

Impact of standardized admission order templates on COPD exacerbation length of stay and readmission rates.

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Introduction: The use of systemic steroids in the setting of Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) in the hospital remains a topic of controversy. Despite promising results of non-inferiority of oral versus intravenous (IV) steroids, there has not been convincing data indicating a shift in treatment strategies. Within the Providence Hospital system, a COPD exacerbation admission template has been implemented with goals of reducing hospital length of stay (LoS). Included in the admission template are recommendations on steroid administration, antibiotics and bronchodilator therapy. The steroid strategy incorporated is IV administration of 60mg methylprednisolone every 6 hours for 24 hours with an automatic transition to oral prednisone of 40mg on day 2 onwards. Since implementation of the order template, the use, adherence and efficacy of this strategy has not been studied.

Methods

This was a retrospective, single center, observational chart review of patients admitted to Providence Hospital with a primary diagnosis of COPD exacerbation from 2009 to 2014. Primary observation of LoS and readmission rates in relation to use of admission template. Secondary observation of adherence to admission template, demographics and confounding variables was also reviewed.

Results

A total of 1783 admissions were analyzed with a mean LoS of 4.8 days and readmission rate of 16.7%. 757 admissions used the admission template yielding an average LoS of 4.33 days vs non-template user with an average LoS of 5.20 days. Readmission rates were 19.8% and 14.4% for template user and non template user respectively. Further analysis of whether adherence to the steroid strategy within the admission template yielded no difference in readmission rate or length of stay.

Conclusions

With an average reduction of almost one day, the use of the template has shown improvement in LoS of AECOPD. There does appear to be a statistically significant increase in readmission rate with an odds ratio of 1.47 for individuals that used the admission template. The results of the review shows promising data with the use of admission templates to decrease LoS. Further analysis of confounding variables, total steroid administration, discharge steroids are being performed to further evaluate the observed results.