Healthy Home, Healthy Child: The Westside Children’s Asthma Partnership

12th Annual ACCP Community Asthma and COPD Coalitions Symposium
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Outline

• Let Data Guide the Program
  – Epidemiology of Asthma
  – Local-level Data – Sinai’s Improving Community Health Survey

• Start Small to Get Big: Pediatric Asthma Interventions
  – Sinai’s Pediatric Asthma Intervention – 1 (PAI-1)
  – Sinai’s Pediatric Asthma Intervention – 2 (PAI-2)
  – Controlling Pediatric Asthma through Collaboration and Education (CPATCE)
  – Healthy Home, Healthy Child: The Westside Children’s Asthma Partnership

• Sustaining the system
Let Data Guide the Program: Epidemiology of Asthma

- Asthma is the most common chronic condition of childhood in the U.S., leading to more school days missed than any other disease
  - 10 million children (13.5% of children <18 yrs) in the U.S. have asthma (NHIS 2006)
- In the U.S., disparities are known to exist
  - Prevalence highest among Puerto Rican (31%) and Black (17%) children. Lowest among Mexican children (10%)
  - Black children 5.6 times more likely to die from asthma and 3.5 times more likely to visit an ED for asthma than White children
- The annual economic cost of asthma is $19.7 billion

Let Data Guide the Program: Sinai Health System’s Improving Community Health Survey

Pediatric Asthma In Chicago
Proportion of Children with Physician Diagnosed and Screened Asthma by Community Area

*Source of comparison data: National Health Interview Survey, 2003

Proportion of Children with Physician Diagnosed and Screened Asthma by Race/Ethnicity

Other Survey Findings

- Large proportion of children have asthma that’s poorly controlled
  - 54% in HP; 44% in SL; 39% in Roseland; 34% in NL

- Two-thirds of children with an asthma diagnosis were not using a controller medication

- In several of the communities, approximately half of children with asthma were living with someone who smokes
  - 61% in Roseland; 47% in NL; 48% in HP

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Key Driver: Engage your community ‘where it lives’

- CHWs are recruited from the local community and have a personal connection to asthma
- They don’t need any prior experience as they are trained by the program
  - Sinai Asthma Education Training Institute
- CHWs:
  - Make home visits
  - Conduct asthma education both on the medical management of asthma and trigger reeducation in the home environment
  - Encourage visits with participants’ Primary Care Physician
- Community-wide education
  - Presentations on asthma basics to schools, parent groups, clinics, community organizations, etc.

Start Small to Get Big: Pediatric Asthma Interventions

- Pediatric Asthma Intervention-1, 2000 - 2002
  - Compared three pediatric asthma interventions with increasing intensities of asthma education (w/ or w/o case management) for their impact on improving the health status of inner-city children with asthma and in achieving cost savings
  - Intervention took place in clinic setting and over the phone
  - Any intervention made a positive difference
  - The more intense the intervention, the larger the impact

Start Small to Get Big: Pediatric Asthma Interventions

**Pediatric Asthma Intervention-2, 2004 - 2006**

- African American children (2-16 yrs) with severe asthma living in Westside Chicago communities
- Utilized Community Health Workers (CHW) from target communities
- 3-4 home visits over a 6 month period
- 70 children enrolled
  - 58 (83%) completed 6-month intervention period
  - 50 (71%) completed 12-month data collection period
- Significant improvement in all outcomes assessed
  - 74% decrease in ED visits
  - 71% decrease in hospitalizations
  - 0.8 increase in caregiver quality of life score (clinically and statistically significant)

**Controlling Pediatric Asthma Through Collaboration and Education, 2006 - 2008**

- Initiative of IDPH to improve asthma management among high risk children in Illinois
- Expanded Sinai’s PAI-2 model to six target areas throughout Illinois
- 455 children enrolled statewide
  - 236 at Sinai (41% NH Black, 49% Latino, 10% Mixed)
  - 219 at other sites (75% NH Black, 3% H Black, 14% NH White, 3% Latino, 5% Mixed)
- Findings substantiate PAI-2 results and conclusions
Getting Results: Evaluating the System

Sinai Pediatric Asthma Program: Intervention Results

<table>
<thead>
<tr>
<th></th>
<th>PAI-1</th>
<th>PAI-2</th>
<th>CPACTE (Sinai)</th>
<th>CPACTE (Sinai, CAC &amp; Decatur)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma ED Visits</td>
<td>64% decline*</td>
<td>73.5% decline*</td>
<td>47.6% decline*</td>
<td>62.3% decline*</td>
</tr>
<tr>
<td>Asthma Hospitalizations</td>
<td>81.0% decline*</td>
<td>71.4% decline*</td>
<td>50.0% decline*</td>
<td>59.0% decline*</td>
</tr>
<tr>
<td>Urgent Health Resource Utilization*</td>
<td>67.6% decline*</td>
<td>69.3% decline*</td>
<td>50.0% decline*</td>
<td>60.0% decline*</td>
</tr>
<tr>
<td>Nighttime Asthma Symptoms</td>
<td>-</td>
<td>51.6% decline*</td>
<td>63.6% decline*</td>
<td>50.4% decline*</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>-</td>
<td>Increased by 0.83*</td>
<td>Increased by 0.43*</td>
<td>Increased by 0.68*</td>
</tr>
<tr>
<td>Cost savings/$ spent on the program*</td>
<td>$13.35</td>
<td>$5.58</td>
<td>$4.18**</td>
<td>-</td>
</tr>
</tbody>
</table>

*Statistically significant p<0.05
*ED = Emergency Department
*Sum of ED visits, hospitalizations, and urgent clinic visits
*An increase of 0.5 is clinically significant
Cost Savings per $ spent = Healthcare Cost Savings/Cost of Program
**Preliminary analysis. Subject to change.

Healthy Home, Healthy Child (HHHC): The Westside Children’s Asthma Partnership

October 2008 – September 2011
HHHC: Overview

• CDC Translational Research Grant
• **Participants:** families with children 2-14 years old who have *poorly controlled asthma*
  – Live in North Lawndale, East or West Garfield Park, or Austin
• Individualized education via Home Visits with substantially greater attention devoted to the identification and reduction/elimination of asthma triggers
• **Evaluation – Process and Outcome**

**Conduct Needs-Based Planning: Seek input from the community**

• A Community Advisory Board (CAB) helps to ensure that HHHC receives vital insight into its community.
• The CAB engages the community, guides the program’s design and helps to foster sustained asthma care improvements.
• CAB members include:
  – parents and caregivers of children with asthma, leaders of community-based organizations, representatives from faith-based groups, business owners and other stakeholders.
HHHC: Intervention

• CHWs make 6 home visits over the course of the 12-month intervention period
• Comprehensive, individualized asthma education focuses on improving medical management (e.g., recognizing and responding to attacks, medications) and reducing exposure to home triggers
• CHWs work with family after each visit to develop/update Asthma Improvement Plan

HHHC: Intervention (cont.)

• Tailored Environmental Interventions
  – Educate care teams to deliver environmental trigger assessment and management
  – Home Environmental Assessment at 2 week visit, 6 month visit and 12 month visit
  – A thorough check of the home for asthma triggers
• Healthy Homes resources such as green cleaning kits and/or supplies to control pests, dust mites, mold, etc. are provided to families
HHHC: Intervention (cont.)

• Referrals to Metropolitan Tenants Organization and Health & Disability Advocates to address more serious issues
  – E.g., mold/moisture, pests, insufficient heat, eviction, landlord retaliation
• CHW also serves as liaison between family and medical community
• Assistance in obtaining asthma medications and devices, school 504 plans, etc.

HHHC: Recruitment and Data

• 266 children enrolled between 2/1/09 and 7/31/10
  – Recruited from Sinai’s ED/inpatient units and via referrals from physicians, community organizations and community residents
  – Participant Characteristics:
    – 96% Black
    – 91% Medicaid
    – 91% of caregivers are mothers, 70% of which are single
    – 66.5% report a household income of <$20,000
    – 34% have less than a high school education
HHHC: Data (cont.)

- In year prior to enrollment, average child had 3.5 ED visits and missed 9 days of school due to asthma
- Environmental Issues:
  - 58% of children live with a smoker
  - 36% have pest issues
  - 23% have mold/moisture issues

Lessons Learned & Challenges

- Community Health Workers
  - Quickly and effectively establish relationships of trust with the families that they serve
  - Appropriate supervision/mentoring of CHWs is vital to success
  - Hire CHWs for skills only they can bring (cultural sensitivity, community connections, etc.). May need support in other areas (e.g., paperwork, managing a case load, computers)
  - Reimbursement and sustainability of programs an ongoing challenge
Lessons Learned & Challenges

• Participants
  – Economic hardship and competing priorities
  – Move often and may live with family/friends with little control over their environment
  – Multiple caregivers - important to reach all of them

• Legal, Housing and Social Service Referrals
  – Need for legal, housing and social service referrals exceeded our expectations
  – MTO and HDA well received, but many issues have been beyond the scope of the project

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• Sustaining the system
Sustaining the System: Promoting institutional change for sustainability

- From the start not at the end:
  - The partnership from the start has sought funding for sustainability from grants, foundations and the community
- Sustain the message not just the program
  - Making effective asthma self-management and environmental controls top priorities for all community-based leaders
- Everyone’s responsibility:
  - Key partners have focused on ways to sustain their contributions to the program from within their organizations

Sustaining the System: Promoting institutional change for sustainability

- COMMITTED LEADERS AND CHAMPIONS
  - CREATE PROGRAM CHAMPIONS
  - CEO of Sinai Health System supports the program’s efforts, proclaiming its accolades within the hospital and the community
  - He has led efforts to integrate the program into the hospital’s system by building relationships with the SCH, the Emergency Department, and the Pharmacy Department
Conclusion

- Asthma exerts an excessive burden on children living in certain communities
  - Short-term and long-term effects
- Community-based interventions to address disparities are **imperative!**
- We do not know how to prevent children from acquiring asthma, but we do know how to help them control their disease so that they can live full and productive lives

It takes a village...
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• **Community Advisory Board**

• **Participants and their families**

For more information:

www.suhichicago.org

www.asthmacommunitynetwork.org