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Improving provider compliance of the NAEPP 2007 asthma guidelines through the electronic health record (EHR) in a pediatric primary care practice



Tiffany L. Kidd, DNP, PPCNP-BC
Sharon L. Strang Zook, DNP, FNP-BC
Andrea Knopp, PhD, MSN, MPH, FNP-BC
Loan Kline, MD FAAP
James Madison University

Significance

- Asthma is the leading chronic illness in pediatrics and is the third leading cause for hospitalizations costing \$10 billion in 2015.
- In the United States, approximately 5.5 million children (younger than 18 years of age) have asthma, with rates disproportionately affecting low-income and minority population. That's about 1 in 5 children. (Centers for Disease Control and Prevention [CDC], 2013).
- 14.2 million physician office visits with primary diagnosis of asthma in 2015
- 13.8 million missed school days in 2015

Introduction and Background

- National organizations urge use of standards of care in health care practice (Luis et al,2010)
- Institute of Medicine (IOM, 2007) recommends that decisions that affect health care should be grounded in a trustworthy evidence base practice.
- Clinical decision support (CDS) are successful in improving practitioner performance in
 - adherence to disease-management guidelines
 - improving overall health outcomes(Boulet, 2012; Medves, 2009; Okelo, 2013 & Weinstein, 2011).
- Only 35 % of providers follow the NAEPP pediatric asthma guidelines (Okelo,2013).

SIX KEY MESSAGES FROM THE 2007 GUIDELINES FOR PROVIDERS TO MANAGE ASTHMA

- ▶ Inhaled Corticosteroid use Asthma Control assess , monitor, adjust
- ▶ Use Asthma Action Plan to guide management Schedule follow-up Visits
- ▶ Assess Asthma Severity at every visit Control environmental exposure

Question

- ▶ “ Does provider compliance of the NAEPP 2007 asthma guidelines improve through an electronic health record (EHR) template in a pediatric primary care practice?”

Project Design

Continuity was lacking in the practice among providers

- ▶ Variation in asthma education that was given to patients
- ▶ No standard set of tools (handouts, videos and action plans)
- ▶ Spirometry wasn't available
- ▶ Minimal training among providers for interpretation of spirometry results
- ▶ No symptom control score tool was being used
- ▶ Variation in asthma coding prior to ICD 10 implementation in October 2015.
- ▶ Existing EHR template did not contain key components recommended by NAEPP to assess risk impairment and control.

Table 2.
 Asthma Documentation Differences in Electronic Health Record
 post-intervention using Chi-square
 P value <0.05

Documentation		Pre (n = 50)		Post (n = 50)	P-value
Asthma severity categorized	Yes	32%	Yes	100%	.011*
	No	68%	No	0%	
Asthma Action Plan	Yes	10%	Yes	74%	.001*
	No	90%	No	26%	
Asthma education	Yes	60%	Yes	98%	.000*
	No	40%	No	2%	
Follow up appointment	Yes	60%	Yes	94%	.000*
	No	40%	No	6%	
Controller Medication Prescribed (persistent)	Yes	58%	Yes	100%	.258
	No	42%	No	0%	
Control score	Yes	2%	Yes	98%	.000*
	No	98%	No	2%	
Spirometry	Yes	4%	Yes	32%	.011*
	No	96%	No	68%	
Communication to school nurse	Yes	4%	Yes	78%	.000*
	No	96%	No	22%	

Outcome from project

- ▶ Project led to the adoption of this pediatric asthma EHR template to include implementation in over 20 office groups/ hospital systems within the community of **Central Virginia Quality Care Network. (Archetype).**
- ▶ Jan 2017- pilot- provider quality metrics monitored and measured to set the benchmark for other practice group implementation- + results
- ▶ Anthem – Evaluating/Consideration for reimbursement