

Health Economics Program

Trends in Minnesota Hospital Quality

Background

The quality of hospital care has received considerable attention from policymakers in recent years. Several programs have developed to measure quality and provide incentives for the delivery of better care. For example, the 2003 Medicare Modernization Act provided financial incentives for acute care hospitals to report on ten quality measures related to heart attack, heart failure, and pneumonia care. These measures assess how often recommended care (such as giving aspirin to heart attack patients) is delivered when it is appropriate. Hospital performance on these measures is published on the Centers for Medicare and Medicaid Services' (CMS) Hospital Compare website. 98 Minnesota hospitals currently report at least some information on quality through the Hospital Compare program. This issue brief summarizes the trends in Minnesota hospital performance on available measures for the most recent two full years of data available—referred to as year one (July 2004-June 2005) and year two (July 2005-June 2006). The most recent data are also published on a website that is maintained by the Minnesota Hospital Association, www.mnhospitalquality.org.

Results

Figures 1-3 show Minnesota's statewide performance on the ten measures in both year one and year two, along with the year two national average.

Figure 1

Minnesota Performance on Heart Attack (AMI) Hospital Compare Measures

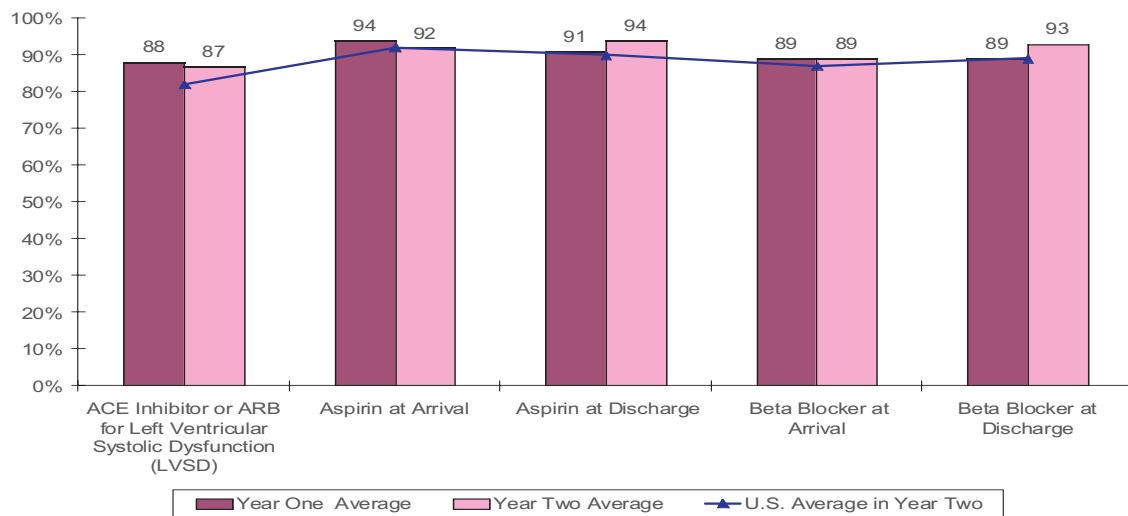


Figure 2

Minnesota Performance on Heart Failure Hospital Compare Measures

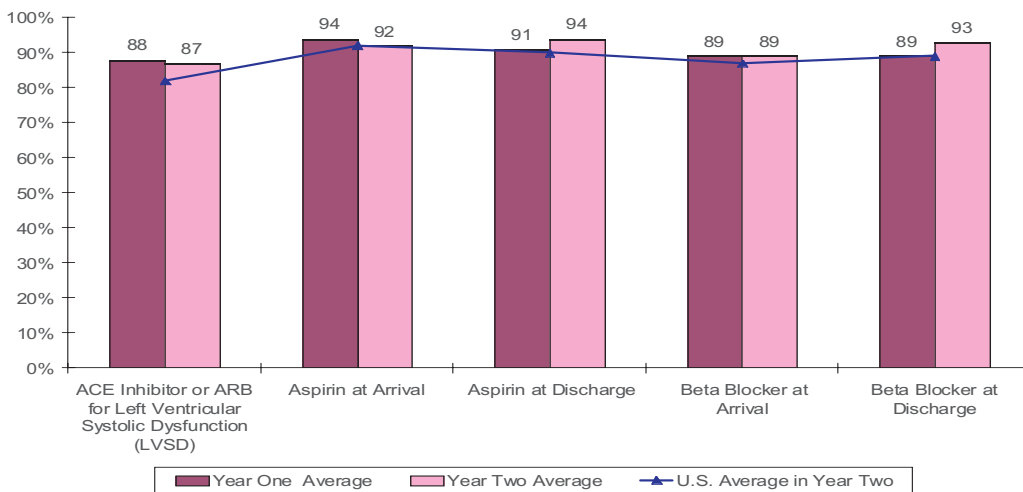
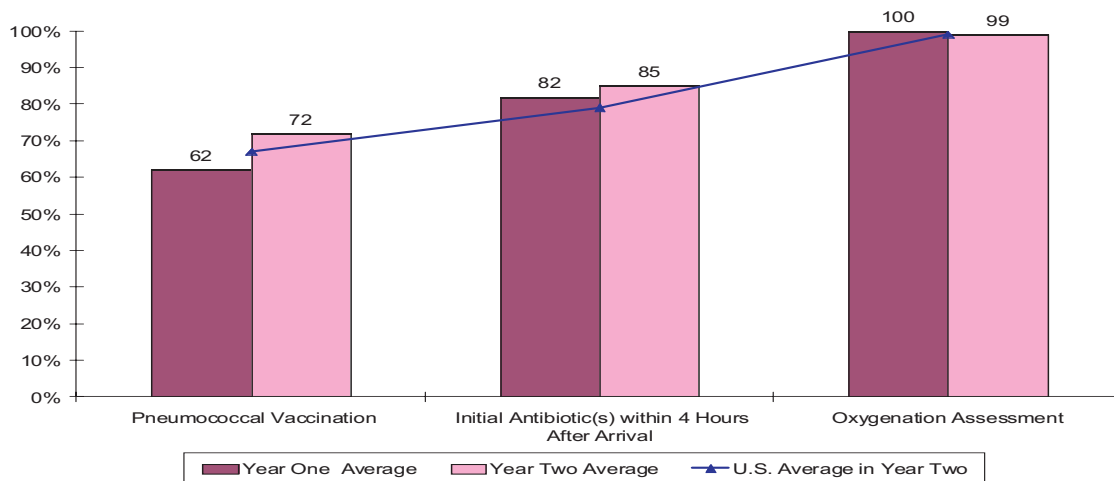


Figure 3

Minnesota Performance on Pneumonia Hospital Compare Measures



Statewide and national averages were computed by CMS as simple, unadjusted means—the sum of hospital scores was divided by the total number of reporting hospitals. Hospitals that reported incomplete or inaccurate data were excluded from the average calculations. Hospitals with complete, accurate data were included in the state and national averages regardless of how many patients were measured; however, individual hospital measures representing fewer than 25 patients are not reported by CMS in Hospital Compare and are not included in the analysis presented here. Critical access hospitals (CAHs) were included if their measures represented 25 or more patients; however, CAHs do not receive any financial incentives to participate in Hospital Compare.

Average statewide performance in Minnesota improved for six of the ten measures between year one and year two.

Trends in Minnesota Hospital Quality

Minnesota's average performance in year two was above the national average for seven of the ten measures.

Table 1 shows, for each measure, the percentage of hospitals that improved by more than 5 percentage points from year one to year two, declined by more than 5 percentage points from year one to year two, and showed no change (year two remained within 5 percentage points of year one performance).

Table 1

Minnesota Hospital Performance on Hospital Compare Measures
Year 1 - Year 2

Measure	Number of Measurable Hospitals	Within 5 Percentage Points	Improvement of more than 5 Percentage Points	Decline of more than 5 Percentage Points
Heart Attack Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	12	58% (7)	25% (3)	17% (2)
Heart Attack Patients Given Aspirin at Arrival	27	93% (25)	7% (2)	0
Heart Attack Patients Given Aspirin at Discharge	20	90% (18)	0	10% (2)
Heart Attack Patients Given Beta Blocker at Arrival	28	72% (20)	21% (6)	7% (2)
Heart Attack Patients Given Beta Blocker at Discharge	21	90% (19)	5% (1)	5% (1)
Heart Failure Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	20	60% (12)	20% (4)	20% (4)
Heart Failure Patients Given Assessment of Left Ventricular Function (LVF)	58	54% (31)	36% (21)	10% (6)
Pneumonia Patients Assessed and Given Pneumococcal Vaccination	60	27% (16)	67% (40)	6% (4)
Pneumonia Patients Given Initial Antibiotic(s) within 4 Hours After Arrival	62	52% (32)	35% (22)	13% (8)
Pneumonia Patients Given Oxygenation Assessment	68	96% (65)	1% (1)	3% (2)

The number of measurable hospitals varies because 25 patients were required in both years for each measure. As a result, there are more measurable hospitals for relatively common conditions like pneumonia and fewer for some of the heart attack and heart failure measures.

Overall, most hospitals remained stable on most measures from year one to year two. The measure with the largest portion of hospitals showing improvement over time was the percentage of pneumonia patients assessed and given pneumococcal vaccination; 67% of the 60 measurable hospitals improved their performance by more than 5 percentage points on this measure. A considerable portion of measurable hospitals (36%) also improved their performance on the percentage of heart failure patients given assessment of left ventricular function and the percentage of pneumonia patients given initial antibiotic(s) within 4 hours after arrival (35%).

An important policy question is whether quality improvement was concentrated at the top or bottom of the distribution. In other words, among the hospitals that showed improvement over time, what portion were above or below average at baseline?

The 40 hospitals that showed improvement in their pneumococcal vaccination rates were roughly evenly split in their baseline performance; 21 were above the statewide average in year one and 19 were below.

Similarly, 38% of the 21 hospitals that improved their performance on the percentage of heart failure patients given ACE inhibitor or ARB for left ventricular systolic dysfunction were above average in year one, and 62% were below. However, 82% of the 22 hospitals that improved their performance on the percentage of pneumonia patients given initial antibiotics within 4 hours were below average at baseline.

Conclusion

This initial trend analysis of Minnesota hospitals' performance on the Hospital Compare "starter set" measures from July 2004 to June 2006 provides a great deal of encouraging news about hospital quality. First, average statewide performance improved for the majority of the measures, and Minnesota performed above the national average for most measures. At the individual hospital level, few hospitals' performances declined by more than five percentage points between year one and year two. Additionally, improvement happened at both the top and bottom of the distribution of baseline performance.

This analysis does provide some cause for concern and continued monitoring. The statewide average percentage of heart failure patients given evaluation for left ventricular function improved very little over time and was well below the national average. Statewide performance on this measure should be followed to ensure that Minnesota hospitals are improving the care delivered to heart failure patients.

These data do have important limitations. The Hospital Compare measures suffer from a limitation that is common in quality measurement: the performance of hospitals that treat fewer than 25 patients with a given condition each year cannot be accurately assessed. As a result, small hospitals are systematically excluded from quality measurement. Additionally, the Hospital Compare measures are process based and hence do not directly measure improvements in patient outcomes. However, the clinical relevance of these measures is well established and widely agreed upon and they do provide important insight into the quality of patient care.

The Hospital Compare database will continue to be a valuable resource for tracking hospital quality over time. Future data releases will allow for the analysis of additional time periods for the measures reported on in this brief. The database will also provide trend information on measures not discussed here, including rates of smoking cessation counseling and use of antibiotics to prevent surgical infection, and eventually, patient satisfaction.

For those who wish to review more detailed analysis, an [online technical appendix](#) to this document plots each hospital's performance by measure between year one and year two. A [detailed spreadsheet](#) is also included in the appendix.

The Health Economics Program conducts research and applied policy analysis to monitor changes in the health care marketplace; to understand factors influencing health care cost, quality and access; and to provide technical assistance in the development of state health care policy.

For more information, contact the Health Economics Program at (651) 201-3550. This issue brief, as well as other Health Economics Program publications, can be found on our website at: <http://www.health.state.mn.us/healthconomics>

Minnesota Department of Health
Health Economics Program
85 East Seventh Place, P.O. Box 64882
St. Paul, MN 55164-0882
(651) 201-3550

