

The Children's Hospital of Philadelphia (CHOP)

### **Organization Name:**

The Children's Hospital of Philadelphia (CHOP)

### **Organization Address:**

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### **Schema Archetype**

Out-Patient Group Specialty

### **Schema Factors**

Outpatient, >10 Providers, Pediatrics, Urban, Suburban

### **Organization Summary**

The Children's Hospital of Philadelphia (CHOP) was started in 1855 as the country's first children's hospital. CHOP has a main hospital building with 460 Beds, 23 affiliated primary care practices in Pennsylvania, and 5 practices in New Jersey. CHOP Pediatrics & Adolescent Care (formerly Kids First) is the name given to the outpatient satellite sites of the Children's Hospital of Philadelphia.

### **IT Environment**

All primary care practices owned by the hospital use an EMR. In the 12 practices that care for many pediatric patients with asthma, the EMR has embedded an internally developed and validated pediatric asthma control tool that guides the nurse or physician through 8 questions related to the patient's asthma. Answers are encoded in the EMR.

The EMR also has embedded templates to help determine severity. Through the EMR, spirometry and order sets are also facilitated. The EMR eases on-screen ordering and also provides support for the use and interpretation of spirometry testing.

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## **CDS Achievement**

CHOP first implemented alerts specific to care of asthma in 2007. Synchronous color-coded alerts are received via the EMR. The colors correspond to the severity of the alert and also provide information about the needs for tests or interventions.

In comparison with a control group of practices not using the interventions, the asthma tools resulted in more controller medications prescribed, more asthma care plans filed, and more spirometry tests.

## **Lessons Learned**

Building an interdisciplinary implementation team is important to a successful implementation. CHOP had multiple pediatricians, a biostatistician, a PCP with bioinformatics experience, and a CDS tool expert. Aside from building such a team, it is also important that physicians who are using this tool have ample opportunity to provide input. Physicians should provide clinical suggestions, interface advice, and design input. Before receiving physician input, for example, the interdisciplinary team did not think of using color-coded alerts as an easier method of distinguishing severity.

To train clinicians on the system, two members of the implementation team went to each site. They provided 4-hour training on the use of the spirometry tools and automated decision support.

In addition to providing training and utilizing clinician feedback, CHOP tested the intervention by using a control group. Six of the twelve practices had access to the tools and automated decision support and six control group practices only had access to the tools. This method of implementation allowed CHOP to test the intervention prior to full-scale implementation in 2008. The practices with CDS alerts showed improvement in their adherence to National Asthma Education Prevention Program Guidelines.

## **Awards, Recognitions, and Citations**

AHRQ Innovation Profile: Real-Time, Color-Coded Alerts Improve Adherence to Pediatric Asthma Guidelines in Primary Care Practices

Bell LM, Grundmeier R, Localio R, et al. Electronic health record based decision support to improve asthma care: a cluster-randomized trial. *Pediatrics*. 2010;125(4):e770-e777.