



Implementation of a Discharge Unit in an Acute Care Hospital to Facilitate More Efficient Patient Throughput

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Problem

- Sentara Obici Hospital, similarly to many other Sentara facilities, had high treat and admit times for patients in the Emergency Department (ED) in 2017
- Slow patient throughput within the hospital likely contributed to the high treat and admit times
- A goal for 2018 was to decrease those times via the development of a discharge unit

Background

- Literature suggests that having patients holding in the emergency department results in over-crowdedness
- Additional evidence suggests that over-crowdedness results in poor patient outcomes and poor efficiency metrics
- Discharge units have been shown to save inpatient bed hours

Main Aim

The specific aim of this study was to evaluate the effect that a discharge unit has on discharge order to leaving room times, length of stay (LOS), and ED treat and admit times.

Discharge Unit Criteria

- Open Monday through Thursday
- Ineligibility Criteria
 - Isolation (Contact, Droplet, Airborne)
 - Impulsive, safety concerns
 - Mother-baby patients
 - High acuity needs
 - Unconfirmed discharge time
 - Conditional discharge unfulfilled



Methods

- Retrospective review of records
- Inclusion/Exclusion Criteria
 - All patients must be 18 or older with admission dates between March 31- July 31, 2017 and March 31- July 31, 2018 who are admitted to SOH with an inpatient or an observation status
- Independent Samples T tests were used to assess mean differences
- Homogeneity adjusted estimates were reported when assumption was violated

Results

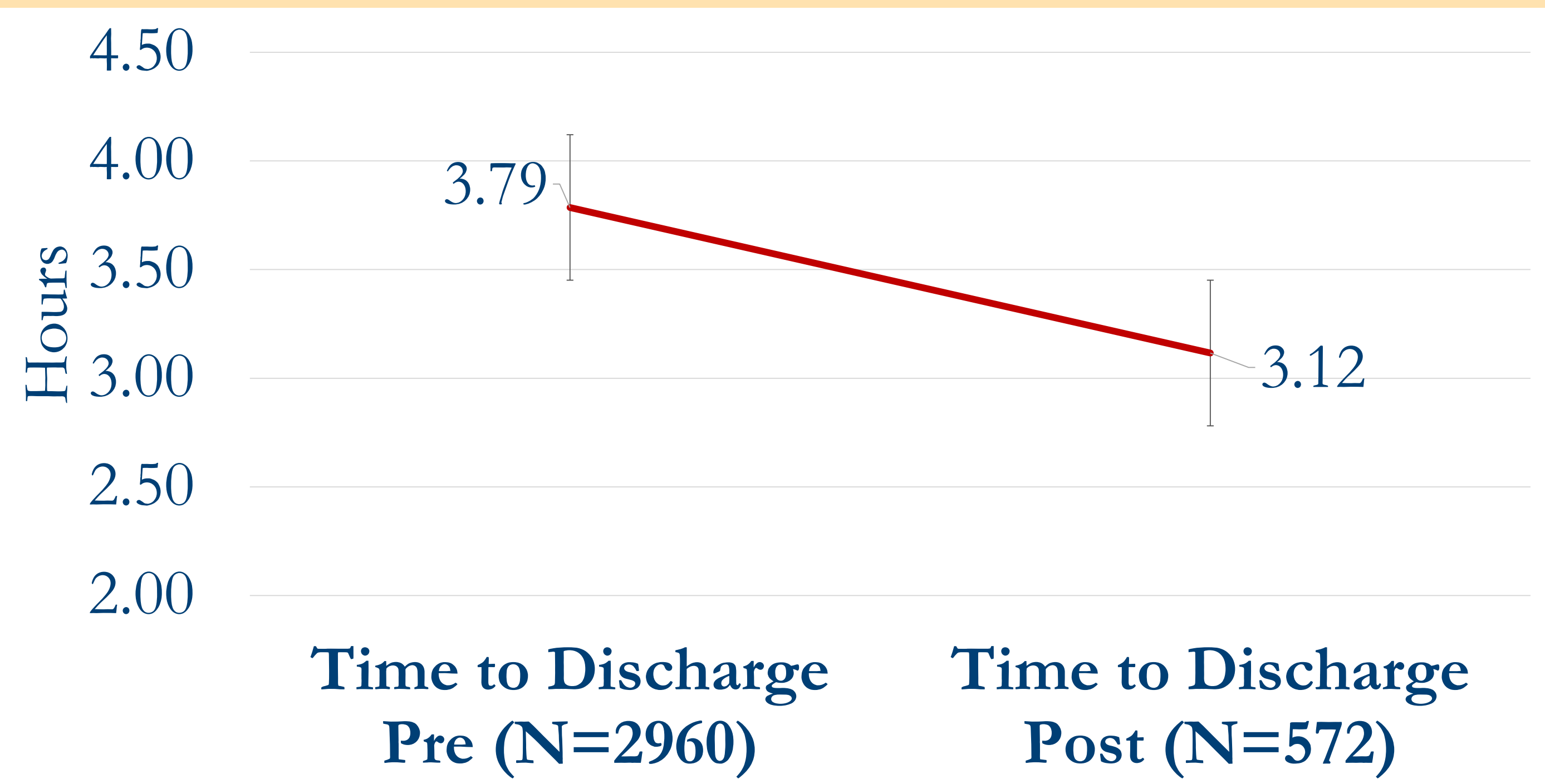


Figure 1. Difference between discharge order time and time the patient left Sentara Obici Hospital post implementation of a discharge unit.

- There was a statistically significant decrease in the time that patient waited to leave the hospital after the discharge order was entered into the electronic medical record from pre (M= 3.79, SD= 4.21) to post (M= 3.12, SD= 2.48) implementation of a discharge unit $t(1308.51) = -5.17, p < .001$

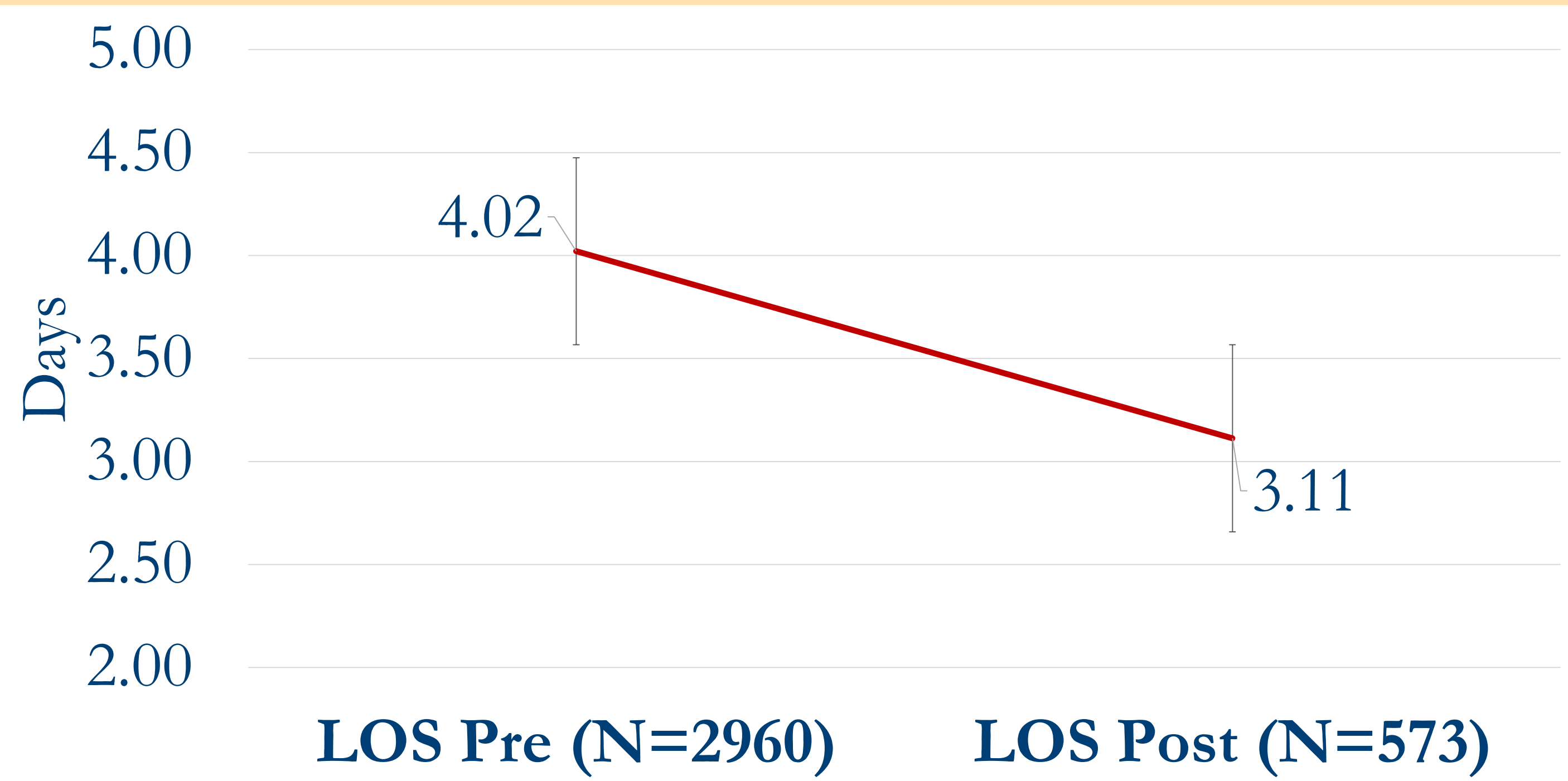


Figure 2. Patient LOS pre and post implementation of a discharge unit at Sentara Obici Hospital.

Results (Continued)

- There was a statistically significant improvement in LOS at Sentara Obici Hospital from pre (M= 4.02, SD= 3.70) to post (M= 3.11, SD= 3.01) implementation of a discharge unit $t(937.05) = -6.38, p < .001$

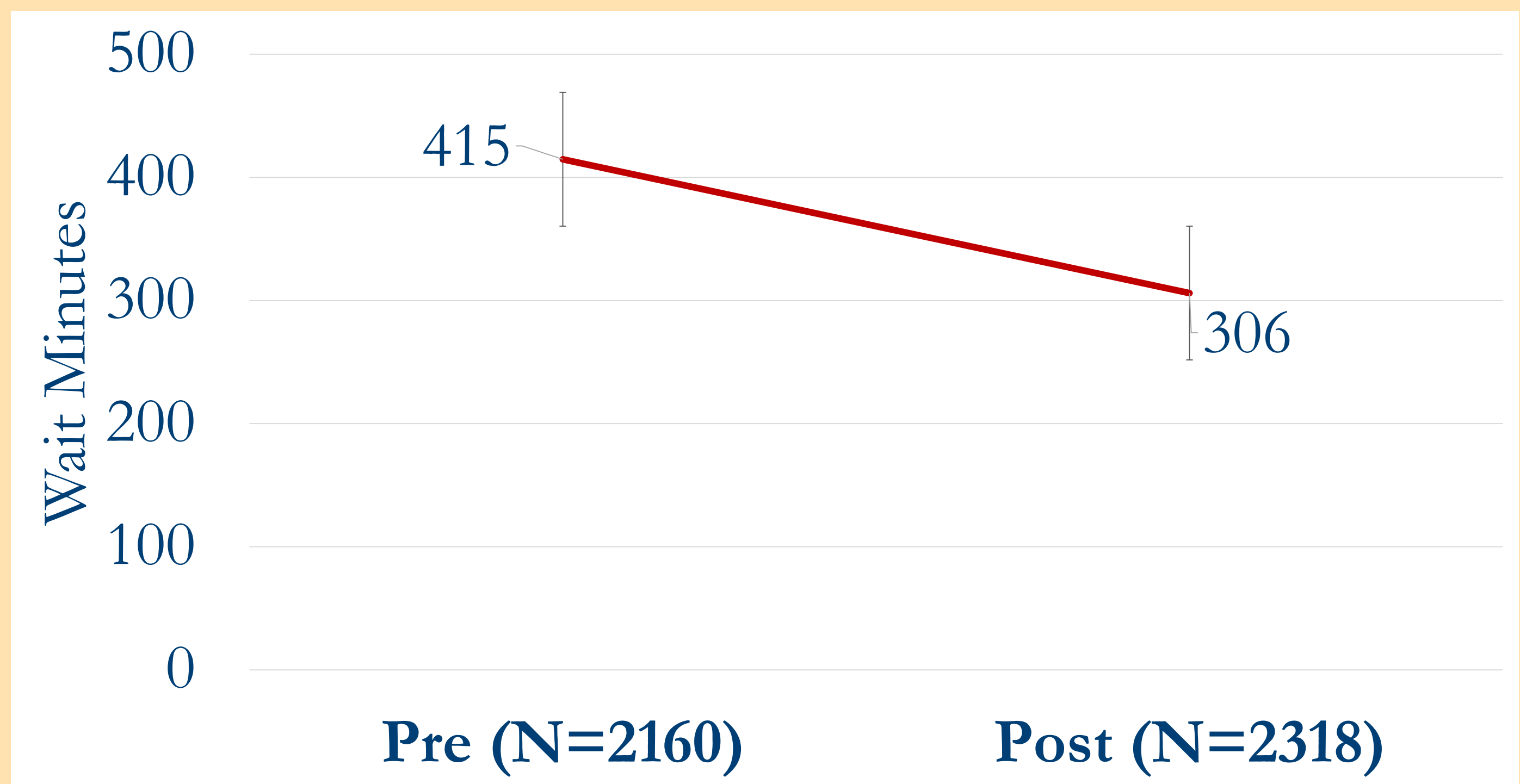


Figure 3. Emergency department treat and admit times at Sentara Obici Hospital pre and post implementation of a discharge unit.

- There was a statistically significant improvement in emergency room treat and admit times at Sentara Obici Hospital from pre (M= 414.69, SD= 261.24) to post (M= 306.06, SD= 195.32) implementation of a discharge unit $t(3986.24) = 15.67, p < .001$

Discussion & Implications

- The discharge unit was effective in reducing discharge times by 40 minutes on average thus helping patient throughput within the hospital
- Patients discharged through the discharge unit had a significantly lower LOS (almost 1 day shorter on average) which can be partially attributed to timely discharge
- Lower ED treat and admit times in the post period, by 109 minutes, may have resulted in positive patient outcomes due to the patient receiving timely care on the admitting unit
- Patients in the discharge unit receive higher quality, uninterrupted discharge instructions
- A limitation was that the sample size for the comparison group was lower than the pre-period
- Future studies should investigate the patient satisfaction with the discharge process on the unit and compared that to patient satisfaction for all other discharged patients

Please contact Brittney Curle at BJWARRE2@sentara.com with any questions or comments.
References available upon request