Strategies to Improve the Use of Evidence-Based Heart Failure Therapies: OPTIMIZE-HF

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Patients with heart failure face a very high risk of hospitalizations and mortality. Despite the compelling scientific evidence that angiotensin-converting enzyme inhibitors, ß-blockers, and aldosterone antagonists reduce hospitalizations and mortality in patients with heart failure, these life-saving therapies continue to be underutilized. A number of studies in a variety of clinical settings have documented that a significant proportion of patients with heart failure are not receiving treatment with these guideline-recommended, evidence-based therapies when guided by conventional care. Treatment gaps in providing other components of heart failure patient care, including patient education, have also been documented. The demonstration that initiation of cardiovascular protective medications prior to hospital discharge results in a marked increase in treatment rates, improved long-term patient compliance, and better clinical outcomes has led to the revision of national guidelines to endorse this approach as the standard of care. Recent studies demonstrated that ß-blocker therapy can be safely and effectively initiated in heart failure patients prior to hospital discharge, resulting in improved treatment rates and clinical outcomes. The Organized Program to Initiate Lifesaving Treatment in Hospitalized Patients with Heart Failure (OPTIMIZE-HF) is a national collaborative designed to improve medical care and education of hospitalized heart failure patients and to accelerate initiation of evidence-based heart failure guideline-recommended therapies by administering them before hospital discharge. A registry focusing on hospital admission to discharge and 60–90 day follow-up is designed to evaluate the demographic, pathophysiologic, clinical, treatment, and outcome characteristics of patients hospitalized with heart failure. The aim of this program is to improve the standard of heart failure care in the hospital and outpatient settings and to increase the use of evidence-based therapeutic strategies to prolong life in the large number of heart failure patients hospitalized each year.

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There is compelling clinical trial evidence that angiotensin-converting enzyme (ACE) inhibitor, ß-blocker, and aldosterone antagonist therapy reduces the risk of hospitalization and substantially improves survival in patients with heart failure.[1,2] Despite this evidence, as well as national and

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international clinical guidelines recommending ACE inhibitor, ß-blocker, and aldosterone antagonist treatment in patients with heart failure due to systolic dysfunction, a number of studies have documented low treatment rates in this patient population.[3-7] The conventional approach to the starting of ß-blocker therapy in patients with heart failure was to delay initiation of therapy until a period of outpatient clinical stability.[2] Unfortunately, in the majority of heart failure patients, ß-blocker therapy does not get initiated during outpatient follow-up. The underuse of ß-blocker and other evidence-based, guideline-recommended therapies in patients with heart failure represents a major clinical practice and public health issue. This article will review the rationale for in-hospital initiation of heart failure therapies and successful programs that have been demonstrated to improve treatment rates. The design and rationale for the Organized Program to Initiate Lifesaving Treatment in Hospitalized Patients with Heart Failure (OPTIMIZE-HF) will be presented. This national collaborative heart failure quality improvement program is intended to improve the medical care and education of hospitalized heart failure patients and to accelerate initiation of evidence-based heart failure therapies by administering them before hospital discharge.

The underuse of ß-blocker and other evidence-based, guideline-recommended therapies in patients with heart failure represents a major clinical practice and public health issue.

Evidence-Based Therapy for Chronic Heart Failure

There is compelling clinical trial evidence that all patients with heart failure due to left ventricular systolic dysfunction, from asymptomatic left ventricular dysfunction to class IV symptoms, of any etiology should be treated with ACE inhibitors and ß-blocker therapy in the absence of contraindications.[1,2,8] ACE inhibitors reduce mortality in heart failure by 17%–25%. ß-blocker therapy reduces mortality by 34%–35%.[1,8,9] ACE inhibitors and ß-blockers have been shown to alleviate symptoms, improve clinical status, and reduce the risk of death or the combined risk of death and rehospitalization.[1,2] The benefits of treatment have been shown to extend to a wide variety of patients, including men and women, older and younger patients, and diabetic and nondiabetic heart failure patients. Aldosterone receptor antagonists have also been demonstrated to reduce the risk of mortality in patients with severe heart failure and heart failure symptoms post–myocardial infarction.[10,11] National and international guidelines recommend ACE inhibitor, ß-blocker, and aldosterone antagonist therapy as the standard of care in patients with heart failure and reduced systolic function.[1,2]

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Although ACE inhibitors, ß-blockers, and aldosterone antagonists are indicated for systolic dysfunction heart failure patients, many patients hospitalized with heart failure have preserved systolic function. The understanding of treatment for heart failure with preserved systolic function is more limited because of the lack of randomized data regarding the effects of ACE inhibitors, ß-blockers, and aldosterone antagonists on outcomes in this population.[1] However, the majority of heart failure patients with preserved systolic function have comorbid conditions, such as hypertension, coronary artery disease, diabetes, and atrial fibrillation, which are in themselves indications for the use of ACE inhibitors, ß-blockers, and/or aldosterone antagonists.[1] Thus many of these patients are also candidates for use of these cardiovascular protective therapies.

The Gap in Applying Guideline-Recommended Therapy in Heart Failure

Despite the wealth of scientific evidence and guideline recommendations regarding the benefits of neurohumoral antagonist therapy in patients with heart failure, there is an extensive body of evidence documenting that conventional management has left a substantial proportion of heart failure patients untreated with these life-saving therapies.[3-7] Longitudinal national data on outpatient use of ACE inhibitors for heart failure showed a modest increase in ACE inhibitor use from 24% to no more than 38% in the 12-year period between 1990 and 2002.[4] This heart failure treatment gap is not just a problem in the United States. The IMPROVEMENT international study of 1363 physician practices in 15 countries involving 11,062 chronic heart failure

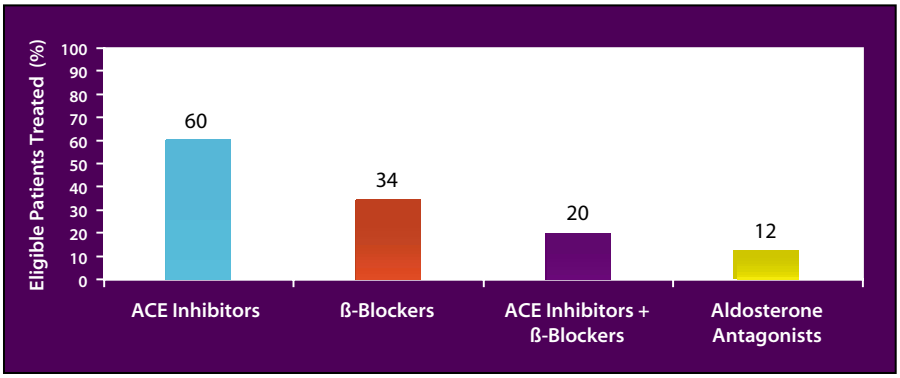

Figure 1. *Utilization of evidence-based, guideline-recommended heart failure therapies in the IMPROVEMENT international survey. In this international survey of outpatient chronic heart failure care involving 15 countries, 1363 physicians, and 11,062 patients with stage C heart failure and documented systolic dysfunction, there were substantial treatment gaps documented in the use of angiotensin-converting enzyme (ACE) inhibitors, ß-blockers, and aldosterone antagonists. Data from Cleland et al.*[12]

patients found that only 60% of these eligible patients were treated with ACE inhibitors (Figure 1).[12] In addition to the underuse of ACE inhibitors, subtherapeutic dosages are commonly implemented.[1]

The Acute Decompensated Heart Failure National Registry (ADHERE) reported a similar underuse of ß-blockers in 2002-2003, with only 47% of chronic, previously diagnosed, systolic dysfunction heart failure patients receiving a ß-blocker on an outpatient basis prior to admission to the hospital.[7] The international IMPROVEMENT survey showed that only 34% of chronic heart failure patients were being treated with ß-blocker therapy (Figure 1).[12] A recent randomized trial demonstrated that under conventional physician-directed care, only 27% of eligible chronic heart failure patients were initiated on ß-blocker therapy on an outpatient basis.[13] Of the 5010 patients with New York Heart Association class II-IV heart failure due to systolic dysfunction enrolled in the Valsartan Heart Failure Trial (ValHeFT), only 35% were being treated with ß-blockers.[14] Underuse of aldosterone antagonists in eligible patients has also been described (Figure 1).[12]

Gaps in the provision of other aspects of heart failure care have also been described. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) developed the disease-specific Heart Failure Core Measure Set.[15] The four heart failure performance measures in the set include use of ACE inhibitors in eligible patients, evaluation of left ventricular function (LVF), smoking cessation, and patient education. Patient education comprises written instructions and educational material on diet, weight monitoring, activity levels, medications, and symptom management. A recent analysis of ADHERE involving 55,475 patients discharged from 263 U.S. hospitals showed that only 29% of patients received complete discharge instructions (Figure 2).[7]

Several studies documented that processes of care provided in the hospital are strongly associated with rehospitalization rates and mortality.[16] Early heart failure readmission and 30-day mortality are independently associated with the process of inpatient care. Explicit inpatient processes-of-care indicators shown to be associated with outcome include discharge on ACE inhibitors, measurement of left ventricular ejection fraction (LVEF), and discharge documentation. A case-controlled study at 12 Veterans Affairs hospitals demonstrated that the risk of early heart failure readmission was increased nearly twofold when inpatient care was substandard (a readiness-for-discharge score below the 25th percentile).[16]

Timing of Heart Failure Therapy

Although the clinical outcome trials of ACE inhibitors in heart failure studied outpatient initiation of therapy, it has become standard practice to initiate and dose adjust ACE inhibitor therapy during hospitalization for decompensated heart failure.[1] The use of ACE inhibitors at hospital discharge has recently been incorporated into the JCAHO core performance measurement set for patients hospitalized with heart failure.[15] In contrast, initiation of ß-blocker therapy has conventionally been delayed until the heart failure patient was discharged and demonstrated to be stable as an outpatient for 2-4 weeks.[2] Concern existed that early initiation of even low-dose ß-blocker therapy in patients during hospitalization could destabilize the patient.[17] It was also felt that it took a few months before the benefits of ß-blocker therapy were realized. As a result, the first opportunity for

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beginning ß-blocker treatment is delayed to a time when the patient may no longer feel he or she is at high risk for recurrent hospitalization or fatal events. The failure of cardiologists and other inpatient physicians to initiate ß-blocker therapy during a period of heart failure hospitalization may inadvertently contribute to long-term management problems in the outpatient setting. Indeed, patients, their family members, and primary care physicians likely perceive the failure to initiate therapy prior to discharge as a lack of endorsement for ß-blocker therapy in heart failure.

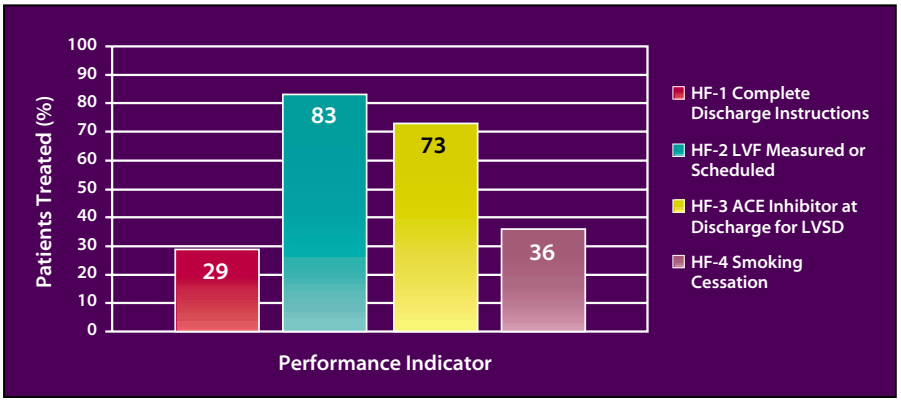

Figure 2. *Joint Commission on Accreditation of Healthcare Organizations quality-of-care indicators for heart failure (HF) hospitalization. Data from the Acute Decompensated Heart Failure National Registry (ADHERE) involving 55,475 patients discharged from 263 U.S. hospitals. ACE, angiotensin-converting enzyme; LVF, left ventricular function; LVSD, left ventricular systolic dysfunction.*

Safety and Efficacy of ß-Blockers in Heart Failure Patients With Recent Decompensation

Although there had been concern among many physicians that patients with recent decompensation and/or severely symptomatic heart failure would not tolerate the initiation of ß-blocker therapy, recent clinical trial evidence demonstrates that treatment of these patients is both safe and effective. The Carvedilol Prospective Randomized Cumulative Survival Study (COPERNICUS) studied the impact of ß-blockade in patients with severe heart failure symptoms. This trial enrolled 2289 patients with heart failure symptoms at rest or on minimal exertion and an ejection fraction of < 25%.[9] Study drug could be started while patients were still hospitalized, but the patients could not be in a critical- or intensive-care unit or on intravenous inotropic agents during the previous 4 days. Treatment with carvedilol resulted in a significant 35% reduction in all cause mortality rates and a significant reduction in the combined risk of death or hospitalization in this severely symptomatic heart failure population. Benefits were seen across all subgroups of patients examined, including patients with recent and/or recurrent decompensation and those with LVEF < 20%.[9] Carvedilol was very well tolerated in this severe heart failure patient population, with more patients withdrawn due to adverse events from the placebo group than from the carvedilol group.[9]

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The COPERNICUS trial thus demonstrated that therapy could be safely and effectively initiated in hospitalized patients after initial stabilization. Although patients with acutely decompensated heart failure and those dependent on intravenous inotropic medications should not have ß-blockers initiated until they are in a compensated state on oral agents, this frequently occurs within a few days of hospitalization.[1] Thus in-hospital initiation of ß-blocker therapy could be considered in the vast majority of patients hospitalized with heart failure. Current guidelines also recommend that for patients admitted to the hospital with acutely decompensated heart failure who were previously receiving ß-blockers, therapy may be continued during the hospitalization so long as the patient is not in cardiogenic shock or showing signs of systemic hypoperfusion.[1]

In-Hospital Initiation of ß-Blocker Therapy for Heart Failure

Just as it has proved a more effective approach for improving the use of lipid-lowering therapy in coronary artery and other atherosclerotic vascular disease, in-hospital initiation of ß-blockers would be expected to be effective for heart failure patients.[18] Institution of ß-blocker therapy in the inpatient setting for patients hospitalized with decompensated heart failure has a number of potential advantages over outpatient initiation. The structured setting within the hospital can facilitate the initiation of ß-blocker treatment

through the use of physician prompts and reminders, such as care maps, pre-printed order sets, discharge forms, and involvement of other health care professionals.[18] The fact that patients with severe heart failure were shown to tolerate in-hospital initiation of carvedilol therapy in the COPERNICUS trial, without an early hazard, removes a perceived barrier to initiating ß-blocker therapy in the hospital setting.[9] Hospital-based initiation of therapy may help to alleviate patient concerns regarding initial ß-blocker tolerability and side effects. Linking the initiation of ß-blocker and other heart failure medications to the patient's hospitalization conveys the message that this therapy is essential for the prevention of recurrent hospitalizations and is an essential part of the patient's long-term treatment.[18]

In-hospital initiation of therapy can also work in a complementary fashion with outpatient heart failure disease management programs.[19,20] With the initiation of therapy beginning in the hospital, fewer titration steps are necessary to achieve target doses. Studies have demonstrated that patients managed in heart failure disease-management programs have improved treatment rates with ACE inhibitors and ß-blockers. However, these systems are often applied to a selected patient population representing only a small proportion of the patients with heart failure being cared for in the health care delivery system from which the patients were drawn.[19,20] In-hospital initiation of therapy can help to ensure ß-blocker therapy is started in patients who will not have access to specialized outpatient heart failure disease management programs.[18] Outpatient systems to ensure appropriate monitoring of patients and up-titration of medical therapy to target doses remains essential for patients who will not be followed in a heart failure management program, but these patients would still be expected to be better off on low doses of ß-blockers than they would if this therapy was never initiated.

The Initiation Management Predischarge Process for Assessment of Carvedilol Therapy for Heart Failure (IMPACT-HF) trial sought to determine if randomizing patients hospitalized for decompensated heart failure (with LVEF ≤40%) to initiation of carvedilol therapy predischarge is safe and effective in improving the overall use of ß-blockers at 60 days following randomization, compared with postdischarge (2 weeks or more) initiation of any ß-blocker at physician discretion.[21] The IMPACT-HF trial demonstrated that in-hospital initiation of ß-blockade resulted in a significantly greater utilization of ß-blockers at 60 days after randomization compared with postdischarge initiation at the physician's discretion (Figure 3). Predischarge initiation was not associated with an increased risk for worsening heart failure or other serious adverse events.[21] The IMPACT-HF trial demonstrated that initiation of carvedilol therapy for clinically stable patients in the hospital setting can be performed safely, without any increase in the risk of worsening heart failure or in length of stay. In-hospital initiation of ß-blockers, along with ACE inhibitors, should be considered the standard of care for all eligible heart failure patients in the absence of contraindications or documented intolerance.[18]

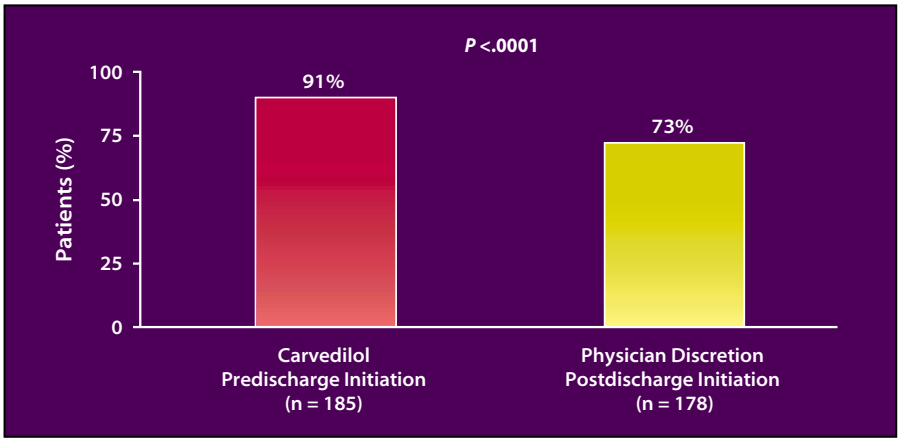

Figure 3. *IMPACT-HF primary endpoint: patients receiving a ß-blocker at 60 days. From Gattis et al.*[25]

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Early Benefits of In-Hospital Initiation of Heart Failure Therapies

Beyond the long-term benefits of improved treatment use, in-hospital initiation of evidence-based heart failure therapy may also be associated with an early benefit in reducing heart failure hospitalizations and mortality, one that could be missed if therapy is delayed. The benefits of

a hospital-based program to improve the use of ACE inhibitors prior to hospital discharge were demonstrated by an analysis of more than 19,000 patients discharged after a heart failure–related hospitalization at a 10-hospital integrated health care system.[22] Comparisons were made between patients discharged before the implementation of a heart failure discharge medication program (n = 11,038) and those discharged after its implementation (n = 8045). As a result of the program, the use of ACE inhibitors increased from 65% to 95%. The program also resulted in a reduction in rates of readmission from 46.5% to 38.4% ($P < .001$) and in mortality from 22.7% to 17.8% ($P < .001$), with event cures diverging early after hospital discharge. Early benefits have also been observed with ß-blocker therapy. In COPERNICUS, there was a reduction in death and hospitalizations beginning within 2 weeks in the overall patient cohort and in patients with recent and/or recurrent decompensation.[23] In-hospital initiation of carvedilol therapy was also safe and well tolerated, with no difference in the withdrawal rate between carvedilol and placebo treatment.[9] Because patients discharged after decompensated heart failure are at high risk for recurrent hospitalization and fatal events,[24] early initiation of ACE inhibitor, ß-blocker, and aldosterone antagonist therapy can ensure the patient will not miss out on the risk reduction provided by these beneficial therapies.

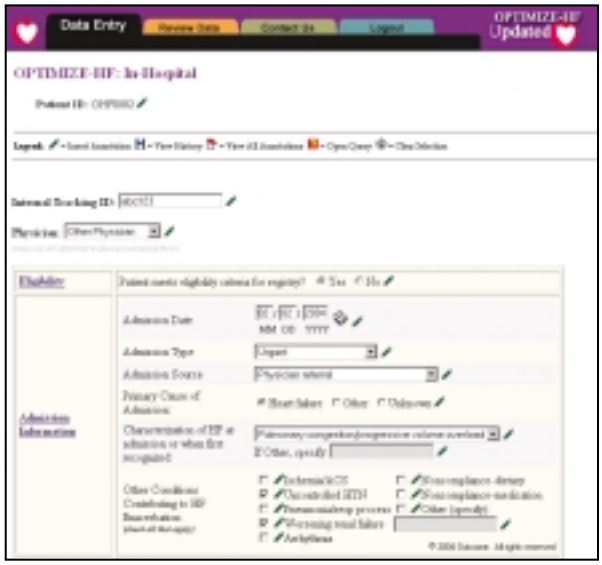

Figure 4. *OPTIMIZE-HF Web-based registry input. OPTIMIZE-HF utilizes an intuitive web-based data collection tool that integrates real-time data quality checks and support. Data entry is designed to be intuitive. Its building blocks are user-friendly buttons and lists, check boxes, and text boxes. Features such as pop-up calendars facilitate the entry of date and time information. The program embeds Joint Commission on Accreditation of Healthcare Organizations heart failure core measures and is secure as well as Health Insurance Portability and Accountability Act compliant.*

OPTIMIZE-HF

Based on this evidence, OPTIMIZE-HF was initiated. OPTIMIZE-HF is an investigator-driven program that seeks to improve the quality of care of patients hospitalized with heart failure. The program aims to rapidly accelerate the use of evidence-based, guideline-recommended heart failure therapies by starting these medications prior to hospital discharge in eligible patients without contraindications, and as a result, improve short- and long-term clinical outcomes. OPTIMIZE-HF is planned to include 500 U.S. hospitals and more than 50,000 patients, representing one of the largest quality improvement programs ever undertaken.

The key objective of OPTIMIZE-HF is to improve the medical care and education of hospitalized heart failure patients. To provide optimal therapy, the program is designed to promote the accelerated adoption of guideline-recommended therapies by starting these life-saving regimens before hospital discharge in suitable patients. In addition, by studying variations in treatment use by patient and in hospital characteristics, OPTIMIZE-HF aims to increase understanding of the current barriers to initiation of ACE inhibitors and ß-blockers in this patient population. The program encourages hospital-

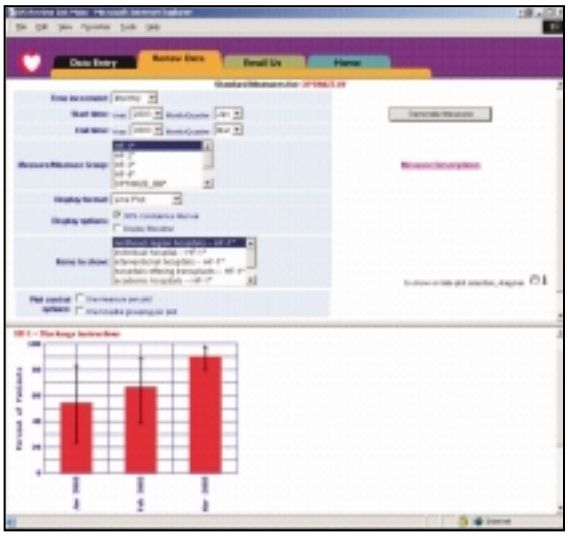

Figure 5. *OPTIMIZE-HF registry data analysis and reports. OPTIMIZE-HF provides real-time and customizable data reports on treatment rates and clinical outcomes. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO), Centers for Medicare and Medicaid Services, and other indicators are able to monitor performance over various time periods. Hospitals may benchmark their performance against national aggregate data and against multiple categories of similar hospitals. In this example, the individual hospital's performance on the JCAHO HF-1 indicator of the percentage of eligible heart failure patients who received discharge instructions is compared by month.*

based teams to implement the comprehensive OPTIMIZE-HF process-of-care improvement tools. These teams will collect data during hospitalization and at 60-90 days postdischarge to measure and improve the management and care of patients with heart failure as a primary or secondary diagnosis. The collaborating hospitals will represent all types of institutions and all regions in the United States.

OPTIMIZE-HF Program Components

OPTIMIZE-HF has two main components designed to achieve its objectives: a Web-based registry and the process-of-care improvement component. The OPTIMIZE-HF registry is designed to be the most comprehensive database of the hospitalized heart failure population focusing on both admission and discharge to date. It will gather hospitalization and discharge data on heart failure patients submitted by participating hospitals through a Web-based system (www.optimize-hf.org) using coding and transmission techniques that maintain patient confidentiality (Figure 4). The registry will track the use of life-saving therapies before and after initiation, as well as hospital progress and discharge planning. It uses a secure Web site that can provide real-time reports and benchmark comparisons among institutions, both regionally and nationally, and will allow participating institutions to share best practices (Figure 5). The OPTIMIZE-HF registry embeds JCAHO core measurements for heart failure that can be captured and transmitted by participating hospital sites. The registry will also capture outcome data for patients at 60 and 90 days after enrollment.

OPTIMIZE-HF collects and provides performance data, including evidence-based medication treatment rates in eligible heart failure patients without documented contraindications or intolerance. Data on the use of ACE inhibitors and angiotensin receptor antagonists in systolic heart failure patients are collected. Use of evidence-based ß-blockers and doses of medications are also tracked. This provides hospitals with greater ability to understand practice patterns and current quality of care than they would obtain using a limited number of static performance measures. The registry allows hospitals to view their performance data on a daily basis, benchmarked to OPTIMIZE-HF goals, similar hospitals, and national aggregate hospital data.

Process-of-Care Improvement Program and OPTIMIZE-HF Tool Kit

The process-of-care improvement component is focused on assisting hospitals in their ability to improve their systems with regard to the management of heart failure patients. It relies on a hospital "tool kit" and structured educational and collaborative opportunities. As part of an enhanced treatment and discharge plan, OPTIMIZE-HF will provide evidence-based best practices algorithms, critical pathways, standardized orders, discharge checklists, pocket cards, chart stickers, and a variety of other elements to assist hospitals in improving heart failure management (Figure 6). OPTIMIZE-HF provides algorithms and dosing guides to facilitate the initiation and titration of guideline-recommended heart failure therapy. The materials are based on American College of Cardiology/American Heart Association heart failure guidelines, recent clinical trials, and the collective expertise of the OPTIMIZE-HF Steering Committee members. These tools are designed to help health care providers identify and initiate guideline-recommended treatments in appropriate heart failure patients without contraindications. These aids are provided for the hospitals to evaluate and adopt and/or

modify at their choosing. The tools also provide guidance in identifying and managing factors that may exacerbate heart failure, major comorbidities, and concomitant risk factors (sudden death risk, lipids, diabetes, anemia, chronic obstructive pulmonary disease, depression). The critical pathways also aim to enhance provision of patient education, assessment of social support, discharge planning, follow-up, and outpatient monitoring. Although OPTIMIZE-HF is sponsored by GlaxoSmithKline, all program materials were created and approved by the steering committee to ensure they are consistent with national guidelines and the most current scientific evidence.

The OPTIMIZE-HF tool kit contains a comprehensive variety of patient education materials and resources to encourage patients to become active members of their heart failure management process. These tools consist of descriptive materials on relevant medical topics and fact sheets on medications that may be used in the patient's treatment. The patient educational materials are available to the hospital teams in printed version, modifiable electronic versions on CD, or online versions customized to the patient's individual needs based on treatment regimen as entered into the OPTIMIZE-HF Web-based registry (Figure 7). Patient education materials are available in English and Spanish.

The OPTIMIZE-HF registry will seek to evaluate the impact of targeted quality improvement initiatives. Variations in practice patterns and outcomes among the participating hospitals and regions initiating key evidence-based therapies in patients with a primary diagnosis of heart failure will be studied. The collected data will be analyzed with respect to patient demographics, comorbidities, and histories. Data

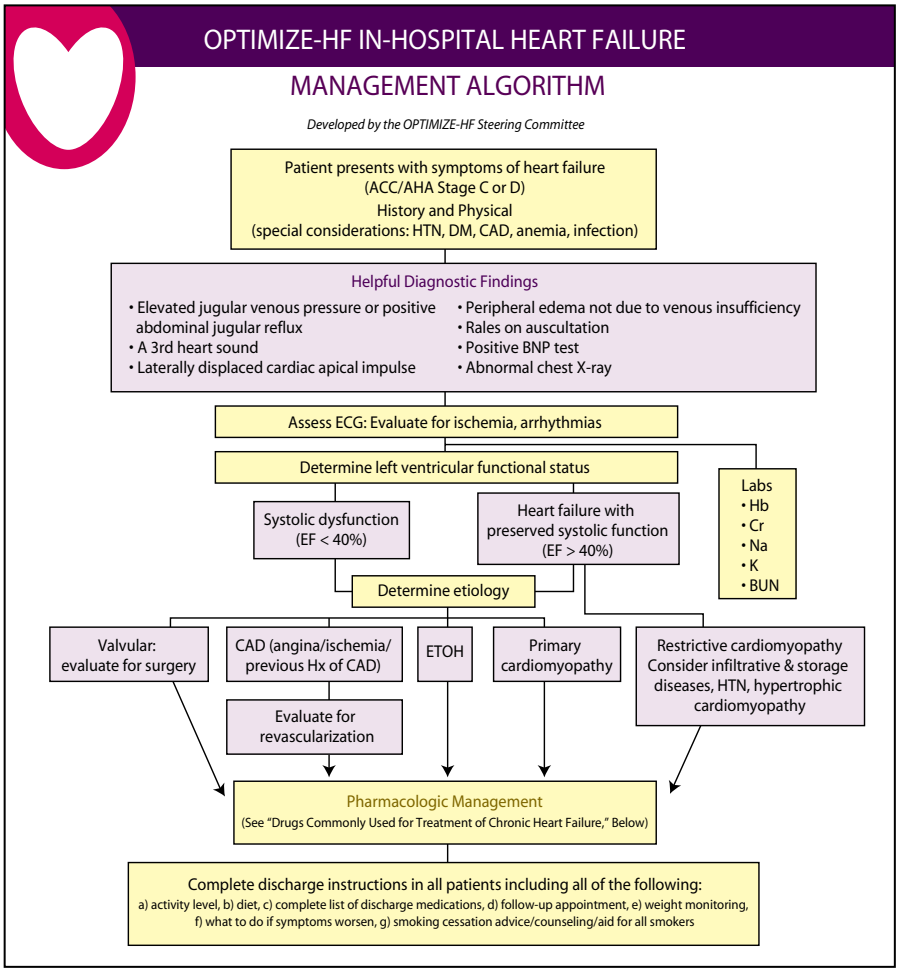

Figure 6. *OPTIMIZE-HF hospital tool kit materials. OPTIMIZE-HF provides heart failure management algorithms and critical pathways, available as wall charts and pocket cards. The OPTIMIZE-HF In-Hospital Heart Failure Management Algorithm Wall Chart is shown.*

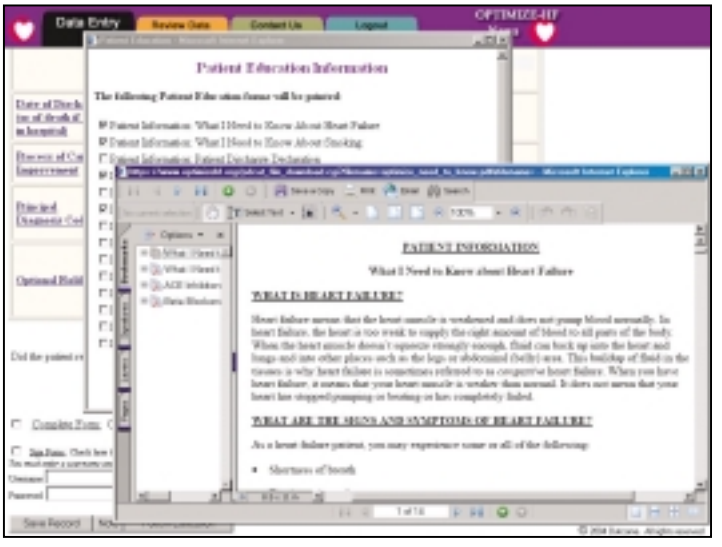

Figure 7. *OPTIMIZE-HF provides comprehensive patient education materials that may be printed from any Internet-connected computer. Materials are available in English and Spanish.*

based on hospital activities and involvement will also be analyzed. These include hospital presentation and management, cardiovascular concomitant medications administered, predischarge planning, implementation, and follow-up. Analyses will be conducted across the entire database at the end of the registry period under the direction of the steering committee. Data will be analyzed by an independent clinical research organization (Duke Clinical Research Institute).

Conclusions

As reviewed in this article, it has been clearly documented that not enough has been done to ensure the use of evidence-based, guideline-recommended therapies in patients with heart failure. Projecting available data nationwide, in the year 2001, more than 400,000 potentially eligible patients were discharged home without ß-blocker therapy after being hospitalized with heart failure due to systolic dysfunction. Under conventional management, fewer than 25%–35% of these patients will be started on ß-blocker therapy on an outpatient basis. A review of the evidence from recent trials and clinical studies provides a compelling argument for implementing ß-blocker and other evidence-based therapies in-hospital as part of a systematic approach to address the underlying pathophysiology of heart failure.

Despite compelling scientific evidence of the benefits of ACE inhibitor, ß-blocker, and aldosterone antagonist therapy, a substantial proportion of heart failure patients are not on treatment. Applying hospital-based systems to ensure initiation of cardiovascular protective therapies has been demonstrated to improve treatment rates, long-term patient compliance, and clinical

Main Points

- National and international guidelines recommend angiotensin-converting enzyme (ACE) inhibitor, ß-blocker, and aldosterone antagonist therapy as the standard of care in patients with heart failure and reduced systolic function.
- The majority of heart failure patients with preserved systolic function have comorbid conditions, such as hypertension, coronary artery disease, diabetes, and atrial fibrillation, which are in themselves indications for the use of ACE inhibitors, ß-blockers, and/or aldosterone antagonists. Thus, many of these patients are also candidates for use of these cardiovascular protective therapies.
- Despite the wealth of scientific evidence and guideline recommendations regarding the benefits of neurohumoral antagonist therapy in patients with heart failure, there is an extensive body of evidence documenting that conventional management has left a substantial proportion of heart failure patients untreated with these life-saving therapies.
- Initiation of ß-blocker therapy has conventionally been delayed until the heart failure patient was discharged and demonstrated to be stable as an outpatient for 2–4 weeks. The failure of cardiologists and other inpatient physicians to initiate ß-blocker therapy during a period of heart failure hospitalization may inadvertently contribute to long-term management problems in the outpatient setting.
- Although there had been concern among many physicians that patients with recent decompensation and/or severely symptomatic heart failure would not tolerate the initiation of ß-blocker therapy, recent clinical trial evidence demonstrates that treatment of these patients is both safe and effective.
- Institution of ß-blocker therapy in the inpatient setting for patients hospitalized with decompensated heart failure has a number of potential advantages over outpatient initiation. The structured setting within the hospital can facilitate the initiation of ß-blocker treatment. Hospital-based initiation of therapy may help to alleviate patient concerns regarding initial ß-blocker tolerability and side effects. Linking the initiation of ß-blocker and other heart failure medications to the patient's hospitalization conveys the message that this therapy is essential for the prevention of recurrent hospitalizations and is an essential part of the patient's long-term treatment. In-hospital initiation of therapy can also work in a complementary fashion with outpatient heart failure disease management programs.
- Beyond the long-term benefits of improved treatment use, in-hospital initiation of evidence-based heart failure therapy may also be associated with an early benefit in reducing heart failure hospitalizations and mortality, one that could be missed if therapy is delayed.
- OPTIMIZE-HF is an investigator-driven program that seeks to improve the quality of care of patients hospitalized with heart failure. The program aims to rapidly accelerate the use of evidence-based, guideline-recommended heart failure therapies by starting these medications prior to hospital discharge in eligible patients without contraindications, and as a result, improve short- and long-term clinical outcomes.

outcomes in patients with coronary heart disease. Because ß-blocker therapy has now been shown to be safely initiated in-hospital for patients with heart failure and benefits can be seen within the first 2 weeks of treatment, a similar approach can be utilized to bridge the heart failure treatment gap. OPTIMIZE-HF is designed to help hospitals bridge the heart failure treatment gap and improve care through a national collaborative. OPTIMIZE-HF is designed to accelerate the initiation of evidence-based medications, patient education, and other essential aspects of heart failure patient care, and thus patient adherence to recommended therapeutic regimens. The successful implementation of OPTIMIZE-HF will enhance the standard of heart failure care and as a result, substantially reduce the risk of recurrent hospitalizations and death in the large number of patients hospitalized with heart failure each year. ■

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