Improving Asthma Health through Multidisciplinary Teams

Utah Asthma Program Webinar
Michael D. Johnson MD MS
3 August 2016
Accreditation

• The content of this telehealth presentation has been approved for CNE and RT CE credit.

• Measures have been taken by the Utah Department of Health, Bureau of Health Promotion, to ensure there is no conflict of interest in this activity.
Objectives

By the end of this presentation, an audience member will:

• Recall examples of health improvements in asthma accomplished by multidisciplinary teams in acute care, chronic care, and across care areas by applying the Medical Home concept.

• Identify an opportunity in their own realm of care where better collaboration can improve health for people with asthma.
Teams are made of....

People
“Do my best”

Roles
Evaluate and change
Two contradictory modes of ‘role’

Skilled Craftsman

“Do my best”

System Member

Evaluate and change
Do we have a problem?
Why worry?

• Variable care delivery is common

Variation in Emergency Department Admission Rates in US Children’s Hospitals

**Authors:** Florence T. Bourgeois, MD, MPH, Michael C. Monuteaux, ScD, Anne M. Stack, MD, and Mark I. Neumar MD, MPH

*Division of Emergency Medicine, Boston Children’s Hospital, Boston, Massachusetts; and Department of Pediatrics, Harvard Medical School, Boston, Massachusetts*

**What this study adds:** We observed wide variation in admission rates for common pediatric conditions across US children’s hospitals. Our findings highlight the need for greater focus on the standardization of decisions regarding hospitalization of patients presenting to the emergency department.

Pediatric Asthma Care in US Emergency Departments

**Current Practice in the Context of the National Institutes of Health Guidelines**

Ellen F. Crain, MD, PhD; Kevin B. Weiss, MD; Michael J. Fagan, MPP

Pediatric Asthma Care in US Emergency Departments

**Conclusions:** These data suggest that reported pediatric asthma care in US emergency departments differs substantially from the National Institutes of Health guidelines, with considerable variation by hospital type. The

Quality of Care for Common Pediatric Respiratory Illnesses in United States Emergency Departments: Analysis of 2005 National Hospital Ambulatory Medical Care Survey Data

Jane F. Knapp, MD*, Stephen D. Simon, PhD*, Vidya Sharma, MBBS, MPH*

**Conclusions.** Physicians treating children with asthma, bronchiolitis, and croup in US emergency departments are underusing known effective treatments and overusing ineffective or unproven therapies and diagnostic tests. *Pediatrics* 2008;122:1165–1170
Is there room to improve?

Triage RN
Acuity

MD
?

RT
6
Score

RN MD

MD

ICU
Floor
Home
Which do we believe more?

Doctors are smart

Doctors are human
Evidence for ED asthma processes beyond the guidelines

- Timing of steroids
- Recognition of asthma
- Nurse initiation of treatment
Do sicker patients get medication faster?

Median (IQR) minutes to admission decision and medication administration admitted patients only; disposition decision 2013-2014; medications 2012-2013

<table>
<thead>
<tr>
<th>Acuity</th>
<th>Minutes</th>
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<tbody>
<tr>
<td>1</td>
<td>45.5</td>
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<tr>
<td>2</td>
<td>24</td>
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<td>3</td>
<td>37</td>
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</table>
Do sicker patients get medication faster?

Median (IQR) minutes to admission decision and medication administration admitted patients only; disposition decision 2013-2014; medications 2012-2013

- Acuity 1: 139 minutes
- Acuity 2: 24 minutes
- Acuity 3: 37 minutes
Do sicker patients get medication faster?
Overcoming obstacles

- Medications are delivered slowly
  - Allow nurses and RTs to identify patients with asthma and deliver medications by standing order

- Sick patients do not receive appropriately intensive treatment on arrival
  - Use nurse triage information to drive medication delivery according to hospitalization risk

- MD – led process is extremely variable
  - Remove initiation of medications from rate-limiting MD
  - Standardize admission timing and criteria
Who is at risk of hospitalization?

- **ESI 1**: 83% (50 per year)
- **ESI 2**: 80% (257 per year)
- **ESI 3**: 37% (210 per year)
- **ESI 4**: 5% (3 per year)
- **ESI 5**: 0% (0 per year)

- **CAS Severe**: 70%
- **CAS Moderate**: 59%
- **CAS Mild**: 27%
What’s happening now?
Triage RN screens and identifies asthma

RN or RT gives steroid

RN or RT start treatment based on triage acuity

RN or RT continue treatment based on asthma score

MD decides disposition with structured assessment
We deliver albuterol faster
We deliver steroid faster
And hospitalizations after ED treatment?
Outcomes - better than expected

- 706 patients June - May
- Anticipate ~ 344 admissions
- 115 fewer hospitalizations
- 170 fewer patient days
Who was involved?

Howard Kadish - Administrative Sponsor

Investigation Team
Michael Mundorff MBA MHSA - Investigator
Mike Johnson MD MS - Investigator

Design Team
Lauren Allen - Project Coordinator
Amanda Orme - ED Nurse Practitioner
Karmella Koopmeiners - PCH Clinical Nurse Specialist
Brandon Anderson - Respiratory Therapist
Nanette Dudley MD - ED QI Director
Bernhard Fassl - Hospitalist Physician
Kylie King - PCH Data Analyst
Mike Mundorff - Senior Data Analyst

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Brandon Anderson - Respiratory Therapist
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Jeffrey Povilus - PCH Data Analyst
Allison Neeley - PCH Data Specialist

PCH ED
Nurses
Nursing Leadership
Respiratory Therapists
Physicians
Clerks
Billing and Coding
Medical Librarians
Roles changed & patients benefited

- **MD:** from comprehensive “orderer” to big-picture decisions and customization
- **RN:** from treatment “deliverer” to owner of treatment process
- **RT:** from “evaluator” to expert partner in evaluation and treatment delivery
Two contradictory modes of ‘role’

Skilled Craftsman

“Do my best”

System Member

Evaluate and change

MD  RN  Secretary

MD  RN  Secretary
Chronic care

• Asthma management in Australia
  • Gateway system *(data flagging)*
  • Disease-specific streams *(MD, nurses)*
  • Assessment of needs *(care facilitator)*
  • Care coordination and facilitation *(conference)*
  • Education and action plans *(care facilitator)*
  • Facilitated access *(referrals by care facilitator)*

• Results
  • Reduced ED visits by 57%
  • Reduced hospitalizations by 74%

Look familiar?
Bridging care areas

- Utah Department of Health
  - Gateway system
  - Disease-specific streams
  - Assessment of needs
  - Care coordination and facilitation
  - Education and action plans
  - Facilitated access

http://health.utah.gov/asthma/homevisit/index.html
Bridging care areas

- Utah Department of Health
  - Gateway system
  - Disease-specific streams
  - Assessment of needs
  - Care coordination and facilitation
  - Education and action plans
  - Facilitated access

- Primary Children’s
  - Gateway system
  - Disease-specific streams

  + Facilitated access

Intermountain®
Primary Children’s Hospital
The Medical Home

- Crosses physical boundaries
- Requires new relationships
- Roles need to be tailored to patient needs
- Evaluation is needed to know what is needed
- Change is necessary and must be focused on improving health
Thank You!
Tell me!

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