

AACVPR Case Study: Memorial Hospital of Carbondale

Title: Inpatient cardiac rehabilitation: Phase I

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Motivation and Operations:

1. What was your motivation for implementing these changes in your program?

Memorial Hospital of Carbondale is part of Southern Illinois Healthcare (SIH). It is made up of three hospitals in a rural area. We are very fortunate that our administration is incredibly supportive of both inpatient and outpatient cardiac rehabilitation. Inpatient cardiac rehabilitation is only done at Memorial Hospital of Carbondale and our other two hospitals provide the outpatient cardiac rehabilitation. Memorial Hospital of Carbondale is a 142 bed hospital and is the largest of the three locations. The cardiac catheterization lab and operating rooms are all located here. The inpatient cardiac rehabilitation staff is separate from the outpatient cardiac rehabilitation staff. Our 142 bed hospital has been allotted two full-time employees for inpatient cardiac rehabilitation. Administration sees our presence as a strong influence on reducing re-admissions, length of stay, and the time we spend with the patients allows the nurses to focus their limited resources elsewhere in the patient care continuum. Inpatient cardiac rehabilitation does not charge for any of the services/education/ambulation's we provide. The hospital calculates our productivity based off of the admitted cardiac diagnoses. They compare the admitted cardiac diagnoses to the two full-time employees. We consistently have productivity numbers over 100%.

When I joined the SIH team the Phase I program was not structured and did not have any guidelines for staff to follow. At the time, less than half of the eligible patients were actually getting an order for outpatient cardiac rehabilitation (Phase II). Since I have made the changes to the program, we are at almost a 100% referral rate to Phase II for heart attack, angioplasty and stent, angioplasty only, and surgical patients. When Medicare approved heart failure as a covered diagnosis, I started tracking our Phase II orders. Although, they are still not perfect we increased the number of heart failure orders by 66% just by the Phase I staff asking the provider for the order. I made it my mission to build relationships with our physicians, physician assistants, nurse practitioners, and floor nurses to increase our Phase II order rates. In addition, I wanted to make changes to how the program was run. I feel it is very important to provide detailed education regarding the diagnosis/intervention as well as stressing the importance of outpatient cardiac rehabilitation. I believe exercise is the "best" medicine for our heart disease patients. Therefore, I am very passionate about doing everything possible to get our patients into Phase II cardiac rehabilitation.

2. How long did it take to implement these changes?

It took me about 6 months for some of these relationships (physicians, physician assistants, nurse practitioners and floor nurses) to develop and to build the trust and confidence in my

knowledge with all these team members. They needed to feel comfortable with the education I was providing each of the patients.

3. What staffing changes did you have to make in order to achieve these changes?

Our Phase I program switched from a staff of two nurses to a staff of two exercise physiologists (Advanced Cardiac Life Support certified) providing the inpatient cardiac rehabilitation. For SIH, this has been a good transition. We need our nurses elsewhere and the education background of an exercise physiologist is perfect for providing this type of education. It is also very helpful that both of us have spent many years in outpatient cardiac rehabilitation and are better at explaining exercise and what outpatient cardiac rehabilitation will entail.

Reflection on Process:

4. What worked well?

- a. We began going through the entire bed list (instead of just relying on printed orders or worklists) to find patients that were being missed. Prior to this change the only patients being seen were the few that a physician would remember to put in a Phase I order in the system. We were missing a lot of heart attack, heart failure, and heart disease without intervention patients.
- b. We divided up our work load between the two Phase I staff members. One staff member is responsible for ambulating and educating every heart surgery patient. (We ambulate them 1 of their 4 times every day and provide pre- and post-op discharge education.) The other staff member takes on all the heart attack, angioplasty and stent, angioplasty only, heart failure, and heart disease patients.
- c. Speaking directly with the physician and explaining what education and why it was important was critical. They were very supportive of having someone come in and talk at length with the patient about their disease process.

5. What were the opportunities for improvement?

- a. We are still working on our automatic order sets so that the Phase I staff does not have to pursue the order for outpatient cardiac rehabilitation. We want to make sure every appropriate patient automatically has an order for outpatient cardiac rehabilitation without anyone having to double check the orders in the system.
- b. We are also working to improve our care of our transcatheter aortic valve replacement patients. This is a new service for our hospital and are still working to make sure the inpatient cardiac rehabilitation staff is an integral part of their hospital stay.

6. How long have you been implementing these changes?

These changes have been in place for 6 and a half years.

Future/Next Steps

7. Do you anticipate making any changes in the future to your current process?

Our process and workflow is in constant review. If at any point we feel that something needs to be changed or eliminated we will do it. Our goal is always to see as many patients as we can and get them all to outpatient cardiac rehabilitation.

8. Do you have any supplemental materials you would be willing to share?

- Educational books we use are obtained from the following company. We order the Heart Disease, Heart Failure and Cardiac Surgery books at <https://www.hercpublishing.com/>.
- “Welcome to Phase I Cardiac Rehab” binder content (see below)



Welcome to Phase I Cardiac Rehab

This binder should help you to find everything you need and show you what you need to do with each pt. Phase I walks all the open heart (sternal incisions only) pts once per day as well as providing education to all of the following pts:

- Heart Surgery- CABG & Valve (all pre-op and discharge instructions)
- MI
- PCI
- PTCA
- Chest Pain w/CAD (medical management)
- HF
- TAVR

Phase I takes care of all the teaching required at discharge for Core Measures for the CHF and MI patients.

*The shift for Phase I will start at 0645 and will end at 1515.

*No cells phones allowed in patient care areas.

Phase I Daily Job Tasks

1. Check worklist for Phase I orders
2. Print the daily census/bed list
3. Compare census for previous day to see who has received education
 - If it says “done” the education was completed
 - If it says “chart” they need something else (typically surgical pts)
4. View or print echo list for possible HF patients
5. Determine who is appropriate for education
 - Any pt with the following diagnosis listed on the census needs to be screened for possible education
 - STEMI
 - Acute MI
 - CAD
 - HF
 - Valve disease
 - Chest Pain or Unspecified Chest Pain
 - Stable or unstable Angina
 - CP
 - Elevated troponin
 - SOB
 - A Fib
 - Weakness
 - Any of the following pts. with or **without** a physical order need ed
 - MI
 - PCI
 - PTCA
 - Chest pain w/documented CAD (medical management)
 - Heart surgery (CABG/Valve/or sternal opening)
 - HF **≤39%** or documented diastolic **per cardiology**
6. Confirm that the following have a Phase II order
 - MI
 - PCI
 - PTCA
 - Heart Surgery/Valve Surgery
 - TAVR
 - CP w/CAD
 - HF **≤35%**

7. Print cardiac intervention list from cath lab

- All these people should have a Phase I and Phase II order if they received any intervention
- You may have to do some looking in EMR for procedures and/or orders
- If the Phase II order was not entered you may have to get one of the NP's to physically enter it into the Discharge section of the EMR

8. Order of floors/education to see

- Provide education to Cath lab patients first (discharges by 7:30-7:45)
- Check/screen the hospital bed list for any patients appropriate for education
- Walk any surgical pts in CVICU and PCU
- Provide education to any patient that had intervention done
- Provide education to all MI, HF, and other patients appropriate for education

9. Please chart/document for each patient **immediately** after seeing them

***see specifics in the binder as to obtaining the lists, documentation, and billing**

Example of Education Provided

MI/PCI Education Process

- 1. Make introductions**
- 2. Pages 4-5 of CAD book (<https://www.hercpublishing.com/>)**
 - Discuss disease process
 - Show picture of vessel locations
 - Identify location of vessel fixed (if appropriate)
 - clarify this is a chronic disease
- 3. Page 7 of book**
 - Discuss symptoms
 - Tell patients to pay attention to how they feel in the coming weeks to identify ALL symptoms (not just recent chest pain)
 - Discuss importance of calling 911 versus driving self
- 4. Page 8 of book**
 - Discuss NTG use if appropriate
- 5. Pages 9-10**
 - Discuss MI versus just blockage and its significance (“time is muscle”)
 - Discuss reduction in EF if necessary
- 6. Pages 11-12**
 - Discuss tests
 - Go over interventions (PTCA/PCI)
 - Show video and actual stent/angioplasty procedure
 - Give stent card and tell them to keep with them at all times
- 7. Page 13**
 - Discuss return to work, leg/radial precautions etc. if appropriate
- 8. Page 15**
 - Go over 4-5 typical medication classes usually given and why
 - *ace, beta, asa, antiplatelet, statin
 - *significantly stress the importance of antiplatelet use and not to stop without cardiologist approval
 - *discuss the multiple benefits of statin therapy
- 9. Page 16-end**
 - Go over risk factors
 - Write in and discuss lipid values
 - Discuss heart healthy eating and walk them through the pages in the book
 - Discuss diabetes and smoking cessation (have additional smoking packet to give) if appropriate
 - Discuss importance of exercise and cardiac rehabilitation
- 10. Talk in detail about outpatient CR and how we will contact them and when they should begin**
 - Stress the importance of attendance and the significant physiologic benefits
 - Explain the difference between exercise and daily activity
 - Explain exercise like any other drug- we need to determine the correct “dose” for each individual and outpatient CR will help with this
 - Provide outpatient CR brochure and your business card and phone number
- 11. Ask patient/family if they have any questions**