

Improving Hospital Asthma Management for Children

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Outline

- Describe a population-based study of asthma management of children in all EDs in Ontario
- Reflect on the literature on asthma pathways/guideline implementation

Research Objectives

- 1) Describe the current asthma management strategies for children employed by EDs in the province of Ontario**
- 2) Test which strategies have an impact on 72 hour return visits in children -- performance measure**

Methods

- **Population-based cohort study**
 - ▶ **Comprehensive administrative health and survey data from all 152 EDs in Ontario, Canada**
 - ▶ **Cohort: all children ages 2 - 17 years who had a visit to an ED for asthma (April 2003 to March 2005)**
 - ▶ **Outcome: Unplanned return visit within 72 hours**

Results

- **32, 996 children with at least one visit for asthma in the 2 year study period**
- **Academic and large community hospitals tended to see younger and sicker children**
- **Overall return visit rate 5.6% (7.1% in the small community hospitals)**
- **Subsequent admission rate of 16.6% in those returning**

Adjusted Odds Ratios of Return Visits by Hospital Strategy/Resources

Hospital Strategy/Resources	Odds Ratio (95%CI)	p Value
Short stay unit	1.17 (0.99, 1.38)	0.06
Access to a Pediatrician	0.64 (0.52, 0.79)	<0.001
Pre-printed discharge instructions	0.99 (0.83, 1.19)	0.95
Pre-printed order sheets	0.68 (0.55, 0.85)	< 0.001
Routine use of peak flow testing	0.93 (0.79, 1.10)	0.40
Trained personnel in asthma teaching	0.96(0.78,1.18)	0.68
Ability to dispense aerochambers	0.87 (0.70, 1.08)	0.21
Availability of asthma guidelines	0.96 (0.80, 1.16)	0.70

Return Visit Rate by Number of Effective Strategies* Used

Strategies	Hospitals with the Number of Key Strategies (N=152)	Return Visit Rate (%)
	No.(%)	
Neither	95(63)	6.9
Pediatrician for Consultation only	31(20)	5.4**
Order Sheet Only	9(6)	5.4***
Both	17(11)	4.4**

*Access to pediatricians, pre-printed order sheets

** p<0.001 ***p<0.05

Conclusions

- **Tools that are incorporated into clinical management more effective than just the presence of guidelines**
- **Mechanism**
 - ▶ **Dosing and timeliness of appropriate medications**
 - ▶ **Assessment criteria**
 - ▶ **Follow up plans**
- **Only applicable to MD related processes of care**

What does the literature on pathways (ED and inpatient) tell us?

- **Good evidence that pathways can reduce admissions and LOS, improve timely and appropriate medication use**
- **Understanding where gaps in care lie can help design and implement the most relevant pathways**
- **Implementation is key**

Final Thoughts

- **No need to re-invent the wheel although one size might not fit all**
- **ED and inpatient care important**
- **Evaluation important**
 - ▶ **Quantitative**
 - **efficient if your outcomes are available though the data portal**
 - ▶ **Qualitative— successes and challenges in implementation**