Central Vermont Medical Center
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Quality Improvement Projects

STEMI Care at CVMC

Project Aim:
The aim of this project is to get patients suffering a heart attack (myocardial infraction) because of a blocked coronary artery out of the emergency room at CVMC and to a cath lab within 90 minutes of arrival to CVMC.

Description of the Project
What is a stemi? STEMI stands for ST Elevation Myocardial Infarction. This means a patient is having a heart attack (MI) most likely due to a blocked coronary artery that needs to be reopened to allow blood (and the oxygen it carries) through to the heart muscle on the other side of the blockage.

Recent literature and real life experiences has shown that if a patient having an STEMI can get to the cardiac cath lab and get the artery reopened within 90 minutes of arrival at the hospital, there is a better chance of survival and have much fewer complications than a patient who has received lytic therapy (clot busters).

With the goal of 90 minutes from arrival at our door until balloon inflation at Fletcher Allen Health Care (FAHC) cath lab, the emergency department (ED) staff had to figure out how to make that happen. There are some variables that the ED staff have no control over such as transport time (30-40 minutes) and how long it takes FAHC to open the artery (under 30 minutes. That left the ED staff with approximately 30 minutes or less to provide the needed things for the patient and get them out the door and headed north.

The Ed staff looked to cut time anywhere they could without diminishing care to these critical patients. A few things done to cut time were to develop a STEMI box that has all of the critical medications needed in the care of this patient. They developed a STEMI form to expedite the documentation process which includes physician orders, nursing documentation and meds. This form continues with the patient until their arrival at FAHC.

The ED staff has taken on this challenge with a vengeance and is doing a remarkable job. They are routinely getting these patients out of our emergency room and headed to FAHC in less than 30 minutes, some as fast as 17 minutes. Our average door to balloon time is 92 minutes. That includes some patients that were here longer than 30 minutes because they were too unstable to leave in an ambulance and required numerous interventions to stabilize their condition before they left. The ED staff plans to keep working to decrease the door to balloon to continue to provide excellent care to the residents of Central Vermont.

Quality Improvement Initiative
Environmental of Care/Infection Control Surveillance Rounds

Project Aim:
Develop coordinated environmental rounds to identify deficiencies, to assign accountability for correction and provide a mechanism for follow-up to ensure the improvements were sustained.

Description of the Project:
During a state survey in February 2009, several deficiencies were identified in the environment at CVMC related to infection prevention and general cleanliness. There are federal and accreditation regulations in place that mandate environmental rounds are made at a minimum of twice a year in patient care areas and at least annually in non-patient care areas. The Infection Prevention and Control Department, the Facilities Department and Building Services all made rounds but there was no coordinated effort and each department were reviewing the environment from their own perspective. There was also resistance on the part of some departments to allowing a full inspection of their work areas.

CEO Judy Tarr and the senior leadership team gave a charge to the Infection Prevention and Control Department to develop a plan for addressing the surveillance rounds, to include all necessary departments and to create a system for identification of problems and a tracking mechanism to ensure that the problems or concerns were corrected. A schedule was created with input from Building Services, Facilities and Education which mandates rounds weekly at a specific time each week. A member of the Environment of Care committee is scheduled to participate in the rounds each month. An excel spread sheet was developed and placed on the common shared drive so all department managers where rounds were done could review the entries, identify the areas needing attention, indicate how the problems or concerns would be addressed and to indicate when the corrections or problems were corrected. The schedule includes all areas in the main hospital building and the physician practices associated with Central Vermont Medical Group Practices.

The results of the surveillance rounds are reported each month at the Environment of Care Committee and the compliance with resolution of issues is reported quarterly on the Environment of Care scorecard which is reviewed at the Quality Council. It is obvious that the rounds have produced the desired effects. There is an improvement on the units – more organized and professional storage is much better – and the negative findings are less each time a unit, department or clinic is visited. Most managers appreciate the support in getting their units in compliance. Administrative support has been vital in the success of this endeavor. Managers and department heads are held responsible and accountable for correction of the issues identified in their departments. And regulatory and accreditation surveys have shown the value of the initiative as there have been few or no violations of environment of care and infection prevention standards since this improvement project has been implemented.

Patient Safety Initiative
Electronic Medical Record in the Medical Group Practices

Project Aim:
To improve care delivery and management for patients in the medical clinics and to improve the consistency of follow-up for the medical group practices owned by CVMC by initiating a paperless medical record. This also aligns with the goals of the Vermont Blueprint for Health and Medical Home initiatives, both of which CVMC Medical Group Practices participate.

Description of the project:
The administration of the Central Vermont Medical Group Practices (CVMGP) recognized that in this age of increasing government mandates and financial incentives it was best practice to introduce an electronic medical record to the practices. An electronic medical record provides the ability to interface medical information with hospital systems and related care providers. The electronic medical record provides faster access to vital patient information after hours and away from the home office (example: able to provide critical detailed information to an out of area admitting hospital in the middle of the night for an emergency admission of a CVMGP patient). An electronic medical record improves the follow up care and provides information in a consistent format and it improves legibility especially with prescribing.

The first MGP to begin using the electronic record was the practice at Waterbury Medical Associates in March 2008. The remainder of the practices rolled out over the next year, a new practice every month.

In order to minimize the intensity of the change for everyone (providers and all other staff) a great deal of time was invested in training and support. Each user received 8-12 hours of classroom training and then extensive on site support the first 3 weeks each practice was live. The first week a practice was using the electronic medical record there was almost a one-to-one support for the providers. After that there was support available by phone and additional on-site support as needed either for the group or individually to address specific areas of concern. The extent of the training and the on-site support that CVMC committed was nearly unheard of in this industry.

The EMR software world is not totally attuned to the actual needs and flow of a medical office. The product often seems cumbersome and it takes longer to complete many tasks that previously seemed to take only seconds. However, some of the things that take longer are also some things that needed to have more time dedicated to them – like medication reconciliation. Other processes, like ordering tests, have become more burdensome and the MGP administration and electronic record support staff continue to challenge the systems to make tasks easier and more efficient.

Some of our providers had not used computers much before this and went onto it with probably more trepidation than others but have, in fact, done as well or better than others who were computer savvy. A few of the providers and staff were less enamored of the electronic world but all have truly stepped up to the challenge, and it is a HUGE change. The use of a paperless system in the CVMGP has been a success by making information available faster and in a timely manner for sharing between the hospital and the providers in the offices and clinics.