

HOSPITAL CHARACTERISTICS

## BRONSON HOME HEALTH CARE

- ▶ Kalamazoo, Paw Paw, MI
- ▶ 347 beds
- ▶ www.bronsonhealth.com

BHHC is a hospital-based home care agency that provides specialty care programs such as cardiac and open-heart surgical care, orthopedic and joint replacement care, stroke and neurological care, diabetes management, post-surgery and wound care, and respiratory and asthma care.

### S . T . E . E . E . P .



#### SAFE

Hospital readmission rates for heart failure patients decreased almost 50 percent.



#### EFFICIENT

Nurses check telemonitor readings from patients remotely but on a daily basis. One nurse is available 24 hours a day, 7 days a week. For unfavorable readings, nurses can contact patients immediately or link patients to physicians for follow-up care.



#### PATIENT-CENTERED

The BHHC program emphasizes standardized education that is tailored to each patient.

# USING IN-HOME TELEMONTORING TO REDUCE REHOSPITALIZATION

## The Problem

According to the American Heart Association, heart failure affects about 5.7 million Americans, with 670,000 new cases reported each year. Patients with heart failure typically require frequent hospital admissions, making it one of the most costly cardiovascular ill-

nesses. Readmission rates are in the double digits for heart failure patients at many hospitals. BHHC focused on reducing hospital readmissions, lowering health care costs and improving compliance with treatment and quality of life for its heart failure patients.

## The Solution

In 2004 BHHC began a program that combines in-home telemonitoring and patient education to care for heart failure patients. BHHC puts telemonitors in the homes of heart failure patients, and patients check their own blood pressure, oxygen saturation, and heart rate, and monitor their weight.

The telemonitors, which are about the size of a clock radio, connect to a phone so patients can transmit their vital signs, along with answers to questions about breathing difficulty, ankle swelling, difficulty sleeping, and other health issues. BHHC nurses are trained to monitor the results daily and check in with patients if readings fall outside certain parameters. Unfavorable trends are sent to a physician, who follows up with the patient by phone or in person.

Patient education is an important part of the BHHC program. Nurses schedule five to seven home visits within a two-week period for physical assessments and to review instructions and address patient concerns. These visits are scheduled around physician appointments. After each home visit, patients have homework assignments to

complete, which involve them in their own care and disease management. Nurses use the teach-back method to assess patients' understanding of what they should be doing and what they need to know. Expected outcomes for the home visits include patients being able to verbalize understanding of instructions, disease management, medication usage, and early warning signs of heart failure.

## Results

- » Average hospital readmission rate for BHHC heart failure patients dropped from 10 percent to 5.2 percent between 2004 and 2008.
- » For some very ill patients, the in-home telemonitoring program has not entirely prevented rehospitalization, but it has significantly reduced the amount of time those patients spend in the hospital when readmitted.
- » Patient compliance has improved. Staff has observed that the home environment is more conducive to learning for many patients, who become "champions of their own care."
- » BHHC started the program with 5 home telemonitors, increased to 45 telemonitors, and now has over 100.

## Background

BHHC had designed a clinical pathway for a heart failure program in 2004, but they completely rebuilt it in 2008. The original pathway dealt only with chronic heart failure

## TEAM MEMBERS

**Ann Brissette, RN**

Director, Bronson Home Health Care

**Laura Davenport, RN**

Manager, Case Management

**Tanya Deary, RN**

Unit Coordinator

**Amy Drallette, RN**

Community Services Coordinator

**Lynette Cramer, RN**

Case Manager

patients—those most at risk for hospital readmission. The less-acute, higher-functioning heart failure patients were less likely to be identified for home care. A new "HF Recovery" pathway was designed to incorporate the less-acute heart failure patients and assist them during their home recovery. A key focus is on education and homework for the patient to "hardwire" skills to self-manage the disease. BHHC now has two distinct HF pathways to gear toward the functional ability of the patient and disease progression.

The hospital's executive management team has supported the home care department in the heart failure program by purchasing the telemonitoring equipment. Use of the home monitoring equipment is not reimbursed, and patients are not charged. It is considered a value-added approach to improve patient outcomes and quality of care.

### **Principles of Performance Excellence**

#### **The Patient Experience**

Patients have responded positively to the BHHC telemonitoring program, which provides "real time" feedback to them. Ann Brissette, BHHC director, says, "The heart telemonitors empower patients." Patients learn the importance of daily monitoring and early identification of warning signs. When the data indicates a patient is having 'worsening trends,' a nurse interviews the patient by phone to determine what may have caused the changes and to educate the patient on appropriate follow-up actions. Depending on the phone assessment and trending, the nurse will determine if a home visit or physician intervention is needed. Patients have commented

that the telemonitor is "like my little doctor or nurse." "Once patients get the monitor, it's hard for them to let it go," Brissette adds.

Patient education is a key focus in the BHHC program, with five to seven home visits scheduled with a nurse. BHHC patient education is standardized throughout the system, says Laura Davenport, RN, BHHC manager, case management. Tanya Deary, RN, unit coordinator, adds, "Every plan of care is standardized education based on the individual patient." For example, once a nurse or case manager has baseline information on a patient, she or he can ask questions such as, "What do you know about a low-sodium diet, etc. After a home visit, the case manager asks the patient, "Tell me what you have learned," using the teach-back method to check for understanding and help ensure compliance. According to case manager Lynette Cramer, RN, "We do a front load of visits, with a heavy load in the beginning. We try to teach little pieces at a time with the teach-back method." For example, nurses might review reading labels, using the monitor, or conserving energy. "We do not want to overload the patient with too much information at first," says Cramer.

One success story at BHHC is a transient patient with heart failure who had been in and out of the hospital many times. After becoming involved with home care, he was able to find stable room and board. He was placed on the telemonitoring program and remained out of the hospital. The adjunct treatment empowered this patient: for the first time, he was looking after himself and managing his own care, including monitoring his weight with a

scale provided by BHHC.

Another patient who had typical hospital stays of 14 to 21 days and multiple readmissions to the hospital saw a dramatic change in managing his disease. By using the home telemonitor, this patient remained in his home for over six months, with one emergency room visit unrelated to heart failure and one three-day hospital stay related to heart failure. Early identification of this patient's worsening trends led to early intervention and treatment, resulting in a less acute exacerbation of heart failure.

#### **Managing Organizational Variability**

The BHHC program requires and promotes collaboration between physicians, nurses, case managers, and other staff. Amy Drallete, RN, community services coordinator, goes to Bronson every day and interacts with many physicians, nurses, and case managers to identify patients who would benefit from in-home telemonitoring. According to Laura Davenport, "Home health care is integrated into the care continuum. Providers have been very supportive." Ann Brisette adds, "Physicians refer patients specifically to the program. They are knowledgeable about what we are offering." Executive management supports the program, too.

With management's focus on clinical excellence and quality outcomes, home care is beneficial in helping meet those goals.

#### **Continual Improvement**

BHHC continues to work on reducing readmission rates for its heart failure patients. In addition, it is looking to expand the in-home telemonitoring program to other respiratory-challenged patients, such as those with chronic obstructive pulmonary disease (COPD). The goal is to get all telemonitors off shelves and into patients' homes to better serve the community.