Abstract 2

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Title: Cardiac Observation Unit Decreases Length of Stay

Background:
Prior to opening the Cardiac Observation Unit (COU), low risk chest pain patients admitted to observation status on an inpatient unit had a mean length of stay (LOS) of greater than 24 hours. This contributed to an increased utilization of inpatient beds, increased use of Emergency Room (ED) resources, and increased diversion rate. Our objective was to provide evidenced-based expedited care for patients that met specific low risk criteria for chest pain in a 620 bed, urban, quaternary care center in Milwaukee, Wisconsin.

Methods:
A nurse-led multidisciplinary team developed a Cardiac Observation Unit (COU) with the goal of significantly decreasing the length of stay for low risk chest pain patients. An algorithm, based on American College of Cardiology (ACC) criteria, was created to guide management in a closed unit. An after hours stress test call in process was created and implemented to decrease the time from order to testing. An observational study was done to assess the impact of the COU. Student’s t-test was used to compare continuous variables between groups and a Chi-Square test was used to compare categorical variables.

Results:
There were a total of 1541 low risk chest pain discharges between 1/1/12 and 10/31/14. Of the total low risk chest pain discharges, 767 (50%) were discharged after the COU opened. Of those, 305 (40%) were discharged from the COU. Patients discharged from the COU had significantly lower LOS compared to those discharged anywhere else in the hospital during the entire timeframe (13.3 ± 5.8 vs. 25.0 ± 8.1 hours, p<0.01). Of the total patients discharged from the COU, 207 (68%) were discharged within 16 hours of admission compared to 143 (12%) of patients discharged elsewhere (p<0.01). Along with a shortened overall LOS, patients who had a stress echo ordered had significantly shorter time from order to start of testing (5.3 ± 4.3 vs. 8.7 ± 6.6 hours, p<0.01). The mean ED LOS was also significantly lower in those discharged from the COU (194.5 vs. 232.5 minutes, p<0.01). Chest pain patients who received expedited care from the COU did not result in patients returning to the hospital more often. Patients discharged from the COU had a lower inpatient readmission rate within 30 days of discharge compared to those discharged from other units (1 (0.33%) vs. 21 (1.7%), p=0.07).
Conclusion:
Patients discharged with low risk chest pain from the COU had significantly shorter ED LOS and overall LOS. They had shorter times between order of and start of stress echo. Although it was not statistically significant, a trend toward reduced 30-day readmission rate amongst those discharged from the COU was noted. The use of a cardiac observation unit and a diagnosis specific algorithm offers better clarity of the patient's problem, helps to avoid unnecessary hospitalization, expedites care and streamlines ED throughput. With the help of a COU Patient Flow Team, we were able to expand utilization of the COU by modifying the protocol to include moderate risk chest pain patients and other appropriate cardiac low risk diagnoses, which have continued to impact LOS and ED throughput for cardiac patient populations at our hospital.