



# In the Literature

## THE FEASIBILITY AND VALUE OF NEW MEASURES SHOWING PATTERNS OF QUALITY FOR PATIENTS WITH THREE CHRONIC CONDITIONS

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A majority of diabetes and heart failure patients receive suboptimal care, according to a new Commonwealth–Fund supported study focusing on the patterns of quality of care delivered to 80,000 patients with diabetes, heart failure, or asthma.

In “[The Feasibility and Value of New Measures Showing Patterns of Quality for Patients with Three Chronic Conditions](#)” (*Journal of Ambulatory Care Management*, Jan.–Mar. 2008), researchers led by Stephen M. Davidson, Ph.D., of the Boston University School of Management, set out to demonstrate the feasibility of a novel way of measuring quality—using a “level of care” approach for measuring patterns of service to ascertain quality, rather than individual measures of performance.

To date, nearly all quality research has focused on whether or not one or more specific services were provided to patients with a particular condition. But focusing on individual measures of quality performance may limit efforts to improve care, the authors say. Taking a more comprehensive approach, the study adopted an “all-or-none” approach to assessing patient care. Under this approach, a patient’s care is of good quality only if he or she has received all the services recommended in standard treatment guidelines for a given condition.

### Five Levels of Care

The researchers analyzed four years of claims data to reflect patterns of services used in a single, large metropolitan market, focusing on more than 80,000 patients with asthma, diabetes, and heart failure. Their approach

was based on two assumptions: 1) optimal patterns of care exist for most patients with a chronic condition; and 2) patients may receive only some recommended services, therefore gradations of quality exist.

Five quality categories were created for each condition—“level I care” through “level V care,” with the higher levels representing better-quality care. For example, level I diabetes care was indicated by patients having no outpatient visits, no HbA1c test, and no continuity of hypoglycemic medications. Patients in level II care received only one of an outpatient visit, HbA1c test, or medication continuity, but nothing else. This continues on to level V care, where patients have used all desired services and have not had an emergency department visit or a hospitalization due to inadequate management of the condition.

### Quality Care Remains Elusive for Many Chronically Ill Patients

Using this level-of-care approach, the team found that between 1994 and 1997, 59 percent to 62 percent of heart failure patients and 66 percent to 75 percent of diabetes patients received care in the lowest two categories. Asthma patients did not fare as badly: nearly 40 percent were in the lowest two categories, but more than half were in the top two categories. Fewer than 16 percent of patients with heart failure and diabetes were in the top two levels of their respective categories.

Patterns tended to persist from year to year. Patients in the lowest level one year were likely to be in the same category for

all four years. For instance, 51 percent of patients with diabetes who were in the level I category in 1994 were in the same category in 1995, 46 percent in 1996, and 43 percent in 1997. This finding “indicates that health care providers in the study market had not succeeded in moving large amounts of the patients they saw to higher levels,” say the researchers.

### Conclusions

The authors believe their measures effectively differentiate the care received by groups of patients with the three chronic conditions studied. “The levels of care approach to quality measurement can help caregivers and policymakers find methods for

avoiding unnecessary utilization and expenditures while raising—not lowering—the probability that utilization patterns will conform to condition-specific recommended care,” they conclude.

The study data, which represent the combined experience of all private insurers and Medicare in a single market, show that many patients did not receive appropriate services for the management of their chronic conditions. While noting their data are more than 10 years old, the researchers say that more recent national ambulatory care studies as well as reports from the National Committee for Quality Assurance make it clear that the problem persists.

**Percent of Patients with Asthma, Heart Failure, and Diabetes Receiving Level I Through Level V Care, 1994–1997**

	1994	1995	1996	1997
<b>Patients with asthma (N = 5,840)</b>				
Level I care	36.5	34.4	33.6	33.9
Level II care	3.0	3.8	4.2	4.4
Level III care	3.2	3.1	2.9	3.0
Level IV care	52.8	49.5	47.4	45.5
Level V care	4.6	9.2	12.0	13.2
<b>Patients with heart failure (N = 2,885)</b>				
Level I care	54.3	50.6	51.1	51.9
Level II care	7.6	8.6	9.5	8.3
Level III care	29.6	26.2	25.6	24.0
Level IV or V care	8.5	14.6	13.8	15.8
<b>Patients with diabetes (N = 11,505)</b>				
Level I care	15.9	14.6	15.1	15.8
Level II care	58.8	56.7	52.8	50.2
Level III care	21.1	22.5	23.9	23.7
Level IV or V care	4.1	6.3	8.1	10.3

Note: Level I care represents the *lowest-quality* level of care; Level V represents the *highest-quality* level.

Source: Adapted from S. M. Davidson, M. Shwartz, and R. S. Stafford, “The Feasibility and Value of New Measures Showing Patterns of Quality for Patients with Three Chronic Conditions,” *Journal of Ambulatory Care Management*, Jan.–Mar. 2008, 31(1):37–51.