JOURNAL OF CLINICAL RESEARCH BEST PRACTICES

Vol. 9, No. 3, March 2013 "Happy Trials to You"

# Do the Best Hospitals Do the Most Clinical Research?

**By Norman M. Goldfarb**

Do the hospitals that provide the best patient care also do the most clinical research? If so, it might be because an active clinical research program is a key ingredient to providing outstanding patient care. Or, it might be because the hospitals that provide the best patient care are the most attractive to clinical research sponsors.

U.S. News annually ranks the best hospitals for inpatient care in 16 adult therapeutic specialties and 10 pediatric specialties (http://health.usnews.com/best-hospitals). Criteria include reputation, patient survival, patient safety, and care-related factors, such as nursing and patient services. Clinical research is not one of the criteria. Of the 4,793 hospitals that U.S. News evaluated in 2012, only 148 (3%) qualified for a spot in one or more of the adult categories.

## Methods

We selected a sample of 49 hospitals, consisting of those that U.S. News ranked in the top 30 for patient care in one or more of three therapeutic areas: Cancer, Cardiology & Heart Surgery, and Diabetes & Endocrinology.

We scored each hospital by giving it up to 49 points in each category for which it ranked, so for example, the number-12-ranked hospital in a category received 38 points (50 – 12 = 38). A hospital that treats a broad range of therapeutic areas could thus earn a higher score than a specialty hospital that, for example, treats only cancer patients.

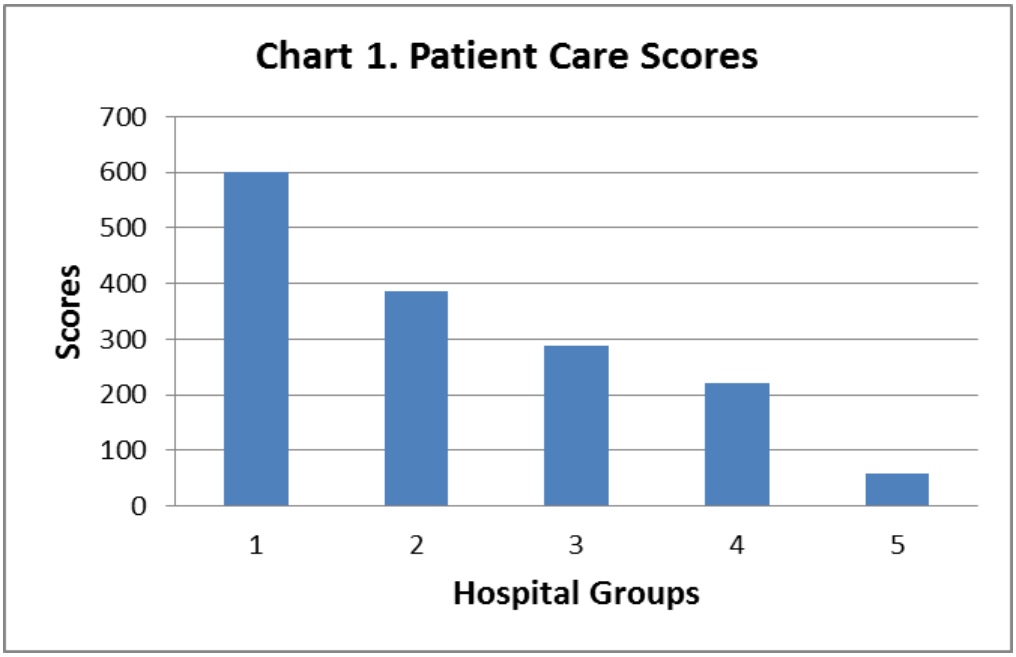
We estimated the number of actively recruiting studies by searching on clinicaltrials.gov (http://www.clinicaltrials.gov) for the hospital's name. However, various data imperfections prevent complete accuracy. For example, if a "hospital" consists of multiple facilities or is known by multiple names, some studies might be missed or double-counted. In addition, outpatient studies might be listed under the hospital's name or under the name of an affiliated clinic or physician. Further, a hospital's name might be included in listings because it is the coordinating center or plays some role other than conducting the study.

Larger hospitals tend to conduct more studies than smaller hospitals, so we adjusted study volume by number of beds to create a variable called "study intensity" (studies per bed). As a result, a 1,000-bed hospital conducting 500 studies would score the same study intensity (0.5) as a 500-bed hospital conducting 250 studies.

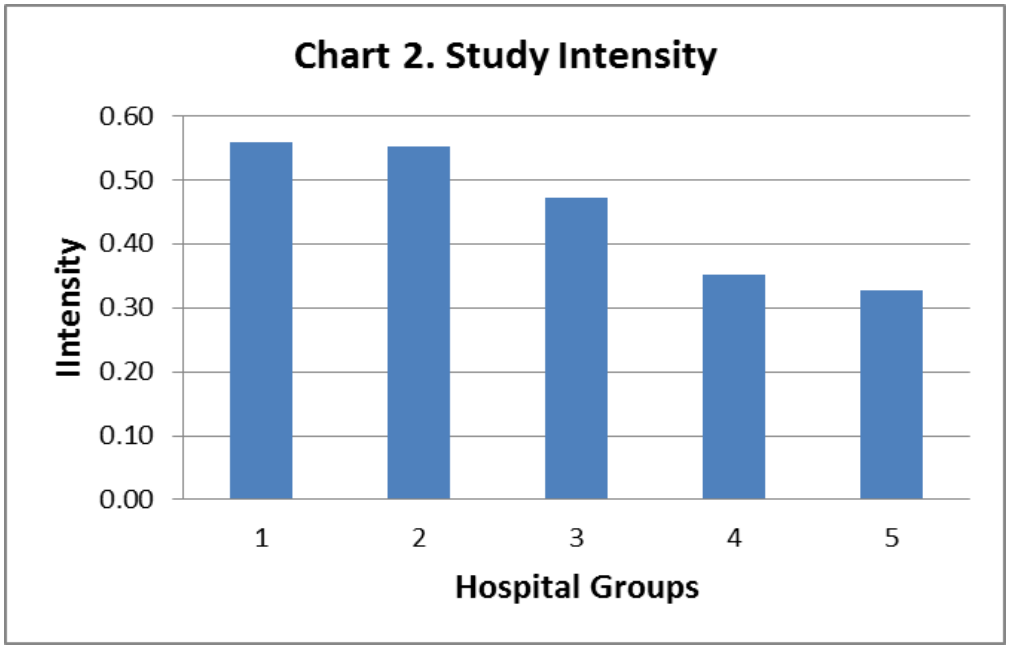
We divided the 49 hospitals into five groups. The first group consists of the 10 hospitals ranking highest for patient care. The fifth group consists of the nine hospitals ranking lowest for patient care. Keep in mind, however, that U.S. News ranked all 49 hospitals as excellent in at least one therapeutic category. To minimize the effect of data irregularities, we calculated median rather than mean scores for each group.

**Results**

As Chart 1 demonstrates, patient care scores declined dramatically from the first through the fifth group: 600, 385, 288, 220 and 57, respectively.




As Chart 2 demonstrates, the first two groups had high and comparable study intensities: 0.56 and 0.56 respectively. Intensity then dropped off in groups three, four and five: 0.47, 0.35 and 0.33, respectively.



As Chart 3 demonstrates, study intensity increased dramatically as patient care scores increased from 250 to 350.

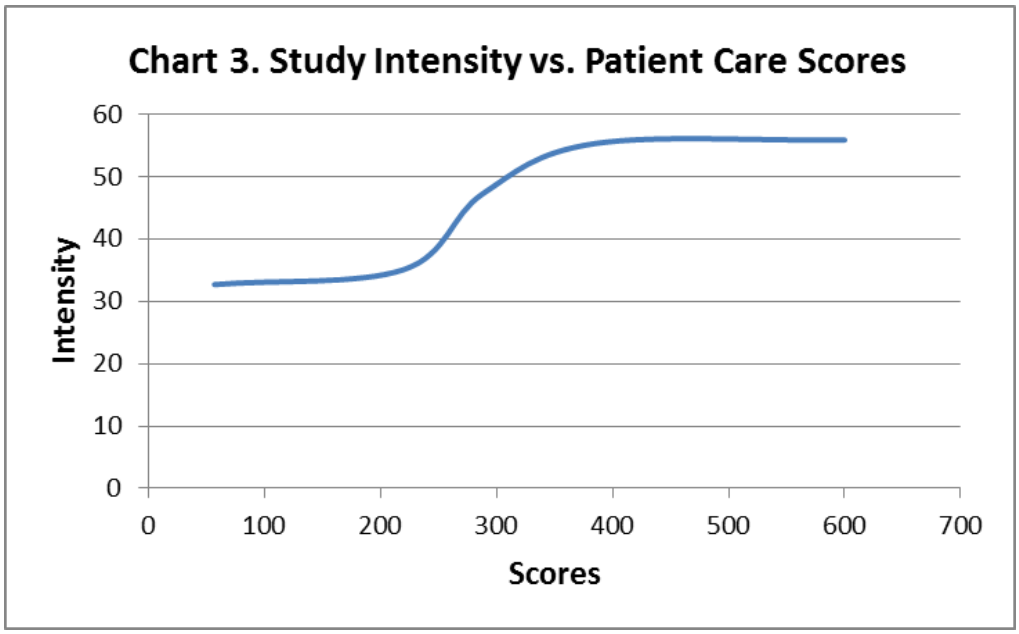
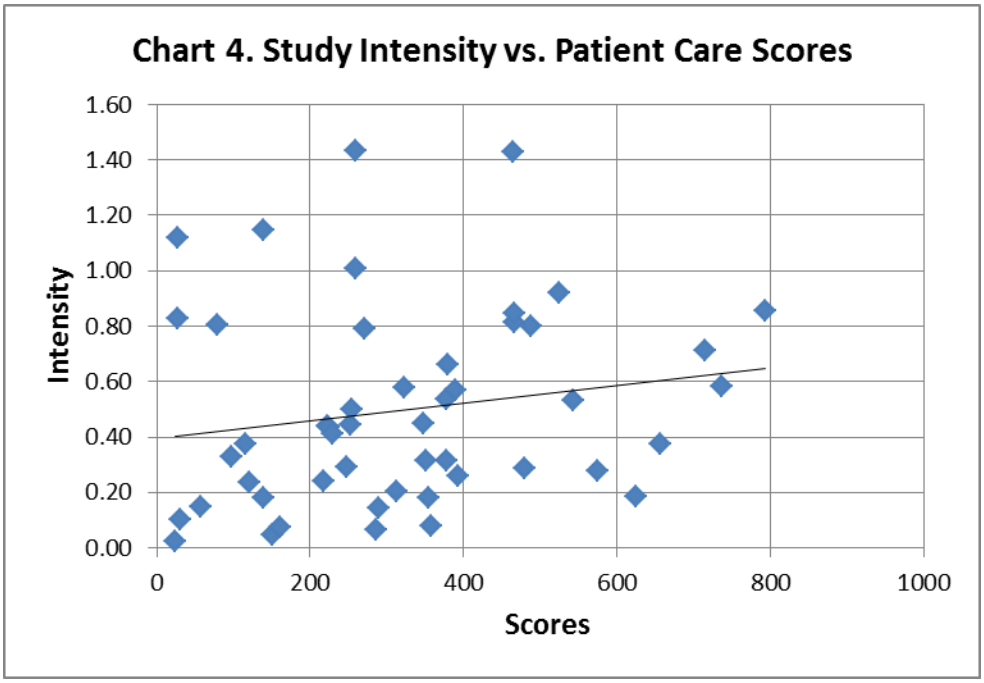



Chart 4 shows the data by hospital in scatter-chart format with a linear regression line (intercept = 0.39, slope = 0.00032). This chart shows that median values for five groups are more informative than individual hospital values.



As Chart 4 and Table 1 demonstrate, there is significant variation within each group. Some of the study intensity variation is, no doubt, due to strategic differences between hospitals. Part of the variation is also due to therapeutic area. For example, University of Texas M.D. Anderson Cancer Center has, by far, the highest intensity, probably due to the nature of oncology studies. The hospital with the second-highest intensity is Memorial Sloan-Kettering Cancer Center. Hospitals with the lowest intensities, e.g., the highly ranked New York-Presbyterian University Hospital of Columbia and Cornell, Loyola University Medical Center, and University of Pittsburgh Medical Center, may offer opportunities for more clinical research.

**Table 1. Hospital Data (Groups 1-3)**

| | Hospital | Studies | Beds | Intensity | Score |
|---|---|---|---|---|---|
| | **Group 1** | | | | |
| 1 | Johns Hopkins Hospital | 782 | 913 | 0.86 | 794 |
| 2 | Mayo Clinic | 662 | 1132 | 0.58 | 736 |
| 3 | Massachusetts General Hospital | 648 | 907 | 0.71 | 715 |
| 4 | Cleveland Clinic | 465 | 1239 | 0.38 | 656 |
| 5 | NY-Presbyterian Univ Hospital of Columbia & Cornell | 414 | 2261 | 0.18 | 625 |
| 6 | Loyola University Medical Center | 148 | 535 | 0.28 | 575 |
| 7 | Barnes-Jewish Hospital/Washington University | 676 | 1270 | 0.53 | 543 |
| 8 | Ronald Reagan UCLA Medical Center | 419 | 456 | 0.92 | 525 |
| 9 | Duke University Medical Center | 649 | 812 | 0.80 | 488 |
| 10 | UPMC-University of Pittsburgh Medical Center | 450 | 1567 | 0.29 | 479 |
| | **Median** | | | **0.56** | **600** |
| | **Group 2** | | | | |
| 11 | Brigham and Women's Hospital | 657 | 777 | 0.85 | 466 |
| 12 | Dana-Farber/Brigham and Women's | 657 | 807 | 0.81 | 466 |
| 13 | University of Texas M.D. Anderson Cancer Center | 815 | 571 | 1.43 | 465 |
| 14 | NYU Langone Medical Center | 202 | 786 | 0.26 | 392 |
| 15 | University of Michigan Hospitals and Health Centers | 500 | 880 | 0.57 | 390 |
| 16 | Hospital of the University of Pennsylvania | 512 | 772 | 0.66 | 380 |
| 17 | Thomas Jefferson University Hospital | 271 | 856 | 0.32 | 377 |
| 18 | UCSF Medical Center | 355 | 660 | 0.54 | 377 |
| 19 | Northwestern Memorial Hospital | 67 | 854 | 0.08 | 357 |
| 20 | Indiana University Health | 291 | 1597 | 0.18 | 354 |
| | **Median** | | | **0.55** | **385** |
| | **Group 3** | | | | |
| 21 | Methodist Hospital | 295 | 934 | 0.32 | 351 |
| 22 | Mount Sinai Medical Center | 460 | 1029 | 0.45 | 348 |
| 23 | Vanderbilt University Medical Center | 522 | 906 | 0.58 | 322 |
| 24 | Cedars-Sinai Medical Center | 188 | 931 | 0.20 | 312 |
| 25 | Ochsner Medical Center | 111 | 768 | 0.14 | 290 |
| 26 | St. Luke's Episcopal Hospital | 47 | 719 | 0.07 | 286 |
| 27 | University Hospitals Case Medical Center | 585 | 741 | 0.79 | 271 |
| 28 | University of Washington Medical Center | 399 | 396 | 1.01 | 260 |
| 29 | Stanford Hospital and Clinics | 684 | 477 | 1.43 | 259 |
| 30 | Yale-New Haven Hospital | 477 | 959 | 0.50 | 254 |
| | **Median** | | | **0.47** | **288** |

**Table 1. Hospital Data (Groups 4-5)**

| | Hospital | Studies | Beds | Intensity | Score |
|---|---|---|---|---|---|
| | **Group 4** | | | | |
| 31 | University of Minnesota Medical Center | 358 | 806 | 0.44 | 253 |
| 32 | University of Kansas Hospital | 177 | 606 | 0.29 | 247 |
| 33 | University of Maryland Medical Center | 308 | 752 | 0.41 | 230 |
| 34 | University of Iowa Hospitals and Clinics | 305 | 699 | 0.44 | 225 |
| 35 | Ohio State University Wexner Medical Center | 427 | 976 | 0.44 | 223 |
| 36 | Rush University Medical Center | 164 | 676 | 0.24 | 217 |
| 37 | Florida Hospital | 153 | 2083 | 0.07 | 161 |
| 38 | Tampa General Hospital | 46 | 1004 | 0.05 | 151 |
| 39 | Abbott Northwestern Hospital | 118 | 649 | 0.18 | 140 |
| 40 | Memorial Sloan-Kettering Cancer Center | 539 | 470 | 1.15 | 140 |
| | **Median** | | | **0.35** | **220** |
| | **Group 5** | | | | |
| 41 | Hackensack University Medical Center | 164 | 696 | 0.24 | 120 |
| 42 | Wake Forest Baptist Medical Center | 315 | 840 | 0.38 | 116 |
| 43 | St. Francis Hospital | 102 | 312 | 0.33 | 97 |
| 44 | University of Chicago Medical Center | 439 | 547 | 0.80 | 79 |
| 45 | Spectrum Health | 147 | 989 | 0.15 | 57 |
| 46 | Baystate Medical Center | 68 | 659 | 0.10 | 30 |
| 47 | Moffitt Cancer Center | 171 | 206 | 0.83 | 28 |
| 48 | City of Hope | 207 | 185 | 1.12 | 27 |
| 49 | High Point Regional Hospital | 8 | 335 | 0.02 | 24 |
| | **Median** | | | **0.33** | **57** |

## Conclusions

Although the direction of causation is unclear, high-quality patient care and high-intensity clinical research go hand in hand. Hospitals that provide high-quality patient care are in a good position to attract numerous clinical studies. Conversely, hospitals that conduct numerous clinical studies have advantages in delivering high-quality patient care. Hospitals that do not fit this model might want to understand the reasons why.

## Author

Norman M. Goldfarb is Managing Director of First Clinical Research LLC, a provider of clinical research best practices information services. Contact him at 1.650.465.0119 or ngoldfarb@firstclinical.com.