

Efficiency Measures (Resource Utilization)

Why Efficiency in Health Care Matters

Efficiency is an attribute of performance that examines the relationship between a specific output of the healthcare system (e.g., a quality outcome for a patient) and the resources needed to create that output (e.g., costs).¹ Public reporting to-date has focused on the output component of efficiency – highlighting the quality of care hospitals are providing their patients. Measuring the resource requirements needed to produce that output is the next step in ensuring hospitals are providing care in an efficient manner.

Over the past 30 years, total U.S. spending on health care has more than doubled as a share of gross domestic product (GDP). According to Congressional Budget Office's (CBO) latest projections in its Long-Term Outlook for Health Care Spending, that share will double again by 2035, claiming more than 30 percent of GDP. This growth in spending is expected to continue into the foreseeable future, with an increasing portion of the nation's resources being spent on healthcare.

Although the aging of the population is frequently cited as the major factor contributing to the large projected increase in resources used for health care, it accounts for only a modest fraction of the growth that CBO projects. The main factor is excess cost growth, or the extent to which the increase in health care spending exceeds the growth of the economy. Substantial evidence exists that more expensive care does not always mean higher-quality care.²

The Leapfrog Group has historically focused on highlighting the variation in quality of care across hospitals. As the next step, Leapfrog aims to highlight hospitals' efficiency in producing that quality of care.

How Leapfrog Measures Efficiency

Hospitals are asked to report on efficiency of care for four procedures and conditions in the Leapfrog Hospital Survey - coronary artery bypass graft (CABG), percutaneous coronary intervention (PCI), acute myocardial infarction (AMI), and pneumonia.

Efficiency of care for each procedure and condition is a blend of a hospital's quality score for that procedure or condition with their resource utilization score for that procedure or condition.

The quality scores for CABG and PCI are a combination of

performance on national or regional measurement systems, state-wide outcome data (where available), or the survival predictor, hospital volume and process measures.

The quality scores for AMI and Pneumonia are determined by a hospital's performance on nationally recognized quality-of-care and safety process measures. A hospital's performance on a measure is compared to national performance thresholds to determine if a hospital exceeds the threshold for that particular measure. Each process measure is equally weighted and a hospital's overall score is related to the number of process measures that exceed the national performance thresholds. For details see Hospital Survey Reference Book available online.

The resource utilization score for the four procedures and conditions is based on a hospital's standardized, risk-adjusted, average length of stay for that procedure or condition inflated by the hospital's 14-day all-cause readmission rate for that condition.

Resource Utilization Measures

One method of measuring the consumption of resources is to look at a patient's length of stay in the hospital. A 2005 study compared California hospital patients' usage of hospital resources in their last two years of life. The study authors found the average length of stay at a particular hospital to be strongly tied to the Medicare inpatient reimbursements received by the hospital. The study also found significant variation across hospitals within the same geographic region in both the length of stay and the resources consumed for patients with the same condition utilizing the same treatment.³

Leapfrog measures resource utilization for a procedure or condition using a standardized, risk-adjusted, average length of stay inflated by the readmission rate. For each of the four procedures or conditions, hospitals are asked to report their geometric mean length of stay, the number of cases followed by any readmission to that hospital within 14 days for any cause, and a count of cases with certain risk factors present.

The risk-adjustment models Leapfrog is using to adjust the length of stay were developed by the Center for Health Systems Research and Analysis (CHSRA) at the University of Wisconsin – Madison. Details on these models and the chosen risk factors can be found in a white paper on Leapfrog's website.⁴

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CHSRA analyzed data from the 2004, 2005 and 2006 National Hospital Discharge Surveys (NHDSs) and constructed statistical models appropriate for risk adjustment of average lengths of stay reported by hospitals. Separate models were developed for each of four procedures and conditions: CABG, PCI, AMI and Pneumonia. These models are understandable, simple to apply and have a significant impact on hospital comparisons.

Why Purchasers Need to Get Involved

Quality of hospital care continues to be the hallmark of The Leapfrog Group's efforts. Since Leapfrog's inception, hospitals have taken great strides to implement proven quality and safety practices. But as a growing portion of resources are being spent on healthcare in the U.S., purchasers and consumers need to ensure that the quality care they have been asking for is being delivered as efficiently as possible. The addition of resource utilization measures and efficiency of care measures to the Leapfrog Hospital Survey will provide purchasers, consumers, and hospitals the critical data they need to help link quality of hospital care with the cost of care.

References

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