

## PUBLISHED ABSTRACT

# A Quality Improvement Project to Assess Compliance in the Provision of Asthma Home Management Plan of Care Documentation

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### Background

Asthma is a major cause of morbidity and hospitalization, with a prevalence of 12.5% in children under the age of 18. The Joint commission (JC) and the Children's Asthma Care (CAC) advisory committee recommend that pediatric inpatient asthma management should include the provision of the Home Management Plan of Care (HMPC) document prior to or at the time of discharge. HMPC documents have been shown to improve asthma management and quality of life, as well as reduce number of missed days at school and work.

### Methods

An internal benchmark of 90% compliance in HMPC was set. Inclusion criteria were patients between the ages of 2 and 17 years discharged from the pediatric in-patient unit with a principal diagnosis of asthma. Exclusion criteria were patients enrolled in clinical trials, age less than 2 years or 18 years and older, and hospital stay exceeding 120 days. Retrospective chart review was conducted from 2009 to 2018. HMPC was considered complete if it included all five sections: dose, method and timing of rescue medications, use of controllers, follow-up appointment information.

### Results

From 2009 to 2018, 2642 patients were discharged with a primary diagnosis of asthma. Initial compliance in HMPC documentation was 59%. From 2009 to October 2016, compliance had increased to 72% which was mostly attributed to behavior-based interventions. From October 2016 to August 2017, compliance had increased to 96% which was mostly attributed to EMR based modifications. By the end of the 16th PDSA cycle, the overall compliance was 99%.

### Discussion

In 2009 the HMPC was documented in the paper chart, which migrated to EMR by 2014. Interventions initially focused on resident education and reminders. Although, quarterly reports of compliance were made, actual "Plan Do Study Act" (PDSA) cycles with interventions were not performed until 2014. A total of 16 PDSA cycles were completed for this project. In December 2016 a hard stop was created by the information technology department requiring the presence of HMPC document before an electronic discharge order could be placed. Hard stops were also placed within the HMPC document to ensure that all fields were completed before document could be saved. Also in December 2017, the HMPC was made in the preferred language of the patient with an option of either Spanish or English. Quarterly data collection and analysis were also done.

### Conclusions

Resident training increased compliance rates of HMPC documentation, however utilization of EMR modifications with hard stops further yielded sustained increase in compliance. EMR based interventions may result in sustained improvement in clinical practice among health workers, compared to education and behavior-based interventions alone.

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