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Does the Initiation of Nurse Initiated Orders Decrease Emergency Patients' Length of Stay?



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Purpose

The purpose of the study is to evaluate whether Emergency Department (ED) 'Nurse Initiated Orders' (NIO), namely when an RN initiates physician-approved orders for a patient prior to the physician seeing the patient, reduces length of stay (LOS).

Background

ED LOS is defined as the time from patient registration to departure from the ED. LOS in EDs has lengthened due to overcrowding. ED overcrowding, when patient volume exceeds available resources, is considered a "national epidemic" by the Institute of Medicine. Abdominal pain is one of the most common complaints evaluated in the ED setting. ED RNs use the Emergency Severity Index (ESI) to triage patients. ESI is a valid and reliable five-level triage algorithm that categorizes patients by evaluating both patient acuity and resource needs. These patients are most often hemodynamically stable and therefore assigned an ESI level 3, a population known to have an extended LOS. Research has shown that the implementation of NIOs can decrease LOS. This study compares LOS on female patients who NIOs were and were not initiated with the 'abdominal pain-lower and/or vaginal bleeding >11 years and < 18 weeks pregnant' order set.

Assessment

ED LOS for patients discharged home at Providence St. Vincent since February 2015 is 221 minutes (3 hours, 41 minutes). Nationally ED LOS best practice is defined as < 150 minutes (2:20). Baseline data was downloaded from Epic for 30 days (May 1st to May 31st) to determine the ED LOS on these patients who both did and did not have NIOs initiated, excluding patients who left without being seen (LWBS) or left against medical advice (AMA). The baseline data included 61 pregnant abdominal patients. A total of 50 (77%) had NIOs ordered with an average LOS of 310 minutes (5:10); the remaining 15 (23%) had an average LOS of 300 minutes (5:00) (p>.05).

Goals

The initiation of the NIO 'Abdominal Pain-lower And/or Vaginal Bleeding > 11 years and known < 18 weeks Pregnant' decreases ED LOS. The NIO order set was initiated for one of the following 4 chief complaints of abdominal pain, pregnant; pregnant; vaginal bleed; and/or vaginal bleed, unknown pregnant.

Intervention

Teaching reviews to ED staff on the NIO order set were completed in daily ED start-of-shift huddles from June 25 – July 2. Teaching tools included an algorithm and a notebook to use as a reference if needed. An opportunity to answer any questions from staff was provided. The NIO order set was to be initiated for any of the 4 chief complaints mentioned above. Post-teaching data collection began July 2nd through July 26th.

Evaluation

The follow-up data included 101 patients, including 68 (69%) with NIOs and an average LOS of 305 minutes (5:05) and 33 (31%) without NIOs and an average LOS of 221 minutes (3:41). Because the baseline and the follow-up data were so similar for NIO completion and LOS, all 162 patients were combined for additional analysis.

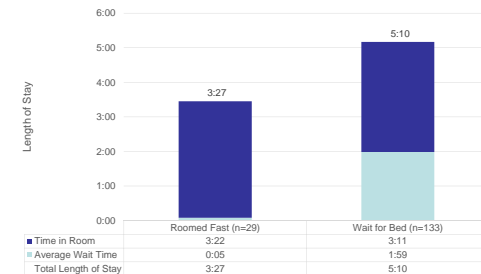
Thirty-eight percent of these patients were seen on Saturday or Sunday, slightly higher than the expected 29% if patients were evenly distributed throughout the week.

LOS did not differ pre and post intervention. However LOS was significantly different for patients who were 'roomed fast' (within 15 minutes) than patients 'not roomed fast' (16 or more minutes). Our study showed 29 patients (18%) were 'roomed fast' with a mean of 5 minutes and 133 (82%) patients were 'not roomed fast' with a mean of 119 minutes (1:59, see graph). Forty five percent of 'roomed fast' patients arrived in the am versus 26% of 'not roomed fast' (p=.042). NIOS were more likely to be initiated for patients 'not roomed fast': 55% of patients 'roomed fast' and 78% of patients 'not roomed fast' received NIOs (p = .019). LOS was significantly shorter for patients 'roomed fast' (3:27) than for patients 'not roomed fast' (5:10) (p<.001). This study showed no difference in roomed LOS between 'roomed fast' (3:22) and 'not roomed fast' (3:11) patients (p>.05).

A limitation in this study was it examined NIOs *initiated* and not NIOs *completed*. It is suspected that completion of NIOs would reduce LOS. Biases may include RNs focused on the designated NIO post-teaching. It may also include biases such as variation in NIO initiation by individual and/or shift start time (i.e. culture of department).

Next Steps

Implications for practice will be communicated to leadership in a follow-up meeting and discussed using this poster. Information will be also shared to staff in daily huddles for one week. Other recommendations include evaluating order rate of NIOs versus completion rate. We believe NIOs completed reduce LOS as indicated in prior research studies. However, an RN has to be independent in ordering studies, needs to have an resource (RN or tech) to complete studies, and necessitates a designated area to perform. Suggestions for future studies include time studies exploring how long it takes for particular diagnostic studies to get completed i.e. pelvic ultrasounds, ABO blood work.



References

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