Sustainable Strategies for Asthma Care: Best Practices From the 2018 Asthma Award Winners
Welcome to the Webinar
Sustainable Strategies for Asthma Care: Best Practices From the 2018 Asthma Award Winners

Moderator
• Tracey Mitchell, U.S. Environmental Protection Agency (EPA)

Presenters
• Kimberlee Honda, Clinic Director, The Pediatric Asthma and Allergy Clinic at Zuckerberg San Francisco General Hospital
• Tyra Bryant-Stephens, Medical Director, The Community Asthma Prevention Program at the Children’s Hospital of Philadelphia

Tuesday, May 22, 2018
Webinar: 1:00 p.m. – 2:00 p.m. EDT
Live Online Q&A: 2:00 p.m. – 2:30 p.m. EDT on AsthmaCommunityNetwork.org

Operator-Assisted Toll-Free Dial-In Number: 866-527-8921
Conference ID: 5258357
Polling Question 1

What type of organization do you represent?

1. Government agency
2. Health care provider
3. Health plan
4. Community-based program
5. Other
Polling Question 2

What actions are you already taking to pursue sustainable financing?

1. Researching sustainable financing opportunities in my state.
2. Exploring partnerships with programs in my community.
3. Reaching out to state/local agencies to begin a dialogue.
4. Reviewing the resources on AsthmaCommunityNetwork.org.
5. None of the above.
Agenda

1. EPA’s National Environmental Leadership Award in Asthma Management

2. Hear From Speakers
   • Kimberlee Honda, Clinic Director, The Pediatric Asthma and Allergy Clinic at Zuckerberg San Francisco General Hospital
   • Tyra Bryant-Stephens, Medical Director, The Community Asthma Prevention Program at the Children’s Hospital of Philadelphia

3. Join the Q&A Session in the AsthmaCommunityNetwork.org Discussion Forum
Question & Answer Session on AsthmaCommunityNetwork.org Discussion Forum

Immediately after the webinar, join us in the AsthmaCommunityNetwork.org Discussion Forum for a live online Q&A Session:

2:00 p.m. – 2:30 p.m. EDT

To post a question in the Discussion Forum, follow these directions:

1. If you are a Network member, log in to your AsthmaCommunityNetwork.org account.

   Not a member? Create an account at AsthmaCommunityNetwork.org by clicking the “Join Now” link at the top of the page. Your account will be approved momentarily and you can begin posting questions.

2. Click on the “Discussion Forum” button on the home page.
3. Click on the “Live Online Q&A for 5/22/18 Webinar” link.
4. Click on the “Post to the Forum” link to post your question.
5. Enter your question and click the “Save” button at the bottom of the page.
Learning Objectives

Participants will—

• Hear successful strategies from winners of the 2018 National Environmental Leadership Award in Asthma Management for addressing asthma triggers, engaging CHWs and pursuing program sustainability.
• Learn how building partnerships with community organizations, including with local school districts, strengthens community ties and improves comprehensive asthma care.
• Understand how to effectively track data to measure key program outcomes and cost savings.
• Discover strategies for pursuing reimbursement through Medicaid and from health plans.
About the Award

1. It is the nation’s highest honor for exceptional asthma management programs.

2. The goal of the Awards program is to showcase best practices in asthma care and management.

3. To be eligible, applicants must use the National Institutes of Health (NIH) Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma.

2018 Awards Ceremony

The Pediatric Asthma and Allergy Clinic at Zuckerberg San Francisco General Hospital

The Community Asthma Prevention Program at the Children’s Hospital of Philadelphia
The System for Delivering High-Quality Asthma Care
Connecting to the System

Strong Community Ties
Connecting to the System

Strong Community Ties

- Include your community in program planning
- Engage your community “where it lives”
- Make it easy to accept services
Connecting to the System

Committed Leaders & Champions
Connecting to the System

Committed Leaders & Champions

- Use outcomes data to promote change
- Institutionalize the focus on outcomes
- Create program champions
Pediatric Asthma and Allergy Clinic at the Children’s Health Center, Zuckerberg San Francisco General Hospital

Kimberlee Honda
Pediatric Asthma and Allergy Clinic

Kimberlee Honda, FNP
Andrea Marmor, MD
Children’s Health Center
Zuckerberg San Francisco General Hospital
The Challenge: Asthma in San Francisco

- Childhood prevalence (0-14 yo) ~13.8%
  - Lifetime prevalence 23%
  - At ZSFG, asthma remains the top admitting pediatric diagnosis and among top 5 reasons for seeking emergency care
- Disproportionally affects low income, ethnic minority, inner-city children
  - Few specialty services exist, gaps in service for under/uninsured pediatric population
Local Morbidity

**ASTHMA DISPARITIES**

Age-Adjusted Asthma Hospitalizations and ED Visits per 10,000 San Francisco County Residents by Race/Ethnicity, 2014

- White
- Black
- Hispanic
- Asian/PI

Data Source: datasource: Office of Statewide Health Planning and Development (OSHPD), 2014

**HEALTHY PEOPLE 2010**

Asthma Hospitalizations per 10,000 Residents by Age, Compared to HP2020 Targets, California and San Francisco County, 2014

- San Francisco County
- California
- HP2010

Data Source: datasource: Office of Statewide Health Planning and Development (OSHPD), 2014
Zip Code Matters

Proportion of Population Living at or Below 200% of the Census Poverty Threshold

Traffic Density

Source: American Community Survey, 5-year Estimates, 2009-2013
City and County of San Francisco Department of Public Health Environmental Health Section
Available at www.bayareadhs.org

Source: San Francisco Inventory Transportation Inventory (2013)
City and County of San Francisco Department of Public Health Environmental Health Section
Available at www.bayareadhs.org
CLINIC HISTORY AND STRUCTURE
Clinic History

- Established in 1999 to address high rates of asthma among children in San Francisco county
  - Aim to establish a comprehensive model for treatment of inner-city kids with asthma
  - Incorporated in to “safety net” hospital serving medicaid population
- Medical-social model of care
  - Introduced the Community Health Worker (CHW) in to the clinical setting
- Community Partnership/Funding
  - Early partnership with “Yes We Can” program at SF State University provided grant funded CHW positions from 1999-2003
“Yes We Can” Urban Asthma Partnership

- Develop a comprehensive medical/social model for pediatric asthma care.
- Promote policy and system changes in asthma care on local and regional levels.
- Apply the medical/social model to other chronic diseases.
- Allow program replication.
Why CHW?

• Uniquely positioned to liaison between clinic setting and community
• Provides support, case management, resource coordination, advocacy
• Trained in health promotion: individual and environment

■ Builds trust, consistency, engagement
■ Develops expertise in asthma education
■ Cost-effective
Structuring The Clinic

PAAC Clinicians
4 nurse practitioners, 4 pediatricians, 4 allergists, 1 nurse

Other Clinical Services
Urgent care, ED, Inpatient

Community Agencies, Schools, Daycares

Primary Care Clinicians

CHW
Educator Navigator Consultant
Patient Enrollment

- Referral from DPH system-wide clinics
- Initial visit/intake: Comprehensive History, Referrals
- Enroll in Registry, Engage with CHW
- Ongoing follow up/medication management
- Once stable, may graduate back to PCP care
Services Offered

*High Risk Asthma Clinic
*Pulmonology consult
*Behavioral Health Team
*Medical-Legal Partnership
*Nutrition

*Phone call follow-up program
*Triage/symptom support
*Care coordination

*Environmental assessment/remediation
*Landlord assistance

*Motivational interviewing
*Self-management
*Device technique
*Toolbox and supplies

*In-House Diagnostics
*spirometry
*Skin prick testing
*IgE RAST
*Oral food challenge

*Need-Based Services

*Case Management

*Individualized Education

*Home Visits/Advocacy

CHW and Clinician
INTERVENTIONS AND OUTCOMES
Hospital Admissions

![Hospital Admissions Chart](chart.png)

- Total admissions
- CHW Education
Dashboard Data - 2017 Metrics

Outpatient quality measures across pediatric subspecialty clinics: Safety, Quality, Care Experience

96% of referrals processed within 72 hours

Wait time for new appointments:

↓ 20%

Average visit cycle time:

96 min

165 new patient visits

924 follow up visits
Habitability

- Total cases closed/repairs completed: 43%
- Open cases: 38%
- No intervention needed: 19%
School Advocacy

• Created database of local schools; identified areas of concern (parental report)

  Parents not providing medication at school

  Lack of trained or available staff to administer medication

  Staff not giving albuterol when symptoms occur or prior to exercise as designated on school forms

• Established communication with nurses/staff to address concerns around asthma medications
Secondhand Smoke Exposure

• Piloted the Clinical Effort Against Secondhand Smoke Exposure (CEASE) Program
  – Intervention includes brief counseling, NRT prescribing, referral to quit line

• Based on pilot success, CEASE was rolled out to all pediatric clinics (in-patient/outpatient and nursery)

62 referrals made
67% completed counseling
Patient Feedback

Before today, I was so worried. He was waking up at night all the time. I’ve never learned any of this before. Today is the first time I can feel more relaxed.

Silvia (CHW) has been such a blessing. Besides the wealth of knowledge she has helped me with, it has been a pleasure to have someone on my son’s health team who is kind, speaks Spanish, and most importantly, makes me feel respected and valued.

I am so thankful for the entire team at the clinic. I can tell they truly care about us because they call to check up on my family.

I no longer need to return to the ER as often because I know how to care for his asthma.
SUSTAINABILITY AND NEXT STEPS
<table>
<thead>
<tr>
<th>Obstacles</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical space/resources</td>
<td>Utilization of hospital infrastructure</td>
</tr>
<tr>
<td>Staffing (inconsistent, volunteers)</td>
<td>-Reduced dependence on volunteers</td>
</tr>
<tr>
<td></td>
<td>-High risk clinic run by faculty</td>
</tr>
<tr>
<td>CHWs (funding, pay and retention)</td>
<td>-CHW’s now fully funded</td>
</tr>
<tr>
<td></td>
<td>-Continuing education for CHWs</td>
</tr>
<tr>
<td>Billing (capitated billing, unbilled services)</td>
<td>-Medicaid/insurance reimbursement</td>
</tr>
<tr>
<td></td>
<td>-Additional funds, donors and grants</td>
</tr>
<tr>
<td>Patients (no shows, declining services)</td>
<td>-Case finding, patient engagement</td>
</tr>
<tr>
<td>Service vs. education</td>
<td>-Academic partners (UCSF, etc)</td>
</tr>
<tr>
<td></td>
<td>-Teaching enhances care</td>
</tr>
</tbody>
</table>
Action and Advocacy

- Collaborated toward standardized training curriculum for CHWs
- Legislative support for:
  - Flavored tobacco sales ban
  - Smoking ban in public housing
  - Reimbursement for non-licensed CHW education (AB 391)

“The CHW’s assistance has helped me feel empowered and confident in my ability to control my son’s asthma. I believe no parent, regardless of what language they speak, should ever feel like they are unable to properly care for their children, and for this reason, I fully support AB 391.”
Future Directions

- Group based visits
- Enhanced allergy services
- Ongoing QI development (UCSF, SFDPH)
- Continued support for CHW reimbursement
- Further replication of model
- Increased collaboration with community partners
  - Children’s Environmental Health Promotion Program
  - Regional Asthma Management Program (RAMP)
  - Asthma Task Force
  - Asthma Community Network
THANK YOU!
The Community Asthma Prevention Program at the Children’s Hospital of Philadelphia

Dr. Tyra Bryant-Stephens
COMMUNITY ASTHMA PREVENTION PROGRAM: CLOSING THE CIRCLE OF CARE

CAPP

Community Asthma Prevention Program

Tyra Bryant-Stephens, MD, Founder and Director, Community Asthma Prevention Program, Professor of Pediatrics

Children’s Hospital of Philadelphia®
• Founded in 1997

• Premise: Despite medical advancements, children in West Philadelphia urban primary care practice continued to go to the ED and hospital for asthma exacerbations

• Clearly a gap existed between medical management and self-management behavior
Community Asthma Prevention Program Goals

• To increase asthma knowledge and improve asthma self-management behavior
• To improve quality of life for children with asthma
• To equip members of the community to become neighborhood asthma experts
• To promote asthma-safe home and school/child care environments
• To reduce burden of asthma on disparate populations
Local Asthma Prevalence

For CHOP practices in Philadelphia county:
- 26% (16,165/61,478) with Asthma dx in last year
- 19% (11,668/61,478) with Active asthma

**TABLE 2.**—Results of screening by zip code (door to door).

<table>
<thead>
<tr>
<th>Zip code</th>
<th>Positive (%)</th>
<th>Probable (%)</th>
<th>N</th>
<th>African-American (%)</th>
<th>Hispanic (%)</th>
<th>Children below poverty (%)</th>
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<td>19104</td>
<td>47.3</td>
<td>0.0</td>
<td>91</td>
<td>50.3</td>
<td>4.0</td>
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<td>19120</td>
<td>22.2</td>
<td>7.4</td>
<td>609</td>
<td>46.8</td>
<td>26.9</td>
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<td>19129</td>
<td>18.4</td>
<td>7.7</td>
<td>207</td>
<td>38.5</td>
<td>3.0</td>
<td>25.9</td>
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<td>19131</td>
<td>23.6</td>
<td>2.0</td>
<td>243</td>
<td>78.7</td>
<td>2.2</td>
<td>30.3</td>
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<tr>
<td>19139</td>
<td>40.2</td>
<td>2.0</td>
<td>199</td>
<td>93.4</td>
<td>1.6</td>
<td>42.7</td>
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<tr>
<td>19141</td>
<td>29.7</td>
<td>1.6</td>
<td>185</td>
<td>82.2</td>
<td>3.2</td>
<td>30.6</td>
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<tr>
<td>19143</td>
<td>22.1</td>
<td>2.7</td>
<td>294</td>
<td>91.5</td>
<td>1.8</td>
<td>36.0</td>
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<tr>
<td>19144</td>
<td>20.4</td>
<td>11.2</td>
<td>294</td>
<td>82.5</td>
<td>2.2</td>
<td>31.0</td>
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<tr>
<td>19151</td>
<td>22.9</td>
<td>0.6</td>
<td>171</td>
<td>77.2</td>
<td>2.5</td>
<td>17.3</td>
</tr>
<tr>
<td>Total</td>
<td>21.7</td>
<td>4.9</td>
<td>2368</td>
<td>72.6</td>
<td>6.8</td>
<td>32.8</td>
</tr>
</tbody>
</table>

National and Local Morbidity (Hospitalizations)

IP asthma stay in 2016: 7% (940/13,408)

**FIG 4.** PBRs and ARRs for asthma hospitalizations, and average APC among children aged 0 to 17 years. Source: NHDS. *APC is significantly different than zero. †The combined APC for black and white children was 6.8%.

Akinbami, L. *JACI.* 2014.
Figure 1. WePACC Neighborhood Pediatric Asthma Measures

WePACC Neighborhood Pediatric Asthma Measures

Number of Children Hospitalized due to Asthma 2014-2015

Number of Children Admitted to the Emergency Room due to Asthma 2014-2015

Data include the number of children who live in the WePACC service area and were hospitalized due to asthma in 2014 and 2015. This includes a total of 1,353 children.

Data include the number of children who live in the WePACC service area and were admitted to the ER due to asthma in 2014 and 2015. This includes a total of 3,186 children.

Prepared by The Research and Evaluation Group at PHMC.
CAPP BUILDING BLOCKS TO REDUCE ASTHMA DISPARITIES

- Community Outreach
- Optimized Asthma Care
- Research
- Advocacy
Community Outreach/Partnerships

- **Employ** community members (CHW) to implement asthma evidence-based interventions in underserved communities
- **Partner** with other community groups such as schools, faith-based organizations, daycares and primary care centers to **identify children at risk** and to provide **educational** opportunities
- **Engages community members** to translate and adapt evidence-based studies
Optimized Asthma Care

- Provide asthma self-management education to caregivers and children in the home, schools and primary care office utilizing low-literacy educational materials.
- Promote guideline-based asthma care in the home, school and the primary care office.
- Provides patient-centered care coordination that facilitates high quality asthma care in the home, school and in primary care office.
- Connect families with community resources such as housing and transportation and scheduling appointments.
Research

✔ Applies **principles of community-based participatory research** to implement evidence-based interventions in underserved communities

✔ **Utilizes principles of implementation science** to understand effectiveness of asthma interventions in low-income communities

✔ **Seeks cost-effective methods** to implement interventions in order to promote sustainability
Advocacy
✓ Participates in **national organizations** that promote housing renovations assistance in low-income communities
✓ Participates in **state and city-wide efforts** to provide home asthma education and asthma trigger reduction for high risk children with asthma
✓ Promotes **caregiver/patient engagement to advocate** for their needs in providing care for children with asthma
Core Interventions by the Community Asthma Prevention Program:

- Conducts community home visits – asthma-related
- Organizes and facilitates community asthma classes
- Trains parent educators
- Provides asthma education in Philadelphia schools
- Educates primary care physicians to integrates asthma guidelines into practice
Community of Stakeholders

- Parents and Caregivers
- Children with Asthma dx
- Clinicians
- School District
- Community Agencies
- Faith-based Organizations
- Housing Agencies
Current CAPP staffing

• Nine Community Health Workers
  – Asthma navigators- Integrated into primary care health team at CHOP inner-city practices
  – Home Visitors- Community-based and serve all children in Philadelphia (outside of CHOP and within CHOP)

• CAPP Program Coordinator
• CAPP Research Project Manager
• RN Asthma Care Coordinator
• Research Assistant
• Medical Director
CAPP Community-Based Interventions over 20 years

- Community asthma self-management education (Pediatric Nursing, JNMA 2004)
- Individual home asthma self-management education (J Asthma 2012)
- Home environmental remediation (AJPH 2009)
- Primary provider education (PAS 2007)
- School professional education
- School student education
- School screening (J Asthma 2012)
- Door-to-door screening (J Asthma 2012)
- Community evaluation (J Urban Health 2011)
- Asthma navigators (ATS 2015)
- Adult asthmatics home visits (JACI 2016)
- Smoking cessation/secondhand tobacco reduction (Pediatrics 2016, AJPH 2017)
- Major home repairs- BUILD Health Challenge
Community Feedback

“I’m telling parents about CAPP. YOU ARE THE BEST kept secret in Philadelphia.”

“Since taking CAPP asthma classes, I have learned so much, but the most important thing is that asthma can be controlled.”

“We do not panic! We have learned to act quickly and calmly before attacks occur.”

“...since my home visitor has been coming weekly...my children haven’t been to E.R. in past year.”
Home
Environmental/Educational Interventions

Methods

✓ Community Health Workers- trained lay health educators implement interventions
✓ Assessment of child’s bedroom and general living areas
✓ Parents taught how to make simple environmental interventions in child’s bedroom and general living area
✓ Supplies given to facilitate interventions
✓ Inspection of rooms at f/u visits
✓ Education reinforced at each visit with teach back
✓ Over 3000 families have received home visits
**Asthma Community Health Worker Training Plan**

**Didactic With Active Review**
- What is a Community Health Worker?
- Asthma Diagnosis and Physiology
- Asthma Trigger Remediation
- Asthma Medications and Asthma Action/Care Plan
- Teaching, Communication, Care Coordination
- Spirometry
- Motivational Interviewing

**Mock Sessions**
- Four classes reviewed and discussed with program coordinator
- Four classes are taught to senior CHWs with role play
- Checklist must be completed for field training
- Medical Director evaluates medicine class

**Field Training**
- Four classes attended with senior CHW supervision in field
- Checklist for sign off before autonomous
Community Health Workers
A Missing Link for Home/Clinic Connections?

- Tailored asthma interventions that consider the families’ psychosocial needs and health beliefs are more likely to reduce utilization than health insurance and access.
- Previous studies find that community health workers (CHW) are effective in delivering tailored interventions and coordinating resources in the home and community in a culturally appropriate manner.
- Recent studies have proven that community health workers integration into the patient-centered medical home is feasible and successful.
- We sought to reduce utilization by expanding the role of the CHW in the medical home while maintaining their visibility and interaction with caregivers in the home and community.

Asthma Navigator Project: Closing the Circle of Care

- Asthma Navigators (CHWs) assigned to primary care office
- Three components: Care Coordination, Education (home, office), Navigation
- Home visits made for children with high utilization to provide asthma Education and Environmental Remediation
- Care coordination goals determined by caregiver with CHW assistance
- Resources to facilitate care coordination goals given to caregiver
- Assistance with scheduling for primary care office and specialist
- Follow up for one year
Eligibility Criteria

- 0-17 years old
- 1 inpatient or 2 ED visits in past year
- On at least two controller medications
- PCP in one of 3 CHOP primary care practices
- Medicaid or CHIP insured
Components of Asthma Navigator Program

- Care Coordination
  - Increase Follow-up visits
  - Integrate asthma care
  - Identification of goals in asthma management
  - Improved patient/pcp communication

- Education
  - Understanding medicines/devices
  - Asthma trigger education/home remediation
  - Asthma care plan

- Navigation
  - Needs assessment
  - Identification of resources and referrals
  - Specialist visits
<table>
<thead>
<tr>
<th></th>
<th>Education</th>
<th>Environmental Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Visit</td>
<td>• Asthma Physiology and Symptoms</td>
<td>• Roach &amp; mice bait given with instructions on proper use.</td>
</tr>
<tr>
<td></td>
<td>• Review of medications in home</td>
<td>• Other methods of pest control discussed.</td>
</tr>
<tr>
<td></td>
<td>• Administer Asthma Control Tool</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Identify care coordination goals</td>
<td></td>
</tr>
<tr>
<td>Second Visit</td>
<td>• Common indoor asthma triggers described</td>
<td>• Dusters, mattress &amp; pillow covers given with instructions for use.</td>
</tr>
<tr>
<td></td>
<td>• Avoidance techniques described</td>
<td>• Demonstration of use of mattress &amp; pillow covers.</td>
</tr>
<tr>
<td></td>
<td>• Environmental Assessment of Home for Asthma Triggers</td>
<td>• Carpet removal or vacuum bags given.</td>
</tr>
<tr>
<td>Third Visit</td>
<td>• In-depth review of asthma medications and devices.</td>
<td>• Cockroach and pet dander avoidance techniques.</td>
</tr>
<tr>
<td></td>
<td>• Asthma Action/Care Plan</td>
<td>• Sponge and buckets given.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Demonstration on proper method to wash baseboards.</td>
</tr>
<tr>
<td>Fourth Visit</td>
<td>• School Concerns</td>
<td>• Trash bags, shades and shade brackets given.</td>
</tr>
<tr>
<td></td>
<td>• Exercise and Fitness</td>
<td>• Care coordination resources provided</td>
</tr>
<tr>
<td></td>
<td>• Care Coordination</td>
<td></td>
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## Demographic and Socioeconomic Characteristics of Asthma Navigator Study Participants (n=254)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
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<tbody>
<tr>
<td>Age, mean (SD)</td>
<td>5.0 (3.5)</td>
</tr>
<tr>
<td>Male, %</td>
<td>65.2</td>
</tr>
<tr>
<td>African American, %</td>
<td>91.4</td>
</tr>
<tr>
<td>Hispanic, %</td>
<td>2.4</td>
</tr>
<tr>
<td>Mother main caregiver, %</td>
<td>91.8</td>
</tr>
<tr>
<td>&gt;=High School education level, %</td>
<td>97.6</td>
</tr>
<tr>
<td>Medicaid insured, %</td>
<td>100.0</td>
</tr>
<tr>
<td>In the past 6 months:</td>
<td></td>
</tr>
<tr>
<td>Telephone or utilities turned off, %</td>
<td>4.7</td>
</tr>
<tr>
<td>Felt unsafe, %</td>
<td>21.9</td>
</tr>
<tr>
<td>Seen violence in neighborhood, %</td>
<td>27.0</td>
</tr>
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Asthma Symptom and QOL outcomes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean days Baseline n=254</th>
<th>Mean Days 12 months n=254</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missed daily medicine (in past 2 weeks)</td>
<td>1.48 (±3.3)</td>
<td>1.20 (±2.6)</td>
<td>Not significant</td>
</tr>
<tr>
<td>Took rescue meds (in past 2 weeks)</td>
<td>5.87 (±5.8)</td>
<td>2.74 (±3.5)</td>
<td>.000</td>
</tr>
<tr>
<td>Symptom Days (in past 4 weeks)</td>
<td>6.78 (±7.9)</td>
<td>3.00 (±5.2)</td>
<td>.000</td>
</tr>
<tr>
<td>Symptom Nights (in past 4 weeks)</td>
<td>7.00 (±9.3)</td>
<td>2.42 (±5.2)</td>
<td>.000</td>
</tr>
<tr>
<td>Slowed Activity</td>
<td>5.50 (±8.6)</td>
<td>2.51 (±5.7)</td>
<td>.000</td>
</tr>
<tr>
<td>School Days Missed</td>
<td>9.77 (±11.5)</td>
<td>2.82 (±3.3)</td>
<td>.000</td>
</tr>
<tr>
<td>Work Days Missed</td>
<td>9.16 (±16.7)</td>
<td>1.52 (±3.0)</td>
<td>.000</td>
</tr>
<tr>
<td>Triggers</td>
<td>Baseline</td>
<td>12 months</td>
<td>p</td>
</tr>
<tr>
<td>-------------------</td>
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</tr>
<tr>
<td><strong>SMOKING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports smoking</td>
<td>37.3%</td>
<td>38.9%</td>
<td>ns</td>
</tr>
<tr>
<td>with child in the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports smoking</td>
<td>2.3 (1.8)</td>
<td>3.0 (1.2)</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>at baseline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No report</td>
<td>1.9 (1.2)</td>
<td>2.3 (1.2)</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>of smoking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>COCKROACH</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports roaches</td>
<td>25.7%</td>
<td>11.5%</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>at baseline</td>
<td>0.7 (0.9)</td>
<td>1.1 (1.2)</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>No roach problem</td>
<td>0.3 (0.8)</td>
<td>0.5 (0.8)</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td><strong>PETS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family has pets</td>
<td>39.1%</td>
<td>35.8%</td>
<td>p=.039</td>
</tr>
<tr>
<td>Caregiver thinks</td>
<td>68.5%</td>
<td>78.2%</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>that furry pets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>affect child’s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>asthma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports pets at</td>
<td>0.7 (0.8)</td>
<td>1.5 (1.1)</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No pets reported</td>
<td>0.8 (0.7)</td>
<td>1.1 (0.7)</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td><strong>MOLD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports a mold</td>
<td>13.9%</td>
<td>4.1%</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>problem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports mold</td>
<td>1.7 (1.4)</td>
<td>1.6 (1.4)</td>
<td>ns</td>
</tr>
<tr>
<td>at baseline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No mold problem</td>
<td>0.3 (0.7)</td>
<td>0.6 (0.9)</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td><strong>DUST</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caregiver thinks</td>
<td>92.3%</td>
<td>97.6%</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>that being around</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dust affect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>child’s asthma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mean(SD) N=254</td>
<td>2.6 (2.1)</td>
<td>6.2 (2.0)</td>
<td>p&lt;.001</td>
</tr>
</tbody>
</table>
## Healthcare Utilization (self-reported)

<table>
<thead>
<tr>
<th></th>
<th>Mean visits Baseline n=254</th>
<th>Mean visits 12 months n=254</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unscheduled visits because of asthma (in past 4 months)</td>
<td>1.91 (±6.4)</td>
<td>0.84 (±1.1)</td>
<td>.012</td>
</tr>
<tr>
<td>Treated in ER (in past 12 months)</td>
<td>3.83 (±3.7)</td>
<td>1.41 (±1.6)</td>
<td>.000</td>
</tr>
<tr>
<td>Times admitted to hospital (in past 12 months)</td>
<td>1.90 (±1.7)</td>
<td>0.57 (±0.9)</td>
<td>.000</td>
</tr>
</tbody>
</table>
## Total Costs per Patient

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Follow-up</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medications</td>
<td>$173</td>
<td>$179</td>
<td>$5.46</td>
</tr>
<tr>
<td>Physician Visits</td>
<td>$163</td>
<td>$90</td>
<td>-$73</td>
</tr>
<tr>
<td>Emergency Visits</td>
<td>$1,604</td>
<td>$589</td>
<td>-$1,015</td>
</tr>
<tr>
<td>Hospitalizations</td>
<td>$13,728</td>
<td>$4,116</td>
<td>-$9,612</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$15,668</strong></td>
<td><strong>$4,974</strong></td>
<td><strong>-10,694</strong></td>
</tr>
</tbody>
</table>
Case Study – “The Forgetter”

AB is a 12 yo male who has uncontrolled asthma, nonadherent, and several no-show appointments in the office. Also he had many ED and IP visits. At the time of the visit, Mom’s goals were to get AB to take his medicine everyday and to be able to monitor it and to remove asthma triggers in child’s room.

- The ACN enrolled family in the office and made a home visit appointment within 2 weeks of that office visit.
- At the first home visit the AHCN identified carpet in child’s room, clutter and pests as potential triggers.
- The ACN then went on a second visit when AB could attend and did the trigger and medication class in the home focusing on the roles of the controller and rescue medicines. She also brought tiles because the caregiver agreed to remove the very worn carpet from AB’s room.
- After that visit AB began to take his meds twice a week, but forgot the rest of the time.
“The Forgetter” (cont)

• On the third visit to the home the tiles had been laid.
  – She brainstormed with AB about another way to remind him to take his controller medicines.
  – AB and Mom decided that he would put a asthma medicine calendar in the bathroom and he would put a check on the calendar every time he took the controller medicine.
  – Mom would then be able to check it as well to remind him if he forgot his medicines.

• AB came back to office one month later and reports that he now remembers to take his medicines five days out of the week but he’s still shooting for everyday...

• Summary- the ACN was able to help mom with removing triggers, making a f/u appointment and able to help AB with adhering to treatment.
LESSONS LEARNED AND SUSTAINABILITY
Lessons Learned

• Each community member brings his/her own expertise and it must be valued in order to create a feasible, acceptable and sustainable intervention

• Utilization of a participatory process essential to community engagement

• Identification of community resources establishes where the strengths are in the community

• Sharing outcomes with partners is important for interpretation and application of findings
Lessons Learned

• Community Health Workers are peers for caregivers and facilitates connection between clinic and home
• Identification of Asthma champions important to clinic integration
• Data integrity must be maintained
• Evaluation of Outcomes essential for stakeholders who may support sustainability
Sustainability

- Build sustainability in your plan using the current infrastructure as much as possible
- Start thinking of sustainability from the beginning
- Encourage/Urge your community partners that they need to think about sustainability with you throughout the process
- Look for partners within your organization with whom you can combine/leverage your strengths and resources
- Remember- It always requires some source of funding

CELEBRATING 20 YEARS!!
Summary

- Integration of CHWs as asthma navigators into the clinical setting provided much-needed support to close the gap of care for children with frequent asthma exacerbations.
- Asthma navigators promoted national asthma-guideline based care in the home and in the office which resulted in reduced asthma symptoms and reduced healthcare utilization.
- The value added by this program has been acknowledged by the practices and the insurers evidenced by their willingness to support and sustain these asthma navigators.
- Poor housing is a public health problem that requires all sectors to work together to reduce harmful environmental exposures and to create healthy homes.
- THE FINAL STEP TOWARDS CLOSING THE LOOP IS TO CONNECT ALL FOUR SECTORS: HOME, SCHOOL, HEALTH CARE AND COMMUNITY.
**West Philadelphia Controls Asthma Study Design**

- **Primary Care Offices and Emergency Room screen**
- **Community Groups screen**

**Identification of eligible children**

- Primary Care CHW (Asthma navigator) assigned to primary care office
- Caregivers/Children enrolled in primary care office and randomized to navigator (Y or N)

- Randomize children to Primary Care CHW (P+) (Asthma Navigator) or control (P-)

**Asthma Navigator intervention:**
- YES WE CAN
- CAPP HOME VISITS
- CARE COORDINATION
- SCHOOL COORDINATION

**School Ambassador/CHW intervention:**
- OPEN AIRWAYS
- SCHOOL-BASED ASTHMA THERAPY
- CLASSROOM ENVIRONMENTAL REMEDIATION
- CARE COORDINATION

Identify nonparticipating schools for child randomized to navigator (Y/N)
Thank You!
Polling Question 3

Based on what you have learned today, what next steps will you take?

1. Visit the AsthmaCommunityNetwork.org Hall of Fame to learn more from past winners.
2. Begin investigating potential partnerships with community organizations, schools, and other stakeholder groups.
3. Implement data tracking solutions to track key program outcomes and cost savings.
4. Research sustainable financing opportunities in my state, and potential partners to begin a dialogue.
Financing In-Home Asthma Care

Learn more about—

- The value of asthma home visits
- Building your workforce
- Effective reimbursement strategies
- Understanding the options
- How to make your case to funders

Visit www.AsthmaCommunityNetwork.org/Financing
Community Health Worker Training Programs

Includes resources such as—

- CHW training programs by state
- CHW training and certification standards by state
- Podcasts, webinars and blogs

Visit www.AsthmaCommunityNetwork.org/CHW_Programs
Question & Answer Session on AsthmaCommunityNetwork.org Discussion Forum

Immediately after the webinar, join us in the AsthmaCommunityNetwork.org Discussion Forum for a live online Q&A Session.

2:00 p.m. – 2:30 p.m. EDT

To post a question in the Discussion Forum, follow these directions:

1. If you are a Network member, log in to your AsthmaCommunityNetwork.org account.

2. Click on the “Discussion Forum” button on the home page.

3. Click on the “Live Online Q&A for 5/22/18 Webinar” link.

4. Click on the “Post to the Forum” link to post your question.

5. Enter your question and click the “Save” button at the bottom of the page.

Not a member? Create an account at AsthmaCommunityNetwork.org by clicking the “Join Now” link at the top of the page. Your account will be approved momentarily and you can begin posting questions.