

Asthma Outcomes and Quality Metrics: Improving Health or Teaching to the Test?



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Parallel with the growth of managed medical care in the last century has been increased interest in measurements of “quality” as managed care organizations competed for insured lives, backed by government mandates. Characterization and quantitation of quality required outcomes that were numerically measurable metrics to permit comparisons of outcomes at institutions with diverse patient populations, in an effort to determine where care was best.

Early participants in managed medical care, one of which was the Kaiser Foundation Health Plans, played a leading role in the effort to improve patient outcomes. Kaiser Foundation Health Plans was also the predecessor of the institutional source of the article by Desai et al¹ that appears elsewhere in this journal.

In 1973, interest in quality measurement was substantially increased when Congress passed the federal Health Maintenance Organization Act. This required a quality assurance program for a managed care plan to be a federally qualified insurance plan,² an essential factor in financial survival.

In 1991, a group of health maintenance organizations, as they were then called, joined together. Later known as the Alliance of Community Health Plans, they released the first draft of a standard set of quality measurements—The Healthcare Effectiveness Data and Information Set (HEDIS)—in cooperation with its coalition members. In 1992, HEDIS was moved to the National Committee for Quality Assurance (NCQA), which assumed responsibility for further development, releasing HEDIS 2.0 in November 1993.

The NCQA was created as a nonprofit organization. The goal was to develop HEDIS as an evaluation tool to ascertain health plan performance across a range of criteria and to permit “plan-to-plan” comparisons³. But, as Berger et al³ went on to note in their 2004 study, HEDIS measurement was being used “not only for quality evaluation purposes but also in pay-for-performance reimbursement models.” They went on, “Since the HEDIS measurement set provides the basis for

so many of these activities, there is a great need to continually and systematically evaluate the scientific characteristics of the individual HEDIS metrics to ensure that they are valid and reliable and can be used to promote the highest quality of care.”

Today, there are more than 90 different HEDIS evaluation programs, covering various disorders. Important to those providing asthma care include the following⁴:

- Medication Management for People with Asthma (MMA): It assesses adults and children aged 5 to 85 years who were identified as having persistent asthma and were dispensed appropriate asthma-controlled medications that they remained on for at least 75% of their treatment period.
- Asthma Medication Ratio (AMR): It assesses adults and children aged 5 to 85 years who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications of 0.50 or greater during the measurement year.

The current NCQA Web site notes, “The prevalence and cost of asthma have increased over the past decade, demonstrating the need for better access to care and medication. Appropriate medication management for patients with asthma could reduce the need for rescue medication—as well as the costs associated with ER visits, inpatient admissions and missed days of work or school.”

The NCQA relied on the Centers for Disease Control and Prevention publication, *Vitalsigns*, to emphasize the magnitude of asthma, as a serious growing clinical problem.⁵ But this is also big business. Although a nonprofit, NCQA’s total revenue for 2016 was \$62,481,371,⁶ in isolation not much compared with that of the greatest driver of “quality” metrics, the US federal government. In 2016, Medicare spending alone was \$672.1 billion.⁷

In their current clinical communication, Desai et al¹ report on their findings from the evaluation of 18,554 subjects who met HEDIS-defined criteria for persistent asthma. They used pharmacy data to evaluate compliance with prescribed steroid controller use and adverse asthma events, and also assessed whether controller-only measures (MMA 75% or MMA 50%) identified reliably the risk for adverse asthma outcomes (hospitalization, rescue inhaler overuse, and oral corticosteroid dispensing).

As the same group reported in a similar study, published in 2015, compliance with prescribed controller therapy was not associated with improved asthma outcomes.⁸ As they observed in the current publication, “In contrast with long-held belief, multiple published studies have not been able to demonstrate a link between adherence to inhaled corticosteroids and improved asthma outcomes.”¹

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They did find a correlation between less rescue inhaler use, the fundamental metric of fewer than 7 short-acting β_2 -agonists (SABAs) (dispensing to a patient fewer than 7 SABA inhalers per year), and better asthma outcomes. They observed, “The SABA < 7 measure also associates with improved asthma outcomes and in fact, performs even better than the AMR.” The latter is another metric that also includes rescue inhaler use in its formula, unlike the MMA.

Compliance issues for asthma are arguably more complex than cancer screening at designated intervals. With a host of medications, environmental factors, and what seems like constantly changing formularies, standardized regimens that work at the population level are arguably not ideal for every patient. The GINA 2018 guidelines⁹ acknowledge this, stating, “Control-based management means that treatment is adjusted in a continuous cycle of assessment, treatment and review of the patient’s response in both symptom control and future risk (of exacerbations and side-effects).”

There is evidence of successful controller step-up regimens when symptoms increase. Is the MMA failing as a predictor because poorly controlled patients are using more SABAs and more controllers?¹⁰ Most asthma practitioners know the more rescue inhaler a patient uses the more concerning their status.

In 2015 Congress passed the Medicare Access and CHIP Reauthorization Act,¹¹ providing financial incentives to practitioners who meet concurrently established quality standards, based on, for example, patient scores on the Asthma Control Test and Asthma Control Questionnaire, and penalties to those who do not.

Registries have been established to evaluate provider accrued data,¹² but the usefulness of the Asthma Control Test and the Asthma Control Questionnaire in assessing uncontrolled asthma, and its reliability as a marker of quality and a guide to payment, has not been verified.^{13,14}

School teachers have been working with national performance standards based on test results under varied iterations of the No Child Left Behind Act passed in 2001 and reconfigured in 2015 as the “Every Student Succeeds Act.” Educational funds flow is impacted by test scores. Not surprisingly, teachers have been accused of spending instructional time on boosting test scores¹⁵ to enhance payments.

The findings by Desai et al¹ are remarkable, at variance with common medical wisdom that poor compliance is at the root of poor asthma control. Providers have been considered able to fix this problem, if they just did a better job, justifying payment rewards and penalties based on the results of tests with uncertain reliability for the purpose being used. But if Desai et al¹ are right, and they have at least 2 articles that show it, markers such as suboptimal controller use are not the most reliable way to establish patterns of optimal care.

To meet regulatory requirements, health care providers spend billions of dollars and untold hours gathering data, developing expensive information systems that have as a key focus facilitating collection of population data to qualify for incentives and avoid penalties. Meanwhile, the asthma rate in the United States

continues to climb.⁵ Desai et al¹ have shown that more consistent controller use is not the whole story. Perhaps allergen identification and environmental factors have a greater not lesser role to play in an era of what seems like a tide of new pharmacologic treatment options. Reliance on prescription controller therapy, along with how third parties assess, manage, and influence delivery of health care, would also appear to deserve an evidence-based look.

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