

IMPLEMENTATION OF A STANDING ORDER SET IMPROVES TIME TO TREATMENT IN PEDIATRIC PATIENTS WITH SEVERE ASTHMA EXACERBATIONS

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Background:

Data from our institution's Pediatric Emergency Department (PED) revealed inadequate compliance with evidence based guidelines for the initial treatment of asthma exacerbations. We implemented a triage nurse initiated standing order set (SOS) in February 2012 to address these deficiencies. Patients presenting with severe exacerbations are in greatest need of timely medication administration and we hypothesized the SOS would reduce their time to initial treatment.

Methods:

Patients were identified from a search of respiratory care services' electronic records for pediatric patients who received continuous albuterol in our PED following an IRB-approved protocol. The SOS was implemented on 2/23/12. The pre-SOS and post-SOS groups included patients treated from 2/21/09 - 2/22/12 and 2/23 - 10/31/12, respectively. Data tracked included age, gender, triage priority, use of SOS, time to bronchodilator treatment, time to corticosteroid administration, and total time in the PED. Time to treatment was measured from triage to medication administration. Statistical analysis was done via Fisher's Exact Test for categorical variables, and the unpaired t-test for continuous variables.

Results:

Two hundred and thirty-nine patients (mean age 7.2 years, 66% male) were included in the analysis. Pre-SOS (n=193) and post-SOS (n=46) groups were similar in age, gender, triage priority designation, and ED length of stay. Compared with patients in the pre-SOS group, post-SOS patients were more likely to receive inhaled bronchodilators within 30 minutes (60% vs. 89%, p=0.01); to receive corticosteroids within 60 minutes (62% vs. 78%, p=0.04); and to have shortened mean time to corticosteroid administration (58±69 vs. 36±39 minutes, p=0.04). Time to initial treatment with inhaled bronchodilators was shortened but did not reach statistical significance (32±41 vs. 20±31 minutes, p=0.06). In the post-SOS group, only 56% of eligible patients had the SOS implemented; of these only 9% had the SOS ordered by the triage nurse as planned.

Conclusion:

Implementing a SOS resulted in a decreased time to inhaled bronchodilator and systemic corticosteroid administration among pediatric patients presenting with severe asthma exacerbations. Strategies to increase utilization of the SOS in triage may lead to improvement in patient-oriented outcomes such as admission rate, PED length of stay, and ICU admission.