

## Case Study

# Looking Behind the Top Heart Failure Mortality Rating at Maimonides Medical Center

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*"We have a very supportive organizational approach to looking at what we do for patients, understanding it, and looking and what we need to do to make it better. We're never satisfied."*  
- Sheila J. Namm, J.D.,  
R.N., M.A., Vice  
President of Professional  
Affairs

**Summary:** *A heart failure program implemented at an independent teaching hospital appears to have lowered readmission and mortality rates for these patients, suggesting that other institutions can improve their health outcomes for this condition.*

**By** Vida Foubister

### Issue

In June 2007, the Centers for Medicare and Medicaid Services (CMS) released mortality rates among Medicare beneficiaries hospitalized for heart attack or heart failure, ranking hospitals across the country as "better than the U.S. national rate," "no different than the U.S. national rate," and "worse than the U.S. national rate." Our analysis of the data on the Hospital Compare Web site led us to identify three, out of the nearly 5,000 hospitals participating, that ranked better than the national average for the treatment of both heart attack and heart failure: Cleveland Clinic's Hillcrest Hospital, Maimonides Medical Center in Brooklyn, N.Y., and New York–Presbyterian Hospital.

This case study examines the quality improvement efforts behind Maimonides' ranking, in particular a Congestive Heart Failure (CHF) Program implemented in 1999. Through this analysis, we explore what influence public reporting of hospital mortality rates is likely to have on patient outcomes.

### Organization

[Maimonides Medical Center](#) is a 705-bed, tertiary care hospital that serves a diverse community in southern Brooklyn, N.Y. Almost 50 percent of patients seen at the hospital were born outside of the U.S.; patients speak many different languages and represent many different cultures. Founded in 1911, Maimonides was later named after Rabbi Moshe Ben Maimon, a 12th-century philosopher committed to cultural tolerance and humane care.

The nonprofit, independent hospital includes Maimonides Cancer

Center, Maimonides Infants & Children's Hospital of Brooklyn, Stella and Joseph Payson Birthing Center, ACE (Acute Care for Elderly) Unit, Stroke Center, and Cardiac Institute. It is a teaching hospital affiliated with Mount Sinai School of Medicine, SUNY-Brooklyn, the New York College of Osteopathic Medicine, and St. George's University.

### **Target Population**

Maimonides serves a community with a large elderly population. Patients who come through its emergency department, for example, are a decade older on average than those seen in other urban hospitals. Heart failure is a common diagnosis among this population and, each year, the hospital has more than one thousand discharges for primary heart failure and several thousand for secondary heart failure. Nearly 5 million people in the United States suffer from heart failure, the leading cause of hospitalization among older Americans.

### **Key Measures**

Hospital Compare reports participating hospitals' comparative performance on 30-day, risk-adjusted mortality rates for Medicare patients hospitalized for either heart attack or heart failure, and will do so next year for pneumonia as well. CMS bases these mortality rates on a complex statistical model that relies on Medicare claims and enrollment information to predict patient deaths for any cause within 30 days of hospital admission (see the [Hospital Compare Web site](#) for further details).

Prior to the release of the CMS data in June, Maimonides had been benchmarking its outcomes among physicians in the hospital and with other hospitals. As part of the CHF program, the hospital has tracked heart failure patients' readmission rates since 1999.

Also, Maimonides has been following its mortality rates in this area and others through [HealthGrades](#), a private health care ratings organization, and the [New York State Hospital Report Card](#). HealthGrades' rating methodology is proprietary, but it is based on the most current three-year data set available from CMS and states that make such data available. The N.Y. Report Card, released by the Alliance for Quality Health Care and the Niagara Health Quality Coalition, uses a risk-adjustment methodology developed by the 3M Corporation to analyze administrative data.

Maimonides gathers information on these mortality rates and has long gathered information on the hospital's processes of care—both internally and from external sources including CMS, New York State, Hospital Quality Alliance, Joint Commission, and [IPRO](#), the Medicare quality improvement organization for New York State—to create an internal report for use in hospital-wide performance initiatives. This report is available to Maimonides leadership, physicians, and staff, through the second quarter of 2007, on its internal Web site.

### **Implementation Timeline**

Norbert Moskovits, M.D., associate director of clinical cardiology, led the implementation of the Congestive Heart Failure Program in 1999 and serves as its director.

### **Process of Change**

Maimonides' performance improvement committee, which includes the CEO, COO, vice president, clinical department chairs, nursing directors, and representatives from clinical support departments including respiratory and pharmacy, meets monthly to review performance across the hospital and choose areas for improvement.

The Maimonides CHF program was established to create a new treatment protocol that provides heart failure patients with prompt and appropriate treatment in the hospital, and includes follow-up care after discharge. Its goal is for every patient with a primary or secondary diagnosis of heart failure to be seen by the CHF team. This team includes two staff physicians, three to four nurse practitioners, and two registered nurses. Each team member has specific duties, and together they assess and create an individualized treatment plan for each patient.

The program's first goal is to identify all patients with heart failure within a few hours of their arrival to the emergency department. Nurse practitioners review patients referred to the program by their physicians and use the hospital's computer system to search for additional patients admitted with heart failure or a related diagnosis code. Each patient who is identified receives a visit from the nurse practitioner, who assesses whether further attention from other team members is necessary. Patients are also identified through emergency department visits, based on heart failure symptoms in cases where a diagnosis is lacking. Echocardiology staff collaborate with the CHF team, alerting nurse practitioners to patients with fluid accumulating around the heart.

"In the past, that was the biggest problem," says Moskovits. "Some of these patients slipped through. We spent a lot of time putting into place procedures where we can reliably identify all the patients with heart failure."

A second goal is to provide heart failure patients with evidence-based medical treatments and interventions to improve their outcomes. Nurse practitioners see patients for an initial evaluation in the hospital; CHF team physicians then consult

with patients, referring them for further interventions as necessary. A significant aspect of their inpatient care is ensuring that heart failure patients are taking the right medications, at the right doses.

"There are several medications available that improve symptoms, decrease rehospitalization, and improve survival," says Moskovits. These include ACE (angiotensin converting enzyme) inhibitors, angiotensin receptor blockers (ARBs), beta blockers, aldosterone antagonists, and diuretics. The provision of the first two are appropriate care measures tracked by IPRO.

The third goal grew out of the realization that patients were having difficulties understanding their discharge instructions and complying with their medication regimens once they left the hospital. A standardized, patient-focused instruction sheet was created to provide patients with clear information on their disease and continuing treatment. This sheet can be customized, reflecting the individual health status of each patient (accounting for disease severity, comorbidities, and other medications). Nursing team members also work to educate patients and their caregivers, both in the hospital and after discharge. The CHF team follows up with patients by telephone once they are home to make sure they are complying with their medications and maintaining an appropriate diet. If necessary, changes in their treatment plan—such as switching to a more affordable medication—are made. (As heart failure is a chronic disease, many patients continue to follow up with Maimonides physicians, both in the hospital and their private offices, for the rest of their lives.) Patients can also participate in a monthly support group.

## Results

Maimonides' rehospitalization rates for heart failure patients had been between 18 to 20 percent for many years prior to the implementation of the CHF program in 1999. The following year, that rate decreased to 6.75 percent and has remained between 6 and 8 percent (see [Chart 1](#)).

CMS, which together with the Hospital Quality Alliance ranked 4,807 hospitals for the treatment of heart failure, found the U.S. national 30-day risk standardized mortality rate was 11 percent. Maimonides' was 8.5 percent, placing it among the 38 hospitals that had an adjusted mortality rate lower than the U.S. rate in the 12-month period from July 2005 through June 2006. The agency also ranked Maimonides better than the national average for all U.S. hospitals reporting process of care measures for heart failure patients, based on discharges from October 2005 through September 2006. These measures show, in percentage form or as a rate, how often a health care provider gives recommended care. Specifically, at Maimonides: 92 percent of heart failure patients were given ACE inhibitor or ARB for left ventricular systolic dysfunction (vs. 83 percent nationally); 95 percent of heart failure patients were given an evaluation of left ventricular systolic function, if appropriate (vs. 83 percent nationally); 83 percent of heart failure patients were given discharge instructions, if appropriate (vs. 61 percent nationally); and 89 percent of heart failure patients were given smoking cessation advice/counseling, if appropriate (vs. 82 percent nationally). Although Maimonides performed better than the national average, it did not rank in the "Top Hospitals" category—the top 10 percent of hospitals nationwide—for these process of care measures.

State data released as part of the New York

State Hospital Report Card show Maimonides' mortality rate for heart failure patients (3.1 percent) was below the risk-adjusted state average (4.3 percent) in 2005.

Maimonides also monitors its heart failure mortality rates using HealthGrades data. Since 2002, it has performed "better than expected" for both in-hospital and 180-day mortality, with the exception of an "as expected" in-hospital mortality ranking in 2006 (see [Chart 2](#)).

## Implications

Maimonides, which has both an organization-wide and a department-specific approach to quality, began tracking process measures, quality indicators, and core measures "long before public reporting became the norm," says Sheila J. Namm, J.D., R.N., M.A., vice president of professional affairs. "All that we do as an organization, to treat patients and support the people that take care of patients, is focused on the outcomes that are appropriate for each patient." The hospital has been working with IPRO on its appropriate care measures, including some related to acute myocardial infarction and heart failure, and with the Institute for Healthcare Improvement on reducing ventilator-associated pneumonia and central line infections.

Public reporting of outcome measures can serve as an incentive for physicians and other caregivers to provide evidence-based medicine within established guidelines and document their provision of this care, says Moskovits. "It all comes down to something that's been known for many years: if you practice evidence based medicine, your outcomes will be better."

Maimonides works to support its clinical staff and provides physicians with valid and

valuable data to promote quality improvement throughout the hospital, says Namm. These efforts receive a “tremendous amount of support” from the CEO and COO, as well as an active board of trustees “that is very interested in clinical care and outcomes.”

“We have a very supportive organizational approach to looking at what we do for patients, understanding it, and looking at what we need to do to make it better,” she says. “We’re never satisfied.”

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**For Further Information**

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