

# β-Blocker at Discharge Cuts HF Mortality by Half

*Despite the positive outcomes, the therapy isn't part of the ACC/AHA inpatient performance measures.*

BY BRUCE JANCIN  
Denver Bureau

ATLANTA — Pre-discharge initiation of β-blocker therapy in patients with heart failure and left ventricular systolic dysfunction halved mortality during the next 60-90 days among 5,791 patients in a registry, Dr. Gregg C. Fonarow reported at the annual meeting of the American College of Cardiology.

Inpatient initiation of β-blocker therapy ought to be considered a standard of care in heart failure management, according to Dr. Fonarow, professor of medicine at the University of California, Los Angeles, and director of the Ahmanson-UCLA Cardiomyopathy Center.

The treatment has all the elements of an ideal clinical performance measure for use in quality improvement and pay-for-performance programs.

And yet it was not included among the five inpatient performance measures for adults with chronic heart failure that were recently published by an ACC/American Heart Association (AHA) task force. That is an oversight, and the issue deserves to be revisited, Dr. Fonarow said.

He reported on 5,791 heart failure patients in 91 U.S. hospitals who comprised a prespecified subgroup with prospective follow-up among enrollees in the Organized Program to Initiate Lifesaving Treatment in Hospitalized Patients with Heart Failure (OPTIMIZE-HF) registry.

Of the 53% who had left ventricular systolic dysfunction, 90% were deemed eligible for β-blocker therapy at discharge. And of those eligible, 84% were actually discharged on a β-blocker, and 93% of those remained on the drug at 60- to 90-day follow-up.

Postdischarge 60- to 90-day all-cause mortality in patients eligible for β-blocker therapy who weren't discharged on it was 11.1%, with a combined rate of death or rehospitalization of 42%.

A risk-adjusted multivariate analysis showed that discharge on a β-blocker was associated with a highly significant 49% reduction in all-cause mortality and a 28% reduction in death or rehospitalization, compared with rates in the eligible-but-untreated group.

Dr. Fonarow stressed that when he and his coinvestigators applied the five recently published ACC/AHA performance measures to the OPTIMIZE-HF cohort of

nearly 6,000 patients, none of the five predicted 60- to 90-day mortality, and only one—discharge on an angiotensin-converting enzyme inhibitor or angiotensin receptor blocker (ARB)—was associated with a significant reduction in the combined death or rehospitalization end point.

In addition to discharge on an ACE inhibitor or ARB, the other current ACC/AHA inpatient performance indicators are the evaluation of left ventricular systolic function, the issuance of discharge instructions, smoking cessation advice/counseling, and discharge anticoagulation for heart failure patients with atrial fibrillation.

The ACC/AHA task force considered including β-blockade as an inpatient performance measure but elected not to on the grounds that “the complexities of establishing the right conditions under which stable HF patients would be included in the measure minus the exclusions would result in so small a denominator that the measure would not be meaningful at this time” (J. Am. Coll. Cardiol. 2005;46:1144-78). But this was an assumption not based on data—and the OPTIMIZE-HF experience undercuts the task force's rationale, Dr. Fonarow said in an interview.

“Here in OPTIMIZE-HF are the actual prospective data showing that a large num-

ber of patients qualify for β-blocker therapy, the tolerability is phenomenal, and it's the most important measure with respect to outcome prediction in terms of death and rehospitalization.

“So if you were to ask in terms of actual data what would be the most important performance measure for heart failure at the time of discharge, it would be β-blocker therapy, followed by ACE inhibitor/ARBs,” he said.

Although the other current performance measures may be important in terms of long-term care, the finding that they do not improve 60- to 90-day mortality or rehospitalization means they do not address the highest priority issues, Dr. Fonarow continued.

Task force member Dr. Kim A. Eagle, the clinical director of the University of Michigan Cardiovascular Center, Ann Arbor, said in an interview that it is unclear whether the group will reconsider adding inpatient β-blocker therapy as a heart failure performance indicator.

There is a concern that starting the therapy too early—before a patient is stabilized—can have adverse consequences, he added.

The OPTIMIZE-HF registry is funded by GlaxoSmithKline. Last year, the registry was incorporated into AHA's ongoing Get With The Guidelines-Heart Failure project. ■

## Adherence to JCAHO Measures Boosts Heart Failure Survival

BY MITCHEL L. ZOLER  
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MADRID — The four criteria now used to measure hospitals' performance in treating patients with heart failure also have a significant impact on patient survival, based on a review of more than 2,000 patients.

In 2002, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) set four core measures for the assessment of the quality of heart failure management.

“To our knowledge, this is the first report showing that adherence to the JCAHO heart failure core measures improves 1-year survival following hospitalization for heart failure,” Dr. A.G. Kfoury said at the annual meeting of the International Society for Heart and Lung Transplantation.

“The data show that these four cheap interventions can have an impact on patient outcomes,” said Dr. Kfoury, who is the medical director of the Utah Transplantation Affiliated Hospitals cardiac transplant program, and associate director of the heart failure prevention and treatment program at LDS Hospital in Salt Lake City.

The four performance measures are: discharge instructions to patients on heart

failure management, including medications, diet, and weight control; assessment of left ventricular function or scheduling an assessment at discharge; treatment with an ACE inhibitor or angiotensin receptor blocker (ARB) at discharge; and instructions on smoking cessation at discharge.

To determine how the application of these four measures correlated with patient survival, Dr. Kfoury and his associates reviewed the records of 2,144 patients who were discharged with a primary diagnosis of heart failure and left ventricular dysfunction from 20 hospitals within the Intermountain Healthcare system from January 2003 to May 2005. The primary end point of the analysis was death during the 12 months following hospital discharge.

Because 90% of the patients were non-smokers, one analysis excluded the smoking cessation measure and focused on the application of the other three criteria.

About 43% of patients received all three interventions, and another 39% of the patients received two of the interventions. Some 3% of patients received none of the interventions. When only one intervention was used, it was most often prescription of an ACE inhibitor or ARB.

The second most commonly used intervention was assessment of left ven-

tricular function. Patient education was applied less often.

According to an analysis that adjusted for patients' age, gender, and severity of illness, patients who received none of these three interventions had about a 25% mortality rate during the 12 months following hospital discharge. Patients who received one or two interventions had about a 15% mortality rate, and patients who received all three interventions had about a 10% mortality rate.

When differences between these subgroups were analyzed statistically, patients who received two or three of the JCAHO-prescribed interventions had a significantly improved 12-month survival, compared with the patients who did not, Dr. Kfoury said.

A second analysis looked at the impact

of all four interventions, including counseling on smoking cessation. The pattern was quite similar to the previous analysis: Patients who received all four interventions at discharge had a 5% mortality rate over the next 12 months. Those who received none of the interventions had a 25% mortality rate.

“These results should be an impetus to implement these simple but effective measures,” said Dr. Kfoury.

“Most patients get one or more of the interventions, but patients do not always get all of them.”

Treatment with an ACE inhibitor or ARB at discharge has become standard practice, but patient education at discharge is a strategy that's been used only for a few years and needs to become more widely used, he added. ■

### INDEX OF ADVERTISERS

<b>Accumetrics</b>		<b>GE HealthCare</b>	
VerifyNow	11	MYOVIEV	24a-24b
<b>Actelion Pharmaceuticals US, Inc.</b>		<b>Novartis Pharmaceuticals Corporation</b>	
Corporate	12	Diovan	3-4
Tracleer	28a-28d	<b>Nuance Communications, Inc.</b>	
<b>Astellas Pharma US, Inc.</b>		Dragon Healthcare Solutions	27
Corporate	30-31	<b>Pfizer Inc.</b>	
<b>AstraZeneca Pharmaceuticals LP.</b>		Celebrex	9-10
Crestor	35-36	Caduet	18-21
<b>Biosite</b>		<b>Reliant Pharmaceuticals, Inc.</b>	
Triage BNP Test	24	Omacor	12a-12b
<b>CV Therapeutics, Inc.</b>		<b>Sankyo Pharma, Inc.</b>	
Ranexa	7	Benicar	32a-32d
<b>Delphi Medical Systems</b>		<b>Scios Inc.</b>	
Medical Equipment	22,23	Natrecor	14-16