

How Well Do Performance Indicators Perform?

Abstract:

The evolution of quality improvement has been driven by the need to reduce errors and raise the standard of medical care. The publication of 2 reports by the Institute of Medicine (IOM) in 1999 and 2001 was the catalyst for change. The findings of both studies reported that there were preventable deaths in US hospitals and that the health system was failing to provide consistent high-quality care for all patients. The additional important step made by the IOM was the appreciation that errors were due to systems failure rather than individual mistakes. It tried to move away from blaming individual health care workers. This approach encouraged a more open, honest approach by hospitals when confronted with a medical mishap. It was appreciated that discussion and medical practice modification were the best way to prevent an error being repeated. In relation to clinical care, the principle of doing the right thing, at the right time, and in the right way was proposed. On foot of these deliberations the Joint Commission in the US in 2002 directed all accredited hospitals to collect performance data for patients with myocardial infarction, heart failure, pneumonia and pregnancy. This has now been further extended.

One of the mechanisms is to encourage hospital management to ask whether their hospital is doing a good job. In order to answer this question reliable tools are needed. The best tool is a performance indicator. The measures are mostly based on information from the patient's records or an operational process that is converted into a rate or a percentage. A good performance indicator, measure or metric should have 4 characteristics. It should be clinically important, be based on strong science, and have both usability and feasibility. Validity is the degree to which a measure documents what it is supposed to measure. It should be sufficiently robust to distinguish between good care and suboptimal care. The measure should also be reliable with low levels of inter observer variability when used by a wide range of individuals. The measure must have a goal. At the outset one must know whether you already have the data or whether you will have to set up a system to get it. It is a relatively new exercise and usually requires the institution to invest both time and resources. The investment is worthwhile because you can't improve what you don't measure.

The concept of performance measurement, which came from industry and business, has now been introduced into medical practice. Hospital managers have readily embraced it. It is pointed that it makes it possible to document the quality of care, to make comparisons between hospitals and between hospital departments. The process can also support accountability, regulation and accreditation.

On the other hand, physicians have been more questioning about the reliability of some performance indicators. This is understandable. Front-line doctors are primarily concerned with the patient's outcome rather than surrogate markers of outcome. Also doctors are frequently the subject of the quality measure. While some markers clearly have demonstrated benefit in terms of outcome, others have not been useful. High hand-washing rates are a good indication of hygiene and are associated with lower numbers of hospital-acquired infections. On the other hand, target arrival-discharge ED times have been met with criticism. There is little gain for a patient if he is seen and dealt with quickly but without a proper examination and correct treatment plan. The Mid-Staffordshire Inquiry found that in order to meet the 4 hour NHS target there were instances in which patients were being assessed by receptionists and unsupervised junior hospital doctors. On the other hand, the assessment of ED performance in relation to factors that affect the patient's immediate health for example time to treatment in acute asthma or time to first dose of antibiotics in suspected sepsis can be very helpful.

McGlynn and Adams² writing in JAMA have explored the relation between quality measures and clinical outcomes. They stress the need for continued, sustained efforts to produce metrics that reflect the operation and implementation of current healthcare. The comments are predicated by 2 recent papers that showed a lack of association between a performance indicator and patient outcome. The message is an important one. It is futile to continually promote and advocate for a performance indicator if it has little or no benefit to the patient.

Howell et al³ had studied elective, non-medically delivery at 37-39 weeks gestation and caesarean section in low risk women. The authors found that there was no correlation between these factors and maternal or neonatal morbidity. While this may seem surprising to many, it is pointed out that measuring quality of care in obstetrics is complex because it involves 2 individuals, the mother and the infant.

In the second paper Neuman et al⁴ evaluated the measure of discharging acute hospital patients to a skilled nursing facility (SNF). The outcome variable examined was readmission to an acute care hospital or death within 30 days of the index hospital discharge. The authors found that the measure of admitting patients to an SNF after acute hospital discharge did not reduce readmission to acute hospital care or mortality rates. These recent papers point out that even when a performance seems plausible at face value and it reaches its target, it may not have any significant benefit for the patient.

The measurement of clinical and operational performance will continue to develop, expand and become more sophisticated. It will inform on how best to care for patients. Choosing measures that ultimately benefit the patient will remain a big challenge. The only way of ensuring that the correct choice has been made is to determine whether

the acquisition of the performance indicator target has led to a better patient outcome.

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Editor

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2. McGlynn EA, Adams JL. What makes a good quality measure? *JAMA* 2014;312:1517-8
3. Howell EA, Zeitlin J, Herbert PL, Balbierz A, Egorova N. Association between hospital-level obstetric quality indicators and maternal and neonatal morbidity. *JAMA* 2014;312:1531-1541
4. Neuman MD, Wirtalla C, Werner RM. Association between skilled nursing facility quality indicators and hospital readmissions. *JAMA* 2014;312:1542-1551

Comments: