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Research Project Proposal

Traditional rankings or recommendations of physicians and clinics are often based on subjective reviews, for example, reviews on Yelp are written by previous or current patients. However, these reviews are composed more of comments on how friendly the staff was or how patient the doctor was, but does not include objective measures such as how effective the treatment prescribed by the physician was, how accurate the diagnosis was, etc. In addition, when patients are searching for a doctor through Google or some website like WebMD, they can filter through criteria such as location or specialty (pediatrician, neurologist, or cardiac surgeon), but are not presented with a uniform, systematic rating.

With the large amount of health data available through government surveys and clinical trials, we can use statistical models to objectively analyze value-of-care: measurable health outcomes per dollar spent.[1] One measure could be how effective doctors’ prescribed medications or surgeries are, based on quantitative stats such as recovery rates, survival time, etc. These stats could be further weighted by clinic demographics to avoid bias, since a clinic that accepts riskier patients may have a lower overall recovery rate. Furthermore, a performance rating system could be used to rank individual physicians or clinics, based on stats such as inpatient mortality rates, readmission rates, etc.

In terms of real world applications, a value-monitoring model would be very useful to all parties involved in the health care system. For patients, they can find the best doctors and treatments at an affordable cost. For insurance companies, knowing which clinics offer the most effective care can help them identify which claims to prioritize in processing, since they’ll know that it’s not just money wasted on unnecessary medical procedures. For hospitals, “peer benchmarking” would increase competition between hospitals to provide better care at a lower cost, as well as helping identify individual physicians that are not performing adequately.

Data Sources:

[www.healthdata.gov](http://www.healthdata.gov)

<https://www.cms.gov/> Center for Medicaid and Medicare Services

<https://www.data.gov/health/> Department of Health and Human Services

<http://seer.cancer.gov/data/>National Cancer Institute [Surveillance, Epidemiology, and End Results Program](http://seer.cancer.gov/) (SEER)

Preliminary Research Citations:

[1] <http://www.nejm.org/doi/full/10.1056/NEJMp1011024>

Porter, Michael E., Ph.D. "What Is Value in Health Care? — NEJM." *New England Journal of Medicine*. New England Journal of Medicine, 23 Dec. 2010. Web. 20 May 2016.

[2] <http://content.healthaffairs.org/content/16/3/7.full.pdf>

E A McGlynn, Six challenges in measuring the quality of health care*, Health Affairs* 16, no.3 (1997):7-21