HEART FAILURE READMISSIONS

Preventing Avoidable Heart Failure Readmissions: The University Hospital Experience

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ABSTRACT

- Objective: To describe the implementation of a multidisciplinary hospital intervention designed to improve patient outcomes and reduce heart failure readmission rates.
- Methods: A registered nurse “discharge advocate” worked with heart failure patients using the Re-Engineered Discharge (Project RED) model. Patients received education on self-management of heart failure including dietary recommendations, fluid restriction, medications, and medical management. The discharge advocate collaborated with a multidisciplinary team to ensure the discharge process ran smoothly and the patient was referred to proper services upon discharge. Telemonitoring of patients commenced 2 to 3 days post discharge.
- Results: Patients receiving the Project RED intervention had a 61% reduction in readmissions compared with those receiving usual care.
- Conclusion: The use of a nurse discharge advocate in collaboration with a multidisciplinary team improved patient outcomes and reduced the 30-day readmission rate for heart failure patients.

Readmission after hospitalization for heart failure is common and costly [1,2]. With the coming reduction in Medicare reimbursement for hospitals with high risk-standardized readmission rates, many hospitals are focusing on process improvement in cardiovascular services, with a particular emphasis on improving heart failure management [3]. In an effort to reduce heart failure readmissions, the leading cause of Medicare readmissions, and improve patient outcomes, we implemented an Agency for Healthcare Research and Quality (ARHQ)-funded program called Project RED (Re-Engineered Discharge). Project RED, developed by Brian Jack at Boston University [1], was designed to reduce unnecessary health service utilization through a standardized discharge intervention that includes patient education, comprehensive discharge planning, and post discharge telephone reinforcement (Table). A randomized controlled trial that evaluated the intervention in a general medical population found it reduced 30-day hospital utilization by approximately 30% [1]. In this article we describe our experience implementing project RED for heart failure patients in our hospital.

SETTING

University Hospital is a 581-bed nonprofit community hospital in Augusta, Georgia. University Hospital is part of University Health Care System, which offers comprehensive and integrated services to people living within a 25-county region in Georgia and South Carolina. Nearly 500 independent physicians practice at University Hospital.

PROJECT IMPLEMENTATION

A registered nurse “discharge advocate” worked with heart failure patients using the Project RED model. Patients with a primary diagnosis of heart failure were identified in the hospital portal database. Patients were included in the project if they had a primary diagnosis of systolic and diastolic dysfunction. Patients with aortic stenosis, cognitive impairment, or admitted from or discharged to a skilled nursing facility were excluded.

Education

Project RED patients received education from the discharge advocate about heart failure and its management during their inpatient stay and at discharge. Education included dietary guidance, fluid intake limitations, medications, and medical management. The teach-back method was used to confirm that the patient understood the information provided. Proper understanding is confirmed when the patient can explain the information back to the educator.

From the University Hospital, Augusta, GA.
Follow-up Appointments

Clinician follow-up appointments were made for patients prior to discharge. Patients with early physician follow-up have lower rates of readmission [4]; however, 62% of heart failure patients do not see a physician within 1 week of discharge [4]. Patients who had a cardiologist were scheduled to be seen in the cardiology office within 7 days of discharge. Patients who did not have a cardiologist or who were uninsured were scheduled to be seen in our heart failure clinic. The clinic provides evidence-based medical management to a population of patients that is indigent, without consistent income, or underinsured. The clinic is able to arrange the purchase of medications for those unable to afford them through a grant from the University Hospital volunteer board. If the cardiologist was unable to see the patient within 7 days post discharge, the patient was scheduled to see the clinic cardiologist or nurse practitioner. Heart failure patients who were readmissions were given an appointment in the heart failure clinic as well as with their private cardiologist.

At-Home Care Plan

According to a large national survey, only 50% of patients with congestive heart failure receive written instructions upon discharge [5]. In project RED, an at-home care plan was developed for each patient by the nurse advocate. The advocate reviews the plan with the patient and assesses patient understanding of the plan. Review of the plan reinforces education on sodium and fluid restrictions, weighing procedure, follow-up appointments, and exacerbative symptoms necessary to report to their physicians. Research supports that patients who have a clear understanding of the after-hospital care instructions

Table. Components of Re-Engineered Discharge (RED)

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<tr>
<td>1.</td>
<td>Educate the patient about his or her diagnosis throughout hospital stay</td>
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<td>2.</td>
<td>Make appointments for clinician follow-up and post-discharge testing</td>
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<td>Obtain input from the patient regarding the best time and date</td>
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<td>Confirm that the patient knows location and transportation plan; review barriers to keeping appointments</td>
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<td>3.</td>
<td>Discuss with patient any tests or studies completed in the hospital and discuss who will follow up with results</td>
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<td>4.</td>
<td>Organize post-discharge services</td>
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<td>5.</td>
<td>Confirm medication plan</td>
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<td>Explain what medications to take, emphasizing any changes in the regimen</td>
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<td>Review each medication’s purpose, how to take each medication correctly, and important side effects to watch out for</td>
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<td>6.</td>
<td>Reconcile the discharge plan with national guidelines and critical pathways</td>
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<td>7.</td>
<td>Review with patient appropriate steps for what to do if a problem arises</td>
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<td>8.</td>
<td>Transmit discharge summary to clinicians accepting responsibility for the patient’s care</td>
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<td>Reason for hospitalization with specific principal diagnosis</td>
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<td>Significant findings</td>
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<td>Procedures performed and care, treatment, and services provided to the patient</td>
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<td>Patient’s condition at discharge</td>
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<td>Comprehensive and reconciled medication list (including allergies)</td>
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<td>List of acute medical issues, tests, and studies for which confirmed results are pending at the time of discharge and require follow-up</td>
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<td>Information regarding input from consultative services, including rehabilitation therapy</td>
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<td>9.</td>
<td>Assess patient’s understanding of the plan by asking patient to explain in his or her own words the details of the plan</td>
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<td>May require contacting family members who will share in the care-giving responsibilities</td>
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<td>10.</td>
<td>Give the patient a written discharge plan that contains:</td>
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<td>Reason for hospitalization</td>
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<td>Discharge medications including what medications to take, how to take them, and how to obtain the medication</td>
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<td>Instructions on what to do if their condition changes</td>
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<td>Coordination and planning for follow-up appointments that the patient can keep</td>
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<td>Coordination and planning for follow-up of tests and studies for which confirmed results are not available at the time of discharge</td>
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<td>11.</td>
<td>Provide telephone reinforcement of the discharge plan and problem-solving 2–3 days after discharge</td>
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Adapted from reference 1.
and the importance of follow-up appointments are 30% less likely to be readmitted [6]. Patients received 8-oz plastic tumblers to help them monitor their daily fluid intake. Samples of a sodium-free seasoning and low-sodium recipes were also given to patients. Medication reconciliation was conducted and questions regarding tests were completed before discharge. Patients received a booklet about heart failure, a pamphlet with bulleted lists of important self-management items (Figure), and a refrigerator magnet with the local and toll-free numbers for telemonitoring. A red folder is provided for patients to keep all their papers and materials, which helps prevent loss during the discharge process.

Telemonitoring

Our program utilized the preexisting institutional resource of a telemonitoring service, accustomed to outbound calls to selected patient populations. The discharge advocate faxed the telemonitoring nurses notification of Project RED patients who were discharged. Telemonitoring nurses call the patients within 72 hours of discharge and weekly thereafter. They ensured patient compliance with treatment regimen, medication, and follow-up appointments. In addition, they reinforced heart failure patient education using the teach-back method.

The telemonitoring nurses were registered nurses available by phone 24 hours a day, 7 days a week. The nurses were supplied with a physician-signed protocol for up-titration of diuretics/potassium as appropriate and notified the nurse practitioner and discharge advocate of any patients who received medication adjustments. The telemonitoring nurses called these patients daily until symptom resolution. If no symptom resolution occurred within 2 days, the patients were referred back to their cardiologist or the clinic.

The patient’s follow-up appointments were tracked by telemonitoring nurses as a safety net to ensure a 7-day follow-up was made and kept. If the telemonitoring nurse identified a patient who did not have a 7-day follow-up appointment, he or she would make one and notify the patient of the appointment date and time. If the appointment was missed, the reason was documented and another follow-up appointment was made by the telemonitoring nurse. The appointment information was relayed to the patient by telemonitoring.

RESULTS

University Hospital implemented Project RED on 21 March 2011. Of the 362 heart failure patients admitted to the hospital between March-August 2011, 44.7% were enrolled in Project RED. The other 55.3% were not included due to having 1 or more of the 3 exclusion criteria: aortic stenosis, SNF, or cognitive impairment or heart failure was not included in the primary diagnosis. The average heart failure readmission rate from March 2011 to August 2011 for the facility was 22%, whereas Project RED patients had a 9.5% readmission rate, a 61% reduction in readmissions. At $12,000 each for the 53 patients who were not readmitted, we calculated a cost avoidance amount of $636,000.

OVERCOMING CHALLENGES

Although the interdisciplinary staff was on board, there were some challenges. For example, the staff nurses and case managers were concerned the discharge advocate would coordinate their work. The cardiologist’s estimated discharge date was unclear to the staff, making it difficult to plan for the patient discharge and timing of post-discharge services. Staff nurses were busy and it was difficult for them to make time for education. Home health and hospice were not getting appropriate referrals. It was also difficult for many patients to afford medications and the measurement tools (the scales and tumblers). These challenges, however, were overcome. Bi-weekly interdisciplinary meetings were held to review patient readmissions and processes. Monthly department of cardiology meetings were held to discuss the discharge process and anticipation of discharge. The discharge advocate developed a train-the-trainer program in which care progression nurses were trained. Heart failure education became a mandatory requirement for staff nurses and was available on the hospital’s intranet. Physician communication forms were used to relay the discharge advocate’s identification of necessary services, such as hospice or home health. The forms were placed in front of the physician orders on the chart to ensure physician awareness of the need for such services. The Hospital Foundation provided funding for scales and eight ounce cups.

CONCLUSION

A standardized multidisciplinary approach in discharge planning with the use of a nurse discharge advocate was associated with significantly reduced 30-day heart failure readmission rates and improved patient outcomes. Symptoms of exacerbation became less frequent, and there was an increase in appointment show rate. This case study demonstrated the effectiveness of closing communication gaps in patient care. A safe transition
What is Heart Failure?

• Heart failure occurs when the heart does not pump like it should.
• This causes fluid to build up in your lungs and body tissues.
• The fluid build up in the lungs and body tissues causes swelling and shortness of breath.
• Heart failure does not go away once you start feeling better.
• The good news is that it can be managed very well at home.

So... It is very important for you to weigh yourself every day and write your weight down. This will help your providers decide if you need any extra treatment at home to prevent you from getting sick again and feeling bad like you did in the hospital.

How should I weigh myself?

• Weigh every day...
• At the same time of day
• On the same scale
• Make sure the scale is on a flat surface
• With the same amount of clothing on
• After you have urinated
• Write the weight down

How can I care for myself at home?

• It is very important to watch your salt intake. Choose fresh meats, fresh vegetables, and fresh fruits. Shop the outer area of the store instead of going up and down the isles where all of the processed “bad foods” are.
• Stick with the low salt diet prescribed by your doctor (usually 2000 milligrams or 2 grams of salt per day).
• Salt is sometimes also called sodium. Salt and sodium are the same.
• Sea salt is another name for salt. Do not eat sea salt.
• Do not add salt to your food.
• Do not use a salt substitute because they contain potassium and this could be dangerous to your heart health.
• Avoid canned foods (even if they say low salt, they are still very high in salt).
• Avoid processed meats like sausage, ham, bologna, and hot dogs.
• Read your food labels and make sure you do not get more than 2000 milligrams or 2 grams per day.
• You may use Mrs. Dash seasoning.

What else can I do at home?

• It is also very important to follow the fluid restriction your doctor told you about.
• You should drink less than 64 ounces of fluid per day unless your doctor has decreased it even more for you.
• 64 ounces per day is the same as 8 of the 8 ounce cups you use to cook with.
• You should measure the amount of liquids you take in per day and remember not to go over the amount recommended by your doctor.
• Examples of liquids include:
  - Ice chips
  - Coffee
  - Tea
  - Milk
  - Juice
  - Jell-O
  - Ice cream
  - Yogurt

Figure. Excerpted page from the pamphlet for heart failure patients
from hospital to community is imperative for positive patient outcomes.

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REFERENCES