Addressing Asthma in Chicago’s Public Housing:
A collaborative model integrating a community-based asthma intervention into a large public housing authority

Andrew Teitelman, LCSW
Chicago Housing Authority

Melissa Gutierrez Kapheim, MS
Sinai Urban Health Institute

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Outline

• Chicago Housing Authority (CHA)
  – Plan for Transformation & New Plan Forward
  – Benefits of Collaborating with a Healthcare Organization

• Sinai Urban Health Institute (SUHI)
  – Asthma Epidemiology
  – Sinai Asthma Program Background

• Helping Children Breathe and Thrive in Chicago Public Housing
  – Intervention and Program Description
  – Public Housing Residents as Community Health Workers
  – Preliminary Outcomes
  – Case Story

• Lessons Learned and Challenges

• Next Steps
Beginning 1999, CHA embarked on a 15 year Plan for Transformation to revitalize/rehab 25,000 units of public housing with substantial capital funding commitment from HUD
CHA Today

- Third largest public housing authority in US
- More than 50,000 families with subsidies
- Improved quality of housing stock
- Increased resident incomes and employment
- Better access to community and supportive services
After a robust stakeholder input session, CHA’s new strategic plan includes three key goals:

1. Reimagine the final phase of the Plan for Transformation, coordinating public and private investments to develop healthy, vibrant communities.

2. Ensure that CHA’s housing portfolio is safe, decent and sustainable.

3. Expand services to more residents, targeted to their needs, and at critical milestones in their lives.
# Resident Services at a Glance

## Case Management and Housing Counseling Assistance

### Workforce Development Services and Supports
- Basic job training and placement services
- Bridge Programs
- Career and Technical Education at City Colleges
- Transitional Jobs
- Opportunity Chicago

## Children and Youth Services
- After School Programming
- Summer Opportunities – Camps and Jobs
- Dual Enrollment program with City Colleges
- Scholarships
- Links to Early Care and Education programming (Child Care, Head Start & Pre-K)
- Recreation Activities at the Chicago Park District
- Operation Warm Coat Give Away

## Senior Supportive Services
- Assessments/services
- Activities and events

## Other Supports
- Substance Abuse Treatment
- Utility Assistance
- Transportation
- Workforce Clothing/Uniform Assistance
- Good Neighbor Workshops
- Assistance Finding Child Care
- **Access to Healthcare**

CHA invests over $26 million in contracts for services for public housing residents.
Benefits of Collaborating with a Health Organization

• Addresses a serious issue: good health is an essential ingredient for success in school, work and tenancy

• Strong fit with HUD Strategic Plan:
  – Utilize housing as a platform to improve the quality of life
  – Utilize HUD assistance to improve health outcomes

• Provides a platform for the Housing Authority to connect and build relationships within the health industry in order to benefit residents
  – Establishes a forum for on-going and updated information
  – Provides input regarding policies, programs and models

• Leverages resident employment opportunities in healthcare
Sinai Urban Health Institute

- Located in Chicago, IL
- Part of Sinai Health System
- Founded in 2000
- Sinai Model
  - Collect & analyze data
  - Disseminate findings
  - Develop interventions
  - Vigorously evaluate the intervention
  - Involve the community at every step of the process
Epidemiology of Asthma

• Asthma is the most common chronic condition of childhood
  – 10.1 million children (14% of children <18 yrs) in the U.S. have asthma (NHIS 2010)

• In the U.S., disparities are known to exist
  – Puerto Rican 26.8%
  – Black, non-Hispanic 21.2%
  – White, non-Hispanic 12.1%
  – Mexican 10.7%

• Inner-city, minority children experience a disproportionate asthma burden
  – Prevalence approaches 25% in some Chicago communities
  – Mortality and morbidity rates higher in inner-city, minority communities

• Asthma rates among federal assisted housing residents are twice the national rate
Four Successful Previous Asthma Interventions

- Pediatric Asthma Intervention 1 (Michael Reese Health Trust) 2000-2004
- Pediatric Asthma Intervention 2 (IDPH) 2004-2006
- Controlling Pediatric Asthma through Collaboration & Education (IDPH) 2006-2009
- Healthy Home, Healthy Child (CDC) 2008-2011

Helping Children Breathe and Thrive in Chicago Public Housing (HCBT)

A Healthy Homes Partnership

April 2011– July 2013
Helping Children Breathe and Thrive in Chicago Public Housing

• Funded by the Department of Housing and Urban Development (HUD)

• Based on the framework of Sinai’s established CHW home visit asthma program

• Translates healthy homes asthma model in six Chicago public housing developments

• Collaboration began with joint input to proposal

• Utilizes a coordinated approach, working with the Chicago Housing Authority to engage building managers, FamilyWorks (CHA case management program), and resident participation
Intervention

- Community Health Workers (CHWs) are at the heart of the intervention

- Provide comprehensive, individualized asthma education
  - Focusing on medical management (e.g., recognizing and responding to attacks, medication adherence and techniques)
  - Trigger reduction in the home environment

- CHWs link participants with medical and social services
Hiring & Training CHWs

• CHWs are recruited from the CHA properties
  – No previous asthma knowledge required
  – Passion for working with community members
  – Accessed candidates through CHA’s resident workforce development process

• 75 hour training conducted by the Sinai Asthma Education Training Institute
  – Asthma Overview, Asthma Triggers/Environmental Assessment, Self-Management, HIPAA and Data collection

• Shadowed teaching and demonstration of competency prior to independent teaching

• Random shadowing and evaluation throughout intervention
Participant Recruitment

• Extremely challenging
  – Learning curve: resident communication and access – coordination with Housing Authority is essential
  – Partnered with CHA Case Managers and Property Managers
  – Added four additional CHA sites

• Identified a lot of adults with asthma
  – Children: 1 year intervention with 5-6 home visits
  – Adults: 6 month intervention with 3-4 home visits

• Eligibility Criteria
  – Have asthma and live in one of six properties
Program Completion to Date

• Adults (6 Month Intervention)
  – 73 adults enrolled
    – 73% (n=53) completed 6 month intervention to date

• Children (1 Year Intervention)
  – 85 children enrolled
    – 80% (n=68) completed through 6 months to date
    – 29% (n=25) completed year intervention to date

• Lost to Study: 19%
Baseline: Asthma Control* (N=158)

* Based on the NHLBI Asthma Guidelines
Preliminary Outcomes: Asthma Symptoms

Symptom Frequency in the Past 2 Weeks at Baseline vs. Average Over 6-month Follow-up for Children and Adults N=121

- Baseline
- 6 Months

<table>
<thead>
<tr>
<th>Symptom Type</th>
<th>Baseline</th>
<th>6 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daytime Symptoms</td>
<td>4.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Nighttime Symptoms</td>
<td>3.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Days Needing Rescue Meds.</td>
<td>3.5</td>
<td>1.8</td>
</tr>
</tbody>
</table>

* Statistically significant difference (p<0.05) per Wilcoxon signed-rank non-parametric test
Preliminary Outcomes: Health Resource Utilization

Percentage of participants who experienced any (≥ 1 versus none) ED visits and sum urgent health resource utilization at baseline compared to 6-months for children and adults with uncontrolled asthma (N=70)

68.8% decrease at 6-months

Sum Urgent HRU*

68.4% decrease at 6-months

* Sum Urgent Health Resource Utilization (HRU) = sum of all ED Visits, Hospitalizations, and urgent clinic visits due to asthma

P<0.0001
Preliminary Outcomes: Asthma Triggers

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>6 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pests</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evidence of mice</td>
<td>25%</td>
<td>50% ↓</td>
</tr>
<tr>
<td>Evidence of roaches</td>
<td>10%</td>
<td>N/C</td>
</tr>
<tr>
<td><strong>Mold/Moisture</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feels moist or damp</td>
<td>23%</td>
<td>38% ↓</td>
</tr>
<tr>
<td>Visible mold</td>
<td>20%</td>
<td>N/C</td>
</tr>
<tr>
<td><strong>Smoking</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live with a smoker</td>
<td>47%</td>
<td>N/C</td>
</tr>
<tr>
<td>Adult/ caregiver smokes</td>
<td>30%</td>
<td>N/C</td>
</tr>
</tbody>
</table>
Housing Referrals

• Collaboration with FamilyWorks, CHA, and property management to develop system of reporting participant housing issues

  - To date:
    - 23 homes referred with 53 different issues
    - 15 homes have had issues resolved
      - 40 total issues have been resolved
      - Moldy carpeting removed, large cracks and holes filled where rodents and pests were entering, mold from water damage abated, bed bugs
    - Results: Participants reported improved asthma symptoms and improved overall quality of life
Case Story

Who: Child age 8
What: 12 month asthma and healthy homes intervention
Problem: asthma symptoms of coughing and wheezing, child not using medications as prescribed, asthma trigger of excessive mold found in home
Resolution: CHW educated family on proper asthma medication usage and administration and worked with FamilyWorks Case Manager and Property Management to tear out moldy carpet
Participant: “I thank you for all of your hard work and the effort you put forth in not only educating us about Asthma and the importance of using safe cleaning products, asthma inhalers and allergy triggers, but improving our overall quality of life at home.”
Program Completion Certificates
Lessons Learned & Challenges

• **Community Health Workers**
  – Quickly and effectively establish relationships of trust with the families that they serve
  – Effective hiring and training processes are essential
  – Support & 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)
Lessons Learned & Challenges

• Participants
  – Economic hardship and competing priorities
  – Multiple caregivers - important to reach all of them

• Compliance
  – Smoking cessation is complicated - try smoking reduction
  – Medication adherence is a key factor to improved asthma, but with many barriers
  – Management companies have a process to modifying the home environment
Lessons Learned & Challenges

• **Collaboration**
  – Collaboration takes time and commitment:
    • Purpose and focus must be on attaining better outcomes: (“Win-Win”)
    • Learning/fine tuning collaboration should be a transparent process
  – Two cultures – housing and health
    • Coordinating two established processes
    • Requires learning new language and systems
    • Finding key players to work with is essential to success
  – Steps to effective collaboration
    • Plan for structured communication and meetings
    • Leverage established processes and people
    • Open and thorough communication from the beginning is key
    • Remain sensitive to residents’ individual needs while being sure to follow established protocols
  – Always and continually acknowledge team members’ contributions
Tips for a Health organization interested in engaging a Public Housing Authority

• Clarify roles:
  – The Health organization is the care expert
  – The Housing Authority is the "guide" to resident access and will know the best approach to engagement and to requesting unit improvements
  – Ask the Housing Authority to help you understand the on-going roles of resident leadership, property management and other services in order to leverage their help as stakeholders

• Don’t work outside the Public Housing Authority’s system -- allow the system to do the work for you!

• Bring all stakeholders together early on to have open discussions of how the program can best serve the residents (if possible begin these discussions at the time a proposal is being written)

• Successful partnerships take time: be prepared to invest time over the course of the program
Next Steps in this Initiative

• Children and adults continue to complete 12 and 6 month interventions respectively

• Continue to collaborate with CHA, FamilyWorks, and management companies to best assist participants/residents

• End of program event to be held in June, 2013
  – all program participants, staff and program partners

• Sustain the program and the message

• Share lessons learned and successes with others!!
It takes a village...
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Melissa Gutierrez Kapheim, MS
Epidemiologist II
Sinai Urban Health Institute
Sinai Health System
1500 S. California Ave, K439
Chicago, IL 60608
phone: 773-257-5258
fax: 773-257-5680
melissa.gutierrez@sinai.org
www.SUHIchicago.org

Andrew Teitelman, LCSW
Vice President, Resident Services
Chicago Housing Authority
60 East Van Buren Street, 10th Floor
Chicago, IL 60605
phone: 312-913-5842
fax: 312-913-5843
ateitelman@thecha.org
www.thecha.org