

AACVPR Case Study: Penn Medicine

Title: A Systematic Approach to Increasing Cardiac Rehabilitation Referrals

Author Name: Elizabeth Jolly, RN, BSN, MBA

Author Institution: Penn Medicine

Motivation and Operations

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

- We were primarily motivated by learning we were not providing our patients with optimal guideline-directed, evidence-based care by not referring them to cardiac rehabilitation. Additionally, we were motivated by our hospital's poor performance in outcome metrics including cardiac rehab referral rates in the NCDR ACTION and Cath-PCI registries as well as the metric measuring "defect-free care."
- We were closely monitoring readmission rates for cardiovascular medicine patients and looking for ways to improve post-acute care to help prevent readmissions.

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

Not applicable.

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

- We utilized an A3 problem solving (derived from Toyota's Lean Production System quality improvement method) approach to achieve the changes. No additional staffing was required. We started by approaching the problem with the notion that the entire cardiac rehabilitation referral pathway should be framed in an opt-out way given the strength of evidence behind it. We created a process map identifying the appropriate team member and process by which a cardiac rehab referral could be facilitated. Multidisciplinary teamwork was vital to our success whereby the appropriate process owner now takes the lead on eligible referrals. Our case management and transitions coordinator team included facilitation of cardiac rehab referrals to the daily workflow.

Reflection on Process

4. What worked well?

- Identification of a geographic network of cardiac rehab facilities was very helpful in completing the referral in a small window of time.
- A daily "nudge" to team members alerted them to eligible patients in real time.
- A prepopulated order requiring minimal provider input other than a signature.
- A dashboard of patients with the qualifying diagnosis serves as a highly visible hub of pertinent information and a resource to track who was eligible, ineligible, referred and even declined services.

5. What were the opportunities for improvement?

- We continue to closely monitor the process.
- We are currently identifying the discrete fields from our upcoming cardiovascular information system (Epic's Cupid solution) in order to "feed" the eligible patients to our dashboard for a more automated alerting system.

6. How long have you been implementing these changes?

- Our new process went live January 2017. We have seen increased referral rates in every quarter since that time according to the Cath-PCI registry.

Future/Next Steps

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

- The automated "feed" to our dashboard requires updates as we transition to a new cardiovascular information system.
- Plans for wider scope to include additional qualifying cardiovascular diagnoses i.e. cardiothoracic surgery, heart failure, etc.
- Scale this process to our sister campuses.
- Scale this process to the outpatient setting.

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

- Screenshot of the dashboard (powered by a homegrown system called Agent which sources information from our Epic electronic health record) (see below)
- Screenshot of the "nudge" to alert team members of an cardiac rehab eligible patient in real time (see below)

Dashboard of Patients with Qualifying Diagnoses to Track Who Was Eligible, Ineligible, Referred, and Declined Services

Home

Cardiac Rehab Referrals

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ECG

Eligible Patients
Referred Patients
Patient Refused

Patient	Room	Admit Info	Interventions	Pilot Tasks	Resolved?
<div style="display: flex; align-items: center;"> ● <div style="border: 1px solid blue; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin-right: 10px;"> KC </div> </div>	~~~	7/9 – Nstemi PCI Cards: Dr A Zip: 19203	Patient consented Rehab contacted 215-555-1234	<div style="display: flex; align-items: center;"> + <div style="margin-right: 10px;"> ✓ Reviewed </div> <div> ✓ Order placed </div> </div>	<div style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; background-color: #ccc; margin-bottom: 5px; text-align: center;">Referred</div> <div style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; background-color: #ccc; text-align: center;">Refused</div>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid blue; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin-right: 10px;"> YG </div> <div style="margin-right: 10px;"> Discharged </div> </div>	~~~	7/7 – DES RCA Cards: Dr S Zip: 19102	Patient consented Rehab contacted and provided info	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> ✓ Reviewed </div> <div> ✓ Order placed </div> </div>	<div style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; background-color: #ccc; margin-bottom: 5px; text-align: center;">Referred</div> <div style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; background-color: #ccc; text-align: center;">Refused</div>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid blue; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin-right: 10px;"> DO </div> </div>	~~~~	7/6 – LM PCI Cards: Dr W Zip: 19135	Patient refused, will discuss at f/u with outpt cardiologist	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> ✓ Reviewed </div> </div>	<div style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; background-color: #ccc; margin-bottom: 5px; text-align: center;">Referred</div> <div style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; background-color: #ccc; text-align: center;">Refused</div>

Screenshot of the “Nudge” to Alert the Team Member of an Eligible Patient in Real Time

