Physician Led Orthopaedic Hospitals Outperform Non-Physician Led Orthopaedic Hospitals: An Analysis of the top 200 Orthopaedic Hospitals

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INTRODUCTION:

Physician run hospitals have significantly higher quality scores than non-physician run hospitals, as well as higher scores in overall management and productivity.

The main objective was to determine if physician led orthopaedic hospitals were ranked better than hospitals led by a non-physician. A secondary objective was to compare specific hospital ratings such as 30-day survival, readmission, spine surgery rating, hip fracture rating, hip arthroplasty rating, knee arthroplasty rating, patient experience, and overall rating.

METHODS:

A data base was created using the United States News and World Report (USNWR) rankings for the top hospitals for orthopaedics. Hospital names and locations of the top 200 hospitals were recorded. Additionally, the rank and overall calculated score generated by the USNWR was recorded for each hospital. From the UNSWR website, orthopaedic hospitals were ranked based on the analysis of various data including patient survival, volume of patients, overall patient experience, staffing, and availability of advanced technologies. Additionally, specific scores analyzing the quality of procedures applicable to orthopaedics were recorded. These scores included hip fracture, back surgery, hip replacement, and knee replacement. Specifically for Hip fracture scores, further analysis of scores for overall survival, readmission prevention, and patient experience were recorded in the database. Scores were recorded on a scale of 1 to 5; 1 being Poor, 2 is below average, 3 is average, 4 is above average, and 5 is excellent or high performance.

In addition to scores, the current chief executive officer or president of each hospital system and their educational degrees was recorded. This information was obtained directly from the hospital website. If education information was not available directly from the hospital website, educational degrees were found using LinkedIn.

The hospitals were divided up into physician lead or non-physician led groups. The groups were compared using a t-test to determine if there was a significant difference with respect to hospital rating, and the available USNWR scores. A subgroup analysis was performed to analyze the specific non-physician degrees in comparison with physician degrees. A regression analysis was done to evaluate the association of all advanced degrees and the hospital rating.

RESULTS:

The average rank for physician led hospitals was higher than non-physician led hospitals ($p=.02$). The average ranking for physician led hospitals was 85.6 ± 61.9 vs. 108.0 ± 54.5 for non-physician led hospitals. Physician led hospitals also had a statistically significantly higher score than non-physician led hospitals (53.9 ± 10.1 versus 50.0 ± 5.7, $p=.01$).

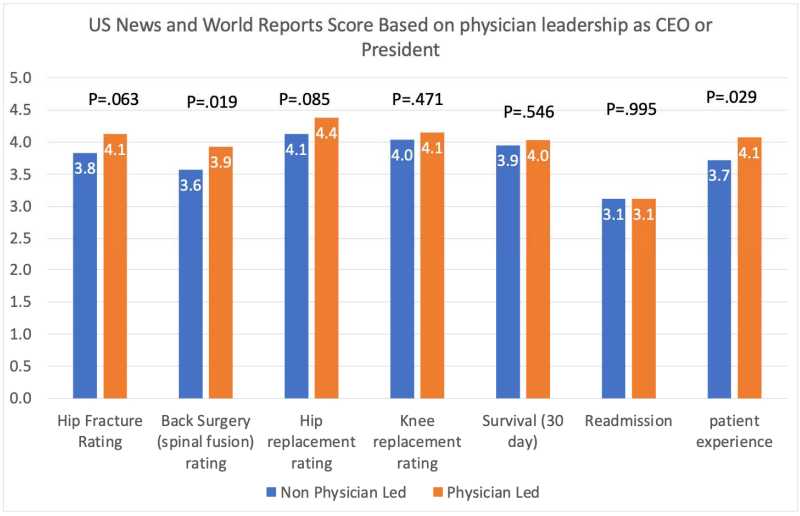
When analyzing specific USNWR ratings, the back surgery, patient experience, and overall score were significantly different based between physician CEO and non-physician CEO hospitals ($p=.021$, .029, and .001, respectively). There was no difference in the hip fracture rating, hip replacement rating, knee replacement rating, 30-day survival, or readmission between the two groups.

A further regression analysis was performed evaluating the association with all advanced degrees and the hospital rating. Regression analysis demonstrated there was an association with MD/MBA and MD and hospital score ($p=.025$ and $p=.011$ respectively). There was not a significant association between MBA only, RN, MHSA, MHA, and PhD for hospital score ($p=.323$, .921, .134, .303, .677, respectively).

DISCUSSION AND CONCLUSION:

This finding aligns with recent research conducted on physician-led hospital systems worldwide. For instance, a study of 370 German hospitals discovered that physician-led hospitals had lower in-hospital mortality rates in pneumonia patients and a higher level of patient satisfaction. Similarly, a recent investigation of physician leadership during the COVID-19 pandemic found that physician-led hospitals had higher patient satisfaction ratings and utilization rates. Our study provides further evidence to support these findings and contributes to the existing research. One explanation for physician chief executives or presidents and its association with hospital performance is improvements in employee satisfaction and lower intention to quit when being led by “expert leaders.” Having domain experts appears more credible to its employees, as well as outside the workplace.

Physician led orthopaedic hospitals were ranked higher than non-physician led orthopaedic hospitals. Physician led hospitals were also associated with a higher back surgery, patient experience, and overall score. When analyzing specific degrees only the MD and MD/MBA degrees were associated with higher hospital scores.


US News and World Reports Score Based on physician leadership as CEO or President
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
P=.063
P=.019
P=.085
P=.471
P=.546
P=.995
P=.029
3.8
4.1
3.6
3.9
4.1
4.4
4.0
4.1
3.9
4.0
3.1
3.1
3.7
4.1
Hip Fracture Rating
Back Surgery (spinal fusion) rating
Hip replacement rating
Knee replacement rating
Survival (30 day)
Readmission
patient experience
Non Physician Led
Physician Led