Implementation of the Care Model for Pediatric Asthma

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Chief of Pediatrics
Charles B. Wang Community Health Center
May 2, 2007
Goal of this talk

- Share experience/lessons learned of the Charles B. Wang Community Health Center
- Identify practical approaches to improvement of care utilizing care model components in a community health center setting
- Provide concrete strategies for you to bring back to your own practice
Charles B. Wang Community Health Center (CBWCHC)

- CBWCHC is a Federally Qualified Community Health Center established in 1971 by a group of volunteer physicians.
- Population: Chinese immigrants and their extended families residing in the 5 boroughs of NYC and tri-state area.
Charles B. Wang
Community Health Center

Chinatown Site (Pediatric Unit)

2006 Statistics

- >6,700 active patients
- 6 FTE providers
- >29,000 visits
Background

- Work with Bureau of Primary Care and HDC in 2000 in pediatric asthma
- Application of care model components and improvement model fluctuant through early years
- Spread of model within pediatric unit past two years
- Spread to other units within health center for upcoming year
Background

Early years:
- Staff retention issues
- Lack of clarity why this care model important
- Care model not integrated into daily work
- Concept that this is a time limited “project”
The light became clear....

- Realization that the care model provided structure to set clear goals
- Steps for improvement process clearly outlined
- Components of the care model made “sense” and incorporated what good care should be
- Use of model actually works
CARE MODEL Diagram

Community
- Resources and Policies
  - Self-Management Support

Health System
- Organization of Health Care
  - Delivery System Design
  - Decision Support
  - Clinical Information Systems

Informed, Activated Patient
- Productive Interactions

Prepared, Proactive Practice Team
- Functional and Clinical Outcomes
Care Model Component: Decision Support

- Clinical Guidelines adopted by all providers and put into medical binder
- Specialty trainings to update skills, confirm evidence based medical practice
- Embed guidelines into provider work
- Provider peer review for self-monitoring
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Peer Review</strong></td>
<td><strong>1</strong></td>
<td>PID#</td>
</tr>
<tr>
<td></td>
<td><strong>2</strong></td>
<td>Provider</td>
</tr>
<tr>
<td></td>
<td><strong>3</strong></td>
<td>Date of Visit</td>
</tr>
<tr>
<td></td>
<td><strong>4</strong></td>
<td>Self-management goal set this visit or within a year (Y/N)</td>
</tr>
<tr>
<td></td>
<td><strong>5</strong></td>
<td>Document symptoms-free days (Y/N)</td>
</tr>
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<td></td>
<td><strong>6</strong></td>
<td>Document asthma <strong>disease</strong> classification (Y/N)</td>
</tr>
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<td></td>
<td><strong>7</strong></td>
<td>Document missed school or work days due to asthma in past month (Y/N)</td>
</tr>
<tr>
<td></td>
<td><strong>8</strong></td>
<td>Document ER Visits in past 6 months (Y/N)</td>
</tr>
<tr>
<td></td>
<td><strong>9</strong></td>
<td>ETS documented (Y/N)</td>
</tr>
<tr>
<td></td>
<td><strong>10</strong></td>
<td>Appropriate Use of medication for disease classification (Y/N) or (N/A)</td>
</tr>
<tr>
<td></td>
<td><strong>11</strong></td>
<td>In Asthma Registry (Y/N) or (N/A)</td>
</tr>
<tr>
<td></td>
<td><strong>12</strong></td>
<td>Asthma Action Plan set this visit or within a year (Y/N)</td>
</tr>
<tr>
<td></td>
<td><strong>13</strong></td>
<td>Pre-Test Counseling done (Y/N) or (N/A)</td>
</tr>
<tr>
<td></td>
<td><strong>14</strong></td>
<td>Post-Test Counseling done (Y/N) or (N/A)</td>
</tr>
<tr>
<td></td>
<td><strong>15</strong></td>
<td>Workshop done (Y/N) or (N/A)</td>
</tr>
</tbody>
</table>
Care Model Component: System Design

- Multidisciplinary team with clear definitions of team member roles
- Materials/Tools for clinician use in rooms
- Asthma form specially designed to facilitate retrieval of important patient information for tracking
- Asthma form designed to facilitate documentation of outcome indicators
EMR Forms

Vitals & HPI - Asthma:

Vital Signs:
- ASTHMA ACTPL
- ASTHMA KIDS
- ASTHMA VWORK
- PULM FNC TST

History from: [ ]
Visit type: [ ]
Chief Complaint: [ ]

History of Present Illness:

Previous Self-Management:
Know and use medication properly (04/18/2007 9:44:05 AM)

Adherence:
Use asthma action plan to help track use of meds.

Peakflow monitoring: [ ] yes [ ] no

Past Medical History:
Atopic dermatitis since infancy. on triamcinolone 0.1%, Flucinolone acetonide 0.01% topical oint, synalar 0.025%
Mild motor delay noted at 1 yr of age.
Allergy evaluation on 7/05 found no food allergies.

Existing Medications:
- SYNNALAR 0.025 % OINT (FLUCINOLONE ACETONIDE)
- AVEENO MOISTURIZING 43 % PACK (COLLOIDAL OATMEAL) Use 1/2 pack in bath QD
- LAC-HYDROX 12 % LOTN (AMMONIUM LACTATE) Use on skin QD PRN

Asthma Medication compliance:

Historical Problems:
- ATOPIC DERMATITIS:ECZEMA (ICD-9:1.8)
- UNDERWEIGHT (ICD-783.22)
- WELL CHILD (ICD-V26.2)

Add/Change Problems

Add/Change Meds

Allergies
No Known Drug Allergies

Add/Cx Allergies

Close
Make sure that the Level of Service for this visit has been ordered
Care Model Components: Self Management

- Bilingual materials
- Separate parent and children asthma workshops
- Individualized 1:1 family counseling
- Provider/Patient agreed upon self-management goals set semi-annually
- Asthma Action plan
- Peak flow monitoring
## Medication Discharge Sheet

**Charles B. Wang Community Health Center**
125 Walker Street 2 Floor New York NY 10013

### ASTHMA DISCHARGE SHEET

**Name:** ________________  **PID#** ____________

**Date:** ________________

#### RESCUE MEDICATIONS:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALBUTEROL</td>
<td>Every ___ hours 1 neb</td>
<td></td>
</tr>
<tr>
<td>ACCUNEB</td>
<td></td>
<td></td>
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<tr>
<td>XOPENEX</td>
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<td></td>
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<tr>
<td>PROVENTIL</td>
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<td>Dose</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALBUTEROL</td>
<td>Every ___ hours 2 puffs</td>
<td>2 puffs every ___ hours</td>
</tr>
<tr>
<td>INHALER</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### MAINTENANCE MEDICATIONS:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PULMICORT</td>
<td>1 respule ___ times a day</td>
<td>0.25 mg, 0.5 mg</td>
</tr>
<tr>
<td>RESPULES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SINGULAIR</td>
<td>1 tab every night</td>
<td>4 mg, 5 mg, 10 mg</td>
</tr>
<tr>
<td>ADVAIR</td>
<td>1 inh. ___ times a day</td>
<td>100/50, 250/50, 500/50</td>
</tr>
<tr>
<td>FORADIL</td>
<td>1 inh. ___ times a day</td>
<td>100/50, 250/50, 500/50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PULMICORT</td>
<td>1 inh. ___ times a day</td>
<td>100/50, 250/50, 500/50</td>
</tr>
<tr>
<td>TURBUHALER</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### OTHER MEDICATIONS:

1. __________________________
2. __________________________

**PLEASE BRING MEDICATIONS TO EACH VISIT**

每次覆診，請把所有哮喘藥物和服藥指南帶回來見醫生。

FOLLOW UP IN _______ DAYS/WEEKS/MONTHS.

請在____天____星期____月后回來覆診。
Self-Management Goals

Self management 自我預防與保健
- I will/ I will help my child avoid asthma triggers
  我將/我將幫助孩子避免接觸哮喘刺激誘因
- I will/ I will help my child use medications as directed by the doctor
  我將/我將幫助孩子遵照醫生的指示，正確而適當的使用藥物
- I will/ I will help my child monitor his/her Peak Flow
  我將/我將幫助孩子肺流量器監查
- I will/I will help my child use the Asthma Action Plan as a guideline
  我將/我將幫助孩子以哮喘行動計劃為準則
- I will visit the doctor regularly to monitor my child’s asthma
  我將幫助孩子定期見醫生

I (patient or guardian’s name) _______________, understand all the items listed above, and I have chance to ask my questions which were answered satisfaction.

本人（病人或者家長名字）_______明白以上各項資料，而且我問題得到滿意的答覆。
Signature: ___________________________  Date: ___________________________

Signature of counselor: ___________________________  Date: ___________________________

Signature of Provider: ___________________________  Date: ___________________________
Parent Asthma & Allergy Workshop
哮喘病及過敏講座
Asthma Management for Kids

醫療中心

125 Walker Street, New York, NY 10013
PEDIATRICS & ADOLESCENT HEALTH (212) 226-3888
DENTAL (212) 226-9339

136-26 37th Avenue, 2/F & 4/F., Flushing, NY 11354
PEDIATRICS (718) 886-1222
INTERNAL MEDICINE (718) 886-1200

268 Canal Street, New York, NY 10013
INTERNAL MEDICINE (212) 379-6998
WOMEN’S HEALTH (212) 966-0228

HEALTH EDUCATION DEPARTMENT (212) 966-0461
### 哮喘行动计划

#### (由医生指导)

<table>
<thead>
<tr>
<th>症状</th>
<th>日期</th>
<th>使用时间</th>
</tr>
</thead>
</table>

#### 每天使用下列长期性哮喘控制药物

- **症状**
  - 呼吸困难
  - 严重呼吸困难
  - 呼吸短促

#### 使用下列药物并寻求立即就医！

- **症状**
  - 呼吸困难
  - 严重呼吸困难
  - 呼吸短促

---

#### Bilingual Materials—Action Plan

#### 宝宝时间和

<table>
<thead>
<tr>
<th>症状</th>
<th>日期</th>
<th>使用时间</th>
</tr>
</thead>
</table>

#### 呼吸困难

- **症状**
  - 呼吸困难
  - 严重呼吸困难
  - 呼吸短促

---

### 医生指导

- **症状**
  - 呼吸困难
  - 严重呼吸困难
  - 呼吸短促

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**紧急电话**

- 911
- NYC Health 
- 311
- 877-4NYC-HEAL

**医院**

- New York City Health Hospitals
- NYC Health and Hospitals Group
### Keep an asthma calendar

**May 2007**

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>星期天</td>
<td>星期一</td>
<td>星期二</td>
<td>星期三</td>
<td>星期四</td>
<td>星期五</td>
<td>星期六</td>
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<td>29</td>
<td>30</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>

**Notes**: 備注：
Care Model Component: Clinical Informatics

- EMR
- PECS Database
- Monthly report/tracking of outcome measures
- Team feedback
- Provider feedback
- Registry tracking – proactive measures and safety net
Asthma Registry

Number of Asthma Patients in the Registry

#658
Asthma Report

Patients with SF data: N=494

Symptom Free Days

Post EMR

Goal >10 d
Percent of Patients Reporting Severity Assessment

Goal >90%

Mar-06  Apr-06  May-06  Jun-06  Jul-06  Aug-06  Sep-06  Oct-06  Nov-06  Dec-06  Jan-07  Feb-07
81 81.4 81 80.5 71.2 71.6 71.6 71.4 68.6 74.1 76.7 74.9
Percent of Patients with Persistent Asthma on Anti-inflammatory Medications

N=161

Goal>95%
Percent of Patients with Self-management Goals Set in Past 12 Months

![Chart showing percent of patients meeting self-management goals set in past 12 months. The chart includes data from March 2006 to February 2007, with a peak at 75.3% in January 2007. The goal is set at >70%. The N=485 for the data set.]
Number of patients with lost school days documented

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan-07</th>
<th>Feb-07</th>
<th>Mar-07</th>
<th>Apr-07</th>
<th>May-07</th>
<th>Jun-07</th>
<th>Jul-07</th>
<th>Aug-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-06</td>
<td>398</td>
<td>430</td>
<td>452</td>
<td>458</td>
<td>360</td>
<td>380</td>
<td>400</td>
<td>420</td>
</tr>
</tbody>
</table>

The graph shows the number of patients with lost school days documented from December 2006 to August 2007.
Number of patients received flu vaccine

<table>
<thead>
<tr>
<th>Month</th>
<th>Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-06</td>
<td>474</td>
<td>(74%)</td>
</tr>
<tr>
<td>Jan-07</td>
<td>489</td>
<td>(76.5%)</td>
</tr>
<tr>
<td>Feb-07</td>
<td>507</td>
<td>(77.05%)</td>
</tr>
<tr>
<td>Mar-07</td>
<td>507</td>
<td>(77.05%)</td>
</tr>
</tbody>
</table>

Goal: >90%
Care Model Component: Community

- School outreach/asthma screening
- Community workshops on asthma
- Health fairs
- Bilingual education pamphlets
- World Asthma awareness day
## School Asthma Screening

<table>
<thead>
<tr>
<th></th>
<th>Known asthma Diagnosis at screening</th>
<th>Positive Response with No Hx of asthma</th>
<th>Total Positive Response</th>
<th>Negative Response</th>
<th>Total Number questionnaire screened</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS A 2005</td>
<td>15</td>
<td>17</td>
<td>32</td>
<td>11</td>
<td>43</td>
</tr>
<tr>
<td>PS B 2005</td>
<td>10</td>
<td>35</td>
<td>45</td>
<td>30</td>
<td>75</td>
</tr>
<tr>
<td>PS C 2005</td>
<td>11</td>
<td>22</td>
<td>33</td>
<td>17</td>
<td>50</td>
</tr>
<tr>
<td>PS D 2005</td>
<td>15</td>
<td>66</td>
<td>81</td>
<td>56</td>
<td>137</td>
</tr>
<tr>
<td>PS A 2006</td>
<td>14</td>
<td>36</td>
<td>50</td>
<td>12</td>
<td>62</td>
</tr>
<tr>
<td>PS D 2006</td>
<td>23</td>
<td>53</td>
<td>76</td>
<td>33</td>
<td>109</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>88 (18.5%)</strong></td>
<td><strong>229 (48.1%)</strong></td>
<td><strong>317 (66.6%)</strong></td>
<td><strong>156</strong></td>
<td><strong>476</strong></td>
</tr>
</tbody>
</table>
ASTHMA
哮喘病

Charles B. Wang Community Health Center
王嘉廉社区医疗中心

125 Walker Street, New York, NY 10013
Pediatrics & Adolescent Health 儿科及青少年部 (212) 226-3888
Dental 牙科 (212) 226-9339

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Internal Medicine 内科, OB/GYN 妇产科 (718) 886-1200

268 Canal Street, New York, NY 10013
Internal Medicine 内科 (212) 379-6998
Women’s Health 妇女健康 (212) 966-0228
Health Education Department 健康教育部 (212) 966-0461
Health Fair
Care Model component: Health Care Organization

- Staffing
- Recognition of work
- Incorporation into mission/strategic plan
- Training
- Leadership support
- Link measures to QA/QI and UHI goals
- Provider incentives tied to process measures
% Patients with Asthma Self Management Goal in CBWCHC Pediatric Asthma Registry (n=525)

- Asthma counselors trained
- Roll out 1on1 Scheduling following non-triage visits
- Letters inviting all asthma registry patients to come in for annual flu shot sent out
- Nursing and PCPs arrange 1on1 for patients that show for Flu Shot

Jan-05 Feb-05 Mar-05 Apr-05 May-05 Jun-05 Jul-05 Aug-05 Sep-05 Oct-05 Nov-05 Dec-05 Jan-06 Feb-06 Mar-06

- 0.2 0.2 3.0 5.6 13.1 18.1 26.3 51.4 57.8 59.7 60.3 61.2 62.5
Lessons learned

- Multi-faceted team approach facilitates a shared responsibility in the care of the patient
- Care Model provides structure, theory, and tools to ensure comprehensive approach to patient management
- Should view as long term commitment for success
- Staff development important
Provider issues

- Important to demonstrate how the Care Model will help improve their care of patient AND not to add work
- Aspects such as Decision Support (clinical guidelines, protocols, forms) definitely useful
- Linkage of measures to provider incentives (productivity bonus) helpful
- Peer review process – allows for providers to monitor themselves
- Regular feedback in form of data for individual providers (for comparison to other providers in own center and nationally)
Challenges

- Staff retention
- Staff development and training of Care Model components
- Incorporation of Care Model/improvement model into daily work
- Clarity in Senior leaders why this process is important and how it will be used to help your health center, your patients and your staff
- Truly understanding the strength of the Care Model and its components
Essential Elements of Good Chronic Care

- Informed, Activated Patient
- Productive Interactions
- Prepared Practice Team
CBWCHC
Asthma Team Members

- David Ko, MD—Physician Champion/Team leader
- Carmen Chan—LPN
- Mei Liao—Medical Assistant
- Grace Cheung—Program coordinator/Data support
- Melinda Tong—Health educator
- Wilson Chen—Medical records
- Lolita Law—Receptionist
- Deborah Lin, MD—Allergist
- Loretta Au, MD—Senior Leader