont Medical Center has comprehensive surgical services and imaging equipment, especially in fields of heart, brain, and tiny blood vessels. Therefore, it attracts many well-paid payers although the cost of care is high.

Table 3 Market share of each hospital based on records

|  |  |  |
| --- | --- | --- |
| **RR** | **hum2** | **market share** |
| RR1 | 5 | 0.80 |
| RR1 | 1 | 0.13 |
| RR1 | 9 | 0.07 |
| RR2 | 6 | 0.70 |
| RR2 | 4 | 0.30 |
| RR3 | 2 | 0.53 |
| RR3 | 3 | 0.47 |
| RR4 | 10 | 0.29 |
| RR4 | 12 | 0.29 |
| RR4 | 15 | 0.28 |
| RR4 | 11 | 0.12 |
| RR4 | 14 | 0.02 |
| RR5 | 8 | 0.70 |
| RR5 | 16 | 0.30 |

Table 4 Market share of each hospital based on charges

|  |  |  |
| --- | --- | --- |
| **RR** | **hnum2** | **Market share** |
| RR1 | 5 | 0.89 |
| RR1 | 1 | 0.06 |
| RR1 | 9 | 0.05 |
| RR2 | 6 | 0.72 |
| RR2 | 4 | 0.28 |
| RR3 | 3 | 0.54 |
| RR3 | 2 | 0.46 |
| RR4 | 10 | 0.32 |
| RR4 | 12 | 0.26 |
| RR4 | 15 | 0.24 |
| RR4 | 11 | 0.16 |
| RR4 | 14 | 0.01 |
| RR5 | 8 | 0.80 |
| RR5 | 16 | 0.20 |

**Influencers of Monopoly**

According to CNBC, larger hospitals with more capital assets and better access to technology and staff thrive and gradually to become monopolies. They have formed a healthy revenue pattern by providing high-ended care, jacking up healthcare service prices, and attracting well paid patients. Therefore, in this report, we want to investigate whether in more complicated procedures among the MDCs, the larger hospitals attract more well-paid commercial insurance patients and fewer government-paid Medicare beneficiaries. Our basic hypotheses are that the types of patients (commercial insurance payers and government-supported insurance payers) and the complexity of MDC procedures are the two main influencers of monopoly.