Section 1 - Using Community Health Workers to improve asthma knowledge, self-management, home environment and linkages to community resources

This is a collaborative report coauthored by the Evaluation Team at Group Health Community Foundation, with others involved in the process, including: the AAA Project Director, Co-Director, and Project Manager/KCAF Coordinator.

August 2005

Summary

Community Health Workers (CHWs) are increasingly used to support asthma management and improve the home environment, particularly among low-income families with children. CHWs assist families with asthma management, providing education and assistance on a variety of topics including medication use and working with health providers. In addition, the CHWs conduct a comprehensive home environmental assessment by interviewing clients and inspecting the home environment. The CHWs provide education on identification and reduction of indoor asthma triggers and work with each client to develop an individualized set of actions to improve indoor environmental quality.

Between December 2002 and June 2005, the AAA program supported three CHWs. The AAA CHWs began in December 2002. KCAF CHWs provided services in English, Spanish, and Vietnamese, and worked with enrolled families over the course of a year. Accomplishments of the CHW program include:

- Served 274 families from December 2002 through June 2005.
- Conducted 200 home environmental assessments and used the results to make modifications to reduce asthma triggers.
- Developed a CHW training curriculum. An effective and well-received training curriculum including field practice was developed and offered over several weeks for the CHWs and included protocols covering 24 topics for the home environment and self-management support. These educational protocols are now in use. (link to training curricula document and protocols)
- Created tools to assess indoor environmental quality and asthma self-management skills, which have been pilot-tested and implemented. (link to HEC, screening forms, telephone recruitment script, and 3 CHW baseline instruments)
- Developed and implemented a comprehensive client recruitment plan and tools. The recruitment plan incorporates several avenues for recruiting clients into the CHW intervention and also provides opportunities to increase awareness about the activities of the KCAF. (Note – link to recruitment plan)
- Implemented a systematic triage and referral system with community partners to ensure a coordinated approach to delivering CHW asthma services in the county.
As a result of the Community Health Workers' efforts:

- **Patient outcomes improved** in a number of key indicators in baseline/exit surveys, including symptom-free days, caregiver quality of life and health care utilization.
- **Caregivers reported appreciation for CHW visits**, assistance, and equipment in in-depth semi-structured interviews.
- **Caregivers have developed their own solutions** and include making sure others clearly understand their issues and then follow through with advice provided; teaching children to recognize their own symptoms so they can take action early; having children help administer treatments; and teaching children when, how, and where to get help.
- **Provider coaching has emerged** as an unanticipated but effective bridge connecting providers to community resources to better serve CHW clients.
- **CHWs teach families about other KCAF services**, including Neighborhood Asthma Committees, training for child care providers, and clinic-based classes (ACT).
Section 1 – Community Health Workers

**Background**

Families often find it difficult to make the changes required to improve asthma care on their own. Community Health Workers (CHWs) are increasingly used to support asthma management and improve the home environment, particularly among low-income children. CHWs are from the communities they serve, usually have personal experience with asthma, and many are bilingual and bicultural. With their blend of personal and professional experience, they are effective in building trust, teaching, and motivating families to address asthma more effectively.

Results are very promising from several studies evaluating the impact of CHWs. The Healthy Homes I research project- one of the three CHW programs of the KCAF - carefully measured the impact of CHWs using a randomized controlled trial\(^1\)\(^2\)\(^3\). The project found that for the group receiving the most comprehensive CHW services:

- Asthma symptoms were reduced - the number of days with asthma symptoms in the last two weeks decreased by 4.7 days.
- The quality of life for caregivers improved - how much they worried about asthma and how much it affected their lives improved by 1.6 on the Pediatric Asthma Caregiver Quality of Life Scale\(^4\) (ranging from 1 to 7, with higher scores indicating better quality of life).
- Children went to the emergency room and hospital less often - children who needed urgent medical attention declined by 64%.
- Urgent care costs (hospital admissions, emergency department visits and unscheduled clinic visits) decreased – two month costs decreased an estimated $201-$334 per child.

For more information about Healthy Homes-I, please see [http://www.metrokc.gov/health/asthma/healthyhomes/](http://www.metrokc.gov/health/asthma/healthyhomes/).

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These results are similar to those from other projects around the country. The Inner City Asthma Study found that in-home environmental education and support reduces the burden of asthma for low-income families. A growing number of studies are showing that CHWs are effective in improving asthma care. KCAF members have seen beneficial outcomes from three local CHW efforts: the Odessa Brown and Healthy Homes-I and II projects.

**Description of AAA Community Health Worker Program**

Between December 2002 and June 2005, the AAA program supported up to three CHWs, one of which was funded for the first year by the City of Seattle. Because of recruitment challenges (described below) the program was not at full capacity until late spring of 2003. The program collaborated closely with two other KCAF-sponsored CHW programs, Healthy Homes II and Better Homes for Asthma (links to those programs). When AAA funding ended in July 2005, the program transitioned to Steps to Health-King County, which will support CHW services through 2008.

**Overview of Program**

The CHWs provided services in English, Spanish, and Vietnamese to families who had children with persistent asthma, had incomes at or below 250% of poverty, and resided in the AAA target area. CHWs worked with each enrolled family over the course of a year. They each worked with about 50 clients at a time and made 40-50 visits per month. An Asthma Management Coordinator, who was a public health nurse, provided clinical consultation and oversight for the CHWs and their clients.

The AAA CHW program model was adapted from the Healthy Homes research model. Major adaptations were in shifting from a rigid research protocol in providing standardized visits to one that was flexible in meeting the clients’ needs. As a result, while educational messages were consistent among all clients, clients received a different number of visits and more varied services than in the Healthy Homes CHW model. CHWs may visit each family two to seven times over a one year period.

**Data collection and needs assessment.** At the initial visit, the CHW collected baseline data that included information about symptoms, medication use and technique, health care access and utilization, caregiver quality of life, and other information that the CHW could use to understand the child’s situation and prioritize work with the family (link to

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baseline instrument). Some of the most common problems identified in the baseline interviews included: 1) poor inhaler or nebulizer technique that prevented the children from getting the full measure of their medications; 2) normalizing, and thus minimizing asthma symptoms; 3) misunderstanding of and under-use of medications; 4) no action plans at home, school or child care; and 5) poor patient-provider communication.

At the subsequent visit, the CHW conducted a home environmental assessment to identify potential asthma triggers in the home. The assessment included an interview with the caregiver and an inspection of the home (link to HEC). The most common housing-related problems identified included: 1) moisture build-up and poor ventilation (e.g., windows that did not open, nonexistent or nonfunctional fans in bathrooms and kitchens); 2) old, deteriorated carpeting; 3) and mold.

One year following the baseline visit, the CHW would conduct an exit visit with the family, the results of which were used for program evaluation purposes and to assess the need for any additional support. The exit survey included questions from the baseline and HEC instruments (link to exit instrument). About three months after the exit was conducted the CHW would make a final check-in phone call to see how the child was doing.

**Education and advocacy.** Information gathered in the first two visits was used to develop goals and priority actions with the family (link to goal sheet). Over the next series of visits (average 3-5 visits), the CHW provided education to the family, using motivational interviewing techniques, to support their self-management and trigger reduction goals. The CHW also provided the family with items to help implement recommended actions, including the following:

- Allergen control pillow and mattress encasements
- “Green Clean” cleaning kit (bucket, gloves, and low fume cleaning products)
- Low emission vacuum
- Peak flow meter (when needed)
- Asthma action plan
- Medication storage box
- Packets of educational materials (link to educational materials list)

The CHW provided education in accordance with 24 protocols that were utilized by all three KCAF-sponsored CHW programs (link to protocols). Frequently, education and tools for the family was not enough to resolve an issue that was compromising a child’s health. Many families lived in substandard housing. The CHWs were strong advocates for their clients in getting needed repairs in the home or relocating to safer housing. Clients also frequently received less than optimal medical care. The CHW taught clients how to communicate with their providers to make sure their children got the best possible care. At times, the CHW would accompany the client to a clinic visit to help advocate for the child. The Asthma Management Coordinator also provided an essential role in advocating for the client when there were concerns about the severity of symptoms or quality of care. In 41 cases, the AMC made phone calls to the child’s provider to explain concerns that she, the CHW, and caregiver had about the child’s asthma or medications.
Care coordination. The Asthma Management Coordinator communicated with providers when a child was experiencing alarming symptoms or had medication issues that needed immediate attention. Working together, the CHW and Asthma Management Coordinator served as a bridge between the families and providers by facilitating communication, educating both parties about care guidelines, providing encounter reports and action plans for the provider, and by helping caregivers strengthen their communication skills with providers.

Program Infrastructure

Staffing. A lead Community Health Worker provided direct supervision for the CHWs. She monitored workloads and schedules, and assigned new clients to CHWs based on the client’s linguistic need and staff caseloads. The Asthma Management Coordinator provided clinical back-up and technical oversight for the CHWs. In addition to reviewing client cases with the CHWs, she accompanied them occasionally on visits to ensure that educational messages were provided in accordance with protocols (link to home visit quality assurance checklist).

Training and case conferencing. The KCAF CHW programs developed a comprehensive forty-hour training curriculum that was offered over several weeks after the CHWs were hired (link to training schedule). It included didactic and hands-on training covering 24 topics for the home environment and self-management support (e.g., warning signs of asthma, using an asthma action plan) (link to educational protocols). Because new training needs arose as the CHWs were in the field, occasional follow-up training was provided throughout the program. For example, in response to concerns about the well-being of a child, a refresher training was held about child protection services.

Ongoing clinical back-up. Ongoing clinical back-up from the Asthma Management Coordinator was provided through bi-weekly case conferences in which all KCAF CHW program staff participated. At those meetings, some of the CHWs would present challenging cases for the staff to strategize about together or a success story in which important lessons were learned. Review of those cases provided an opportunity to reinforce protocols and standardize approaches among the programs.

Data tracking and evaluation. AAA staff developed a client data tracking system in Access for monitoring productivity, centralizing data for evaluation purposes, and to track clients. Summary data from each visit to a client was entered into the database.

Recruitment

In conjunction with the Cross Project Coordination Group (see sections 5 and 6), AAA developed and implemented a recruitment plan with accompanying materials. The plan identified several avenues for recruiting families into the CHW program. It also provided opportunities to increase awareness about the activities of the KCAF. Initially the plan focused on recruiting through clinics—providers would send letters to their asthma patients and the CHWs would follow up with the letters by phone. Because Healthy
Homes II was using the same approach and had priority for recruitment (as determined by the Cross Project Coordination group), the pool of clients eligible to recruit through this strategy was very low. Additionally, client phone numbers and contact information obtained from participating clinics were often not current, making it difficult to reach potential clients. In addition, the Institutional Review Board (IRB) and the Health Insurance Portability Accountability Act (HIPPA) constraints complicated referrals from community partners.

To bolster recruitment, outreach efforts were intensified beyond clinic-based recruitment including more outreach in community settings and to community-based organizations and schools. CHWs became actively engaged in building one-on-one relationships with CBOs, clinic providers and staff, and school personnel who refer families to the program. They also recruited families at community events. Clinics participating in the Learning Collaborative (see the Section 4-Clinical report) developed improved referral mechanisms, yielding additional clients. A clinic referral system form was developed to efficiently refer patients to the CHW program. Schools became an important referral source. School-based recruitment included posters at schools, distributing flyers to each student, outreach to school nurses, CHW visits to schools to make presentations to parents and teachers, and providing in-service education and program information to school staff. Over 60 school personnel (teachers, health educators, and family resource planners) attended three continuing education courses offered by AAA staff. The classes exposed attendees to the home intervention and taught them on how to identify and refer children into the CHW program.

The most fruitful referral sources were the following: 1) providers with whom the CHW had developed a relationship, 2) school flyers that were sent to students’ homes, 3) Head Start programs at which the CHWs conducted outreach presentations, 4) flyers that were posted in various locations in the community, and 5) word of mouth.

A protocol for preventing and reducing loss to follow-up was established to retain individuals who had been recruited. (Note – link to loss to follow up protocol).

**Program Costs.**

For other communities interested in starting up their own CHW program, the KCAF estimates that the annual cost for operating the CHW programs is $1345 per client, which includes CHW salaries and benefits, one FTE per 3-5 CHWs for supervision and technical oversight, administrative support and data management, 13% overhead, and materials. This estimate assumes another program would adopt the KCAF educational curricula and protocols, recruitment strategies, and other materials.
Measuring Progress Toward CHW Objectives

The primary process indicators for the CHW program involve the number and quality of contacts between CHWs and families. Outcome indicators are divided into two areas: asthma self-management and the home environment.

CHW Process Indicators

Table 1 lists the process indicators for the CHW activities, shows the degree to which they were accomplished and next steps after AAA funding ends. CHWs worked with 274 families, and conducted 200 environmental assessments. CHWs were supported by 24 educational protocols, which they incorporated into their visits, and 79 hours of ongoing training and case management support.

Table 1. Process Indicators for CHW Activities

<table>
<thead>
<tr>
<th>Process objective</th>
<th>Status/Indicators</th>
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</table>
| CHWs trained in self-management support protocols | • 3 AAA CHW’s trained  
• 79 training hours completed between January 2003 and June 2005  
• CHWs attained required level of knowledge |
| CHW recruitment plan developed and implemented | • Comprehensive recruitment plan and supporting materials targeting schools and clinics developed and implemented  
• Assessed effectiveness and further intensified outreach efforts |
| CHW screening and data collection tools developed and pilot tested | • Phone screen, triage protocol, baseline, exit and HEC in place |
| CHWs working with families on an ongoing basis to increase knowledge, improve asthma care, improve the home environment | (Through June 2005)  
• 274 clients enrolled  
• 60 closed (45 loss to follow-up)  
• 200 environmental assessments |
| CHWs following AAA protocols on home visits | • 24 protocols established; 9 revised in 2003 |
| Asthma Management Coordinator works one on one with families’ healthcare providers | • 41 providers were contacted by the Asthma Management Coordinator about severe patients |

In addition to program logs, interviews with caregivers (conducted by the AAA Project Director and a graduate student) provided another source of process data. In person interviews with 20 caregivers were conducted between May and August 2004.
Section 1 – Community Health Workers

The results presented below were taken from the September, 2004 Caregiver Key Informant Interview Report and focus mainly on how the CHW helped the caregiver with his/her child’s asthma and areas where help was not obtained.

Examples of how CHWs helped caregivers (based on interview responses):

- Respondents found the supplies provided by CHWS very useful.  
  Cleaning solutions. That was the greatest. I used to choke when I cleaned the house, especially the bathroom. I want to keep the place clean and do not want to have my son suffer from asthma the way I did. The CHW taught me about what cleaning solutions I could use and she brought me ‘the green bucket.’ So now I use vinegar all the time and it really does clean and I don’t choke.

  Getting supplies: mattress and pillow covers and cleaning equipment.

- CHWs helped caregivers obtain information and increase knowledge. Several families had “red folders” which the CHW had given them where they kept their asthma information. One mother said she added asthma pamphlets that were obtained at the clinic. Educational material on allergies, triggers, and medication were part of their folders.

  Knowledge! The CHW had good information and I learned something each time she came. I liked the pamphlet she gave us on keeping your environment healthy. My daughter took the pamphlet to see how she could keep her room healthy.

  Having someone listen and make suggestions and explain things to us. She explained things clearly, discussed triggers (new information), helps us with paperwork, gave us pamphlets and talked with BOTH of us, father and child.

- CHWs helped caregivers build confidence in their ability to manage their child’s asthma.  
  The CHW gave me confidence in what I was doing (nebulizer, medications, cleaning).

Examples of areas where help from CHWs was not obtained (based on interview responses):

- Nine (45%) families said there was “nothing” the CHW was not able to help them with.

- Six (30%) of the 20 families do not use their vacuum cleaners any longer. The reasons given were: it is broken (n = 2), too noisy (n = 1), doesn’t work and it smells really bad (n = 1), smoke comes out of it when I turn it on (n = 1), we gave it away (n = 1).

- Caregivers faced challenges with pets. Two families talked about their pets; both had dogs. These pets were part of the family and each was trying to control the animal’s contact with the child with asthma.

- Other unmet needs included:
The CHW was not able to help with the school. This is a big issue. When the nurse is not at the school the assistant receptionist is in charge of health...The receptionist is supposed to give my daughter her medicine, but she forgets and she is not cooperative in helping with this. I have made myself a real nuisance at the school over this.”

Needing help deciding if a fan would help or harm the child

Information about the pharmacy and medications

Help with daycare

What happens if his nebulizer breaks and I can’t fix it?

Suggestions from caregivers for addressing unmet needs. Caregivers interviewed were asked whether they had any suggestions of how these unmet needs could be addressed. Suggestions ranged from being small in scope and immediate such as “take a hot bath” to large in scope and long term, such as wanting to own a home so that the family did not have to depend on a landlord. Other suggestions for addressing unmet needs included learning as much as possible about asthma, to not be afraid to ask questions, and to pay close attention to your child so you pick up the first sign of asthma.
**CHW Outcome Indicators**

Tables 2 and 3 summarize the results regarding asthma management for the AAA CHW program. A total of 67 families completed both a baseline and exit interview. The results were generally very positive: of the 19 indicators examined, 15 showed a statistically significant improvement (based on a t-test comparing baseline to follow-up). Only one indicator (percent using their spacer more than half the time) showed a statistically significant worsening.

The key outcome indicators of asthma symptoms and health care utilization all showed substantial improvement (Table 2). Symptom free days in the previous two weeks increased from 8.0 to 10.3, an improvement of nearly 30%. Caregiver quality of life improved, with an increase of 21% in the overall scale. There were significant declines in the percent with emergency department visits (57% to 37%) and with an unscheduled office visit (64% to 30%). Other areas of improvement (Table 3) included the percent of patients with a written action plan (33% to 57%), and self-efficacy in managing asthma (increase of 24% in the combined scale).

An additional analysis was conducted comparing the 67 families that completed both baseline and exit interviews with the 114 families completing only the baseline. Only one variable (child's age) showed a statistically significant difference (based on a t-test): families completing both waves of the survey had younger children than those completing the baseline only (5.8 years versus 7.1 years). On all other key measures there were no significant differences, including caregiver age, symptom-free days, health care utilization, self-efficacy and caregiver quality of life.

**Table 2. Primary Asthma Outcomes for CHW Families**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline Interview</th>
<th>Exit Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of families</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td>Number of symptom-free days (past two weeks)</td>
<td>8.0</td>
<td>10.3 **</td>
</tr>
<tr>
<td>Caregiver Quality of Life: All items (1-7)</td>
<td>4.8</td>
<td>5.9 **</td>
</tr>
<tr>
<td>Caregiver QOL scale: Emotional functioning (1-7)</td>
<td>5.0</td>
<td>6.0 **</td>
</tr>
<tr>
<td>Caregiver QOL scale: Activity limitation (1-7)</td>
<td>4.3</td>
<td>5.8 **</td>
</tr>
<tr>
<td>Percent with a hospital stay, past 12 months</td>
<td>25%</td>
<td>13%</td>
</tr>
<tr>
<td>Percent with an ED visit, past 12 months</td>
<td>57%</td>
<td>37% **</td>
</tr>
<tr>
<td>Percent with hosp or ED visit, past 12 months</td>
<td>66%</td>
<td>41% **</td>
</tr>
<tr>
<td>Percent with an unscheduled office visit, past 3 months</td>
<td>64%</td>
<td>30% **</td>
</tr>
</tbody>
</table>

Notes:
** - p<.05 for comparison of baseline versus exit (t-test)
Table 3. Additional Asthma Management Outcomes for CHW Families

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline Interview</th>
<th>Exit Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of families</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td>Percent of persistent patients with a written action plan</td>
<td>32%</td>
<td>60% **</td>
</tr>
<tr>
<td>Percent using their spacer more than half the time</td>
<td>91%</td>
<td>77% **</td>
</tr>
<tr>
<td>Percent of persistent patients on controller medications</td>
<td>67%</td>
<td>83%</td>
</tr>
<tr>
<td>Number of days controller medications taken, past two weeks</td>
<td>10.7</td>
<td>11.8</td>
</tr>
<tr>
<td>Medication use: Problems administering (1-5 scale)</td>
<td>1.9</td>
<td>1.4 **</td>
</tr>
<tr>
<td>Medication use: Problems with missing doses (1-5 scale)</td>
<td>2.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Medication use: Combined scale-administration and dose (1-5 scale)</td>
<td>2.0</td>
<td>1.6 **</td>
</tr>
<tr>
<td>Medication self-management --scale of asthma monitoring behaviors (6-24)</td>
<td>17.5</td>
<td>19.3 **</td>
</tr>
<tr>
<td>Self-efficacy in controlling symptoms: Child (1-10)</td>
<td>6.7</td>
<td>8.3 **</td>
</tr>
<tr>
<td>Self-efficacy in controlling symptoms: Adult (1-10)</td>
<td>6.6</td>
<td>8.3 **</td>
</tr>
<tr>
<td>Self-efficacy in controlling symptoms: Combined (1-10)</td>
<td>6.7</td>
<td>8.3 **</td>
</tr>
</tbody>
</table>

Notes:
** - p<.05 for comparison of baseline versus exit (t-test)

Table 4 shows outcomes for the home environmental assessment. The results were somewhat weaker than for the asthma management indicators; in only one case was there a statistically significant improvement--the percent with mattress and pillow covers increased from 17% to 69%. There were increases in the percent with working fans in the bathroom and kitchen, and reductions in mold and moisture problems. This was offset by a slight decline in the percent vacuuming regularly. None of these baseline/exit differences was statistically significant, however.

Table 4. Home Environment Outcomes for CHW Families

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline Interview</th>
<th>Exit Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of families vacuuming at least once/week</td>
<td>96%</td>
<td>86%</td>
</tr>
<tr>
<td>Percent of homes with moisture problems</td>
<td>53%</td>
<td>39% **</td>
</tr>
<tr>
<td>Percent using mattress and pillow covers</td>
<td>17%</td>
<td>69% **</td>
</tr>
<tr>
<td>Percent with a working kitchen fan ventilated to the outside</td>
<td>55%</td>
<td>68%</td>
</tr>
<tr>
<td>Percent with a working bathroom fan</td>
<td>65%</td>
<td>74%</td>
</tr>
<tr>
<td>Percent with pets that come inside</td>
<td>17%</td>
<td>13%</td>
</tr>
<tr>
<td>Percent of homes with mold</td>
<td>46%</td>
<td>35%</td>
</tr>
<tr>
<td>Percent of homes with roaches</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Percent with someone who smokes inside the house</td>
<td>5%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Notes:
** - p<.05 for comparison of baseline versus exit
Lessons Learned

In the course of implementing the AAA CHW program, a number of lessons were learned that might provide guidance for other similar efforts in the future.

- **Allow enough time for instrument and protocol development.** The timeline for implementation was unrealistic and was further compounded by IRB delays. Because the implementation phase was delayed and extended, the CHWs were trained and ready to begin home visits before the instruments, recruitment plans and protocols were finalized, resulting in downtime for these staff members. Protocols should be completed prior to hiring staff and more time should be allowed for completing instruments.

- **Develop a multi-channeled recruitment strategy.** In an effort to avoid confusion when all CHW programs started recruiting at the same time, a triage recruitment protocol was developed that gave Healthy Homes II priority for enrollment. As a result, AAA recruitment lagged initially. AAA staff developed a new recruitment plan after initial challenges and although the plan was effective in the long term, recruitment goals were not met in the first year of the project.

- **Carefully consider the advantages and disadvantages before adopting a flexible visit protocol.** A flexible visit protocol allows the CHW to tailor visits according to families’ needs. However, it makes it more difficult to monitor quality of services to ensure that clients are receiving the full support needed. AAA staff believed the benefits of a flexible approach outweighed the drawbacks.

- **Develop methods to periodically assess and address the client’s level of understanding, misperceptions, and self-efficacy.** Following several home visits, misunderstandings and misinformation remained among caregivers about medication use and asthma self-management. Simple and effective methods to keep track of medications need to be found for families. One approach developed by the CHWs, was to provide medication boxes for each client to hold medications and instructions for use.

- **Develop a process for CHWs to periodically troubleshoot caregiver difficulties** so issues are jointly addressed and solutions developed throughout the intervention. Difficulties and challenges exist for caregivers. They include tiring of nagging children to take their medicine, not having enough time and energy to keep the house trigger-free, uncooperative landlords, and a doctor hesitant to make an asthma diagnosis. Working with caregivers on a regular basis to identify and troubleshoot problems can help them better deal with the additional challenges of having a child with asthma.

- **Provide regular opportunities for CHWs to case conference with the Asthma Management Coordinator.**

- **Lessons learned about staffing:** It is helpful if the CHW has personal experience with asthma to connect with families, although it is not critical. It is also important to have a lead CHW to monitor caseloads, schedules, and productivity.
• **Lessons learned about managing caseloads:** Caseload expectations need to take into account the amount of outreach and office work CHWs must do. Over time AAA tried to minimize paperwork so that CHWs could spend more time in the field. On average a caseload of 50 clients per CHW, with 40-50 visits per month seemed feasible. Families who are not home during a scheduled visit had a major impact on productivity. Strategies developed to minimize no show rates include making reminder calls, mailing postcards with reminders of baseline visits, and calling right before leaving for a visit. No shows were still a problem.

• **Lessons learned about maintaining families in the CHW program:** KCAF CHW programs developed many strategies for reducing the number of clients lost to follow up. Strategies included spacing out the distribution of supplies over a number of visits, maintaining telephone contact over periods of time with gaps in visits, using postcards when a client could not be reached by phone, and contacting providers when contact was lost with a patient. While the strategies were helpful, they were not a panacea. In the AAA target area, the school districts have close to a 70% turnover rate of their students. In communities with such high turnover, some loss to follow up is inevitable.

• **Collaborate with similar programs to leverage resources and coordinate recruitment.** The AAA CHW program benefited greatly from close collaboration with two other KCAF-sponsored programs (Healthy Homes II and Better Homes for Asthma), which provided similar CHW services at the same time. It was important to anticipate inevitable complications and use the neutral Cross Project Coordination group to help set parameters to minimize potential turf issues.
**Section 2- Improving School Asthma Management**

This is a collaborative report coauthored by the Evaluation Team at Group Health Community Foundation, with others involved in the process, including: the AAA Project Director, Co-Director, and Project Manager/KCAF Coordinator.

August 2005

**Summary**

KCAF activities focused on improving school asthma management included Team Asthma Goes to School (TAGS), a program designed to raise asthma awareness and support staff and parents in resolving asthma concerns, the Tools for Schools indoor air quality assessment program, and coordination of other asthma activities in schools. The KCAF Schools Committee provided the oversight, direction and coordination for the KCAF’s school-based activities.

Key accomplishments of the school-based efforts included:

- **Developing the TAGS model and a triage system.** KCAF staff utilized a participatory approach to develop the consultative model for working with schools. Through the development of TAGS, agencies and organizations in King County offered their asthma expertise to any school personnel or parents who called in for asthma-related assistance. Through TAGS, a triaging system that connected these agencies and individuals to community members was developed that allowed one centralized office to take and disperse requests for services/assistance. For example, TAGS offered links to an indoor air quality program offered by Public Health-Seattle & King County, researchers from the University of Washington, the American Lung Association of Washington, the Allergy and Asthma Foundation of Washington, and several asthma clinicians. These linkages were easily made by the fact that all organizations were already part of KCAF.

- **Sponsoring asthma presentations for parents and school staff/administrators.** Upon request, TAGS connected both parents and school staff with local health care providers who offered basic asthma education. In addition, schools requested booths at school health and wellness fairs, one school nurse called for assistance with a home environmental assessment, and one school district requested information about mold.

- **Conducting Tools for Schools indoor air quality assessments, which resulted in a number of districts that have indoor air quality plans.**

- **Obtaining funding to sustain coordination of the Neighborhood Asthma Committees (now called Neighborhood Health Advocacy Committees), from the Steps to Health-King County program.**

- **Offering three continuing education/in-service training courses** targeting teachers, family support workers, health educators, and Seattle school nurses. The courses
highlighted environmental and medical aspects of asthma, key messages and use of action plans, described roles personnel play, and described the KCAF/TAGS triage service. Updates were also provided to school nurses on the NAEPP guidelines.

- **Creating a media package to raise awareness of school-related asthma issues.** The Schools Committee, with the assistance of a public relations specialist at PHSKC, developed a media package to raise awareness about asthma in general and the specific challenges that face schools in managing children with asthma. The public relations specialist submitted the package to local newspapers.

- **Distributing posters and fliers** within schools and school-based health clinics communicating the services offered by the KCAF. *(NOTE – add link to most current KCAF flier)* As a result of directly mailing fliers about KCAF programs to all elementary and middle school students’ homes, many caregivers called the phone triage line (please see section 6 for more detail) to enroll in the AAA CHW intervention and other KCAF programs.

- **Distributing the AMES Manual.** KCAF has distributed “Asthma Management Education in the Schools” (AMES) manuals to all school nurses in the AAA area. The manual provides detailed information for school administrators on how to create schools that are environmentally healthy and policies that promote effective management of childhood asthma. The manual includes a checklist for improvements and walks administrators step by step through each recommendation. The American Lung Association of Washington, a member of the KCAF, distributes this manual. The manual is available on the ALA website *(http://www.alaw.org/childhood_asthma/ames/)*.

- **Commissioning and presenting an asthma play** to middle school students at three schools within the AAA target area. Students performed the play, which tried to dispel stigmas sometimes associated with asthma.
Section 2 – Improving School Asthma Management

Background

Asthma accounts for over 10 million missed school days per year nationwide. Schools struggle both with creating an environment that minimizes asthma triggers and with the day-to-day management of students with asthma. In King County, those challenges are heightened by an environment of shrinking budgets, an inadequate number of school nurses, and pressure on staff to focus on academic activities that directly improve test scores, leaving little time for other activities. Most school personnel have not received training in reducing environmental asthma triggers or in responding to asthma exacerbations. Few students have asthma management plans on-site. School nurses and medical providers in the community describe difficulties in exchanging information.

Description of School-Based Activities

The initial focus of KCAF school-based activities was on developing Team Asthma Goes to School (TAGS), a program designed to raise asthma awareness and support school staff and parents in resolving asthma concerns. Additional less intensive activities included supporting Tools for Schools assessments in AAA-area schools, producing an asthma play for middle school students, and developing training and other educational activities for personnel and students. The Schools Committee provided the oversight, direction and coordination for the KCAF’s school-based activities.

TAGS. TAGS was a consultative model designed to connect school personnel and families with information, experts, programs, and curricula that could help with the clinical and environmental aspects of asthma management. TAGS was staffed by the KCAF Outreach Coordinator, who received guidance and support from the Schools Committee chair. The AAA Outreach Coordinator responded to calls from school personnel or caregivers of students and helped them access appropriate services or information, most of which KCAF members provided on a voluntary basis. Examples of the types of calls that were made to TAGS were to request asthma presentations for staff, to get help to address indoor air quality concerns, or to link a student with services.

During the summer of 2003, AAA provided school nurses (including those in school-based teen health clinics) in the Highline, Tukwila, Renton and Seattle districts with an overview of TAGS and a packet of information with contact information and several examples of how TAGS services can be useful. Later that year, school district budget cuts resulted in school nurse FTE reductions, which shifted more health responsibilities to non-nursing staff. AAA began promoting TAGS to other school personnel, including health educators, family support workers and teachers. AAA staff and Schools Committee members organized two full-day in-service trainings—one for teachers and another for health educators and family support workers. (NOTE - add links to school teacher in-service training flyer and FSW training flyer). In addition, they held an in-service training for Seattle Public School nurses (Note - link to program flyer). Those
Section 2 – Improving School Asthma Management

Trainings included information about asthma pathophysiology, environmental and medical aspects of asthma, key asthma messages and use of action plans, the role of school personnel in asthma management, and how to refer students to KCAF members’ programs.

Recruitment to KCAF programs. In the fall of 2003 AAA staff worked with the school districts to send fliers announcing KCAF programs to all elementary and middle school students’ homes in the AAA area. Nearly 20,000 flyers were sent. As a result, many caregivers with children in the AAA-area schools called the triage line to enroll in the AAA CHW intervention and other KCAF partnering programs.

Tools for Schools.
Public Health-Seattle & King County administers the local Tools for Schools (TFS) indoor air quality program developed by the US Environmental Protection Agency. Information about Tools for Schools can be found at [http://www.epa.gov/iaq/schools/](http://www.epa.gov/iaq/schools/). The TFS coordinator was an active participant in the Schools Committee and coordinated his work closely with the committee. He conducted fifty TFS assessments from January 2003 through June 2005 in the AAA target area. Following the recommendation of the Schools Committee, the TFS program began providing follow-up visits to schools to ensure staff have access to support and training related to any issues identified in the assessment.

Eight follow-up visits occurred in May 2005. Some of the most common challenges observed at these were: elementary school still had problems with upholstered furniture, blankets and area rugs, and educational supplies provided by the school district or teachers which decrease indoor air quality were still present.

Asthma Play.
In response to recommendations that emerged from the AAA assessment phase, the KCAF partnered with the Rainier Valley Youth Theater to commission an asthma play for middle school students. The play, called *Chicken Soup*, tried to dispel the stigma that students may associate with asthma and emphasized the importance of taking action to control asthma. It was performed in three schools in the AAA target area with over 500 attending.

Linkage with Neighborhood Asthma Committees (NACs).
Because many of the NACs met in schools, NACs and the schools shared information and sometimes resources. In anticipation of AAA funding for NACs coming to an end in the fall of 2004, the Schools Committee developed a proposal to Steps to Health- King County to sustain the NACs. The grant was awarded (see Section 5 for more details).

Current Status. The Schools Committee intends to sustain itself after RWJF funding, although it does not have a concrete plan for how it will do so. Steps to Health- King County brought momentum, resources, and new participants to the Schools Committee and helped form new opportunities to coordinate services with other organizations. For example, through Steps, three schools conducted the asthma module of the School Health
Index assessment, and have developed action plans that resulted in the Schools Committee providing follow up (e.g. one ACT class was held at a school and committee members made a presentation at a school about resources for families). Many of the programs that have been participating in the committee are struggling with funding issues (i.e., there is currently no more funding for TFS), and their ongoing participation is uncertain. The school districts have requested assistance from the KCAF for responding to new legislation that allows students to ‘self-carry’ their medications. Because of the complex nature of applying this law to school systems, the schools committee could provide a valuable role in advising on compliance with this law.

**Measuring Progress in School-Based Activities**

The primary progress indicators for the AAA schools intervention are the number and type of consultation, training and other activities offered to school personnel, parents, and students:

TAGS Activities
TAGS activities included:
- 13 requests for assistance from school personnel (from TAGS log- as of May 2004).
- 2 presentations made to parents and personnel, and 5 referrals made to Community Health Workers, Tools for Schools.
- A full-day continuing education class was held for teachers – 17 attendees.
- A full-day continuing education class was held for health educators and family support workers – 17 attendees.
- A resource workshop for Seattle Public School nurses – 60 attendees.

Tools for Schools
- Between January 2003 and June 2005, the TFS coordinator from Public Health-Seattle & King County conducted 50 Tools for Schools indoor air quality assessments (8 funded by AAA) in the AAA target area: 39 in elementary schools, 8 in middle schools, 3 in high schools.

AMES Manuals
- Manuals were distributed to all school nurses within AAA target area.
- AMES manual now available on-line and no longer possible to track dissemination.

Other School-Based Activities
- KCAF posters and fliers were developed and disseminated throughout schools to recruit students with asthma to KCAF programs.
- In Fall of 2003, 20,000 fliers were directly mailed to the homes of elementary and middle school students of AAA area schools, leading to many calls from caregivers to the phone triage line (see section 6 for more details).
- An asthma play addressing the stigma students may associate with asthma and the importance of using medications was commissioned and then performed in three middle schools – 500 students attended.
- A full-day training was held for members of the Washington Education Association. This resulted in the American Lung Association’s development of a teacher training CD-Rom (available through AMES).
- Developed a proposal to Steps to Health – King County and obtained funding to sustain the NACs.

**Schools Committee - Benefits and Success Factors**

The Evaluation Coordinator conducted a group interview of the Schools Committee at a meeting in May 2005, asking about the benefits of the schools program and success factors most responsible.

**Benefits of participating in the Schools Committee** included relationship building and information exchange:

- Regular contact with people to build relationships. It helps knowing there’s a regularly scheduled time you’re going to see people.
- Just knowing we’ll be seeing each other reinforces relationships. It’s important for information exchange. [Name deleted] brings a statewide perspective. We bring new resources from our individual organizations. Physical contact keeps momentum going and sustains trust.
- Meeting regularly gets you thinking about partnerships. It triggers ideas. Helps me figure out if there’s something I could do. Creates a foundation for me.
- King County is a big mess of individuals and agencies. This committee is another space for people to discuss asthma. It’s a different culture; different things are talked about here than in other forums.

**Success factors** identified by Schools Committee participants included a willingness to take responsibility on the part of members and resources from AAA to staff the committee:

- Willingness for people to take responsibility for action. People took leads writing proposals for example.
- AAA money allowed coordination of this committee, brought loyalty to the committee, helped keep us on track.

**Lessons Learned**

KCAF learned several lessons in the process of implementing the AAA schools intervention that may be useful for other school-based efforts in the future. Lessons include:
• **Adopt a flexible approach to outreach and training.** The initial TAGS strategy was to target school nurses for outreach and education. However, the Seattle Public School District eliminated several nursing positions in 2004 requiring a change in school outreach strategy. The Schools Committee began considering other audiences with whom to proactively promote TAGS such as parents, administrators, families, physical educators, and health instructors. The Schools Committee developed two continuing education classes for teachers, health educators, and family support workers as a way to reach out to school personnel other than nurses. Ultimately, the Schools Committee chose to allocate resources to other strategies because in general, TAGS was not being used.

• **Offer a range of program options to schools.** School personnel are overwhelmed with issues perceived as more pressing than asthma, which limited TAGS utilization. Since its inception, only thirteen requests were made for TAGS services. Changing how TAGS was promoted and expanding existing services was one way that use was encouraged. The Schools Committee adopted Tools for Schools as one additional service that was easier to implement.

• **Launch a pilot program to assess the best strategy.** Resource limitations made it difficult to develop a more proactive schools intervention that would have greater impact than the existing consultative model. Some stakeholders believed it would have been useful to have a full-time staff person dedicated to school asthma activities. With limited resources for TAGS staffing, expansion, and making improvements, launching a pilot program to better assess school needs and sustainable implementation strategies could be useful.

• **Assess how the political viability of the schools environment affects intervention feasibility.** The Schools Committee learned along the way that health topics in school settings are political. To the extent possible, it could be helpful to try to anticipate different positions of different interest groups, and then assess and document divergent views. As in any setting, politics is one dimension to inform intervention methods and strategies.

• **Be attentive to the academic calendar, testing schedules, and student survey schedules, and coordinate around these school priorities.**
Section 3 – Improving Management of Asthma in Child Care Settings

This is a collaborative report coauthored by the Evaluation Team at Group Health Community Foundation, with others involved in the process, including: the AAA Project Director, Co-Director, and Project Manager/KCAF Coordinator.

August 2005

Summary

Many children in the Allies Against Asthma (AAA) target area have working parents and spend significant time in child care or recreational activities. Therefore, a priority for AAA was to improve the asthma management skills of child care providers. AAA and Environmental Protection Agency (EPA) funds supported the Asthma and Allergy Foundation of America (Washington chapter) in hosting trainings for providers serving children from the AAA target neighborhoods through its “Asthma and Allergy Essentials for Child Care Providers” program.

Key accomplishments of the AAFA-WA child care training included:

- **Reaching a large number of providers.** Between May, 2001 and October, 2004 there were 40 classes held, with a total of 878 providers trained. The classes are marketed effectively as evidenced by the large numbers of providers who voluntarily participated.
- **Offering courses and presenters who were consistently positively received.** Participant evaluations showed that nearly 100% believed that course objectives were met, over 90% rated the presenters as either Good or Excellent, and 99% said they would recommend the course to others.
- **Increasing the asthma-related knowledge of child care providers.** Pre-post knowledge test results showed an increase in knowledge about asthma.
- **Introducing a Spanish version of the class in 2004.** AAFA-WA provided three Spanish classes for in-home providers. (link to [http://www.aafawa.org/](http://www.aafawa.org/) for curriculum). These classes provided new learning opportunities to a population that typically cannot access larger conferences.
- **Obtaining STARS accreditation.** AAFA-WA obtained STARS approval for the training in response to providers’ requests that the training count towards their annual accreditation.
Description of Child Care Activities

Many children in the AAA target area have working parents and spend significant time in child care or recreational activities. During the AAA community needs assessment, parents and child care staff requested increased education for child care providers. Parents worried about their children being with caretakers who lack adequate education about asthma and its management. Child care providers expressed anxiety about their level of responsibility given their limited knowledge. The providers wanted training; preferably something that would meet the requirement for STARS accreditation.

AAA and Environmental Protection Agency (EPA) funds supported the Asthma and Allergy Foundation of Washington (AAFA-WA, www.aafawa.org/) to host trainings for providers serving children from the AAA target neighborhoods through its “Asthma and Allergy Essentials for Child Care Providers” program. AAFA-WA offered the classes regularly and providers received STARS continuing education credits for attending.

In 2003 AAFA-WA and AAA received a grant from the EPA to provide home environmental assessments for in-home child care providers participating in the classes. The AAA and Healthy Homes II Community Health Workers conducted these assessments. This activity built on the partnering organizations’ existing resources; the AAFA-WA child care classes, AAA’s home environmental survey tool, and Community Health Workers from the AAA and Healthy Homes II projects.

Steps to Health-King County will fund ten Essentials classes for child care providers in the AAA target area in 2005. AAFA-WA will also offer classes in other parts of Washington, Idaho, and Oregon with support from EPA, which funded development of the Essentials course. As of October 1, 2004, there are no resources to sustain provision of the home environmental assessment component.

Measuring Progress in Child Care Activities

Progress measures for the child care intervention include both process indicators (e.g., number of classes held) and outcome indicators (e.g., changes implemented as a result of the training).

Process Indicators

The primary process indicators for the child care intervention are the number of classes held and providers trained, satisfaction of participants with the training and number of environmental assessments conducted.

Classes held/Providers trained
- Between May, 2001 and October, 2004 there were 40 classes held, with a total of 878 providers trained.
Number of children with asthma cared for by these providers
- 1-2 children: 36% of participating providers
- 3-4 children: 14% of providers
- 5 or more children: 13% of providers
- No children with asthma: 37% of providers

Environmental assessments
- 40 child care providers received home environmental assessments, education and supplies from Community Health Workers in 2004.

Table 1 shows overall ratings of the training classes by participants responding to a survey following the training (N=596). Roughly 70% of all participants rated as “excellent” the presenter’s skills in the following: 1) knowledge of the subject; 2) ability to hold their interest; and 3) the way they responded to questions. Nearly 80% of participants liked that they learned new information.

Table 1. Participant Evaluation of Child care Training Classes

<table>
<thead>
<tr>
<th>N</th>
<th>596</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate presenter: Knowledge of subject</td>
<td></td>
</tr>
<tr>
<td>Fair</td>
<td>1%</td>
</tr>
<tr>
<td>Average</td>
<td>3%</td>
</tr>
<tr>
<td>Good</td>
<td>25%</td>
</tr>
<tr>
<td>Excellent</td>
<td>71%</td>
</tr>
<tr>
<td>Rate presenter: Kept my interest</td>
<td></td>
</tr>
<tr>
<td>Fair</td>
<td>1%</td>
</tr>
<tr>
<td>Average</td>
<td>6%</td>
</tr>
<tr>
<td>Good</td>
<td>27%</td>
</tr>
<tr>
<td>Excellent</td>
<td>66%</td>
</tr>
<tr>
<td>Rate presenter: Responded to questions</td>
<td></td>
</tr>
<tr>
<td>Fair</td>
<td>1%</td>
</tr>
<tr>
<td>Average</td>
<td>3%</td>
</tr>
<tr>
<td>Good</td>
<td>23%</td>
</tr>
<tr>
<td>Excellent</td>
<td>73%</td>
</tr>
<tr>
<td>Things liked about the course</td>
<td></td>
</tr>
<tr>
<td>Learned new information</td>
<td>78%</td>
</tr>
<tr>
<td>Information packet</td>
<td>64%</td>
</tr>
<tr>
<td>Open discussion</td>
<td>51%</td>
</tr>
<tr>
<td>Practice with equipment</td>
<td>31%</td>
</tr>
</tbody>
</table>
Course evaluations included a section for open-ended comments; the following are examples of the many positive comments from participants.

*Excellent class, demonstrations, instructor very professional, courteous, and knowledgeable.*

*This class gave me a better understanding of asthma. It gives me more peace.*

*It is a knowledgeable course. I recommend it is a good for all family members.*

*I really liked the child care asthma plan with action card.*

*In 30 years of classes, this was one of the best classes.*

*Give this class frequently.*

**Outcome Indicators**

Outcome indicators include changes made in child care settings to improve asthma management and increases in knowledge. Table 2 gives participant self-ratings of both their degree of comfort in caring for children with asthma and changes they said they were likely to make as a result of attending the class.

Ninety-five percent of participants said they were either very comfortable (45%) or comfortable (50%) caring for children with asthma after completing the course (no pre-training survey was done so their comfort level before the class is unknown). The most commonly mentioned changes that participants said they would implement immediately were washing or eliminating stuffed toys (49%), dusting/cleaning the environment more frequently (43%) and vacuuming frequently (38%). These percentages represent intentions only; no follow-up was conducted to assess whether the changes were actually made.
Table 2. Changes Resulting from Child Care Training Classes

<table>
<thead>
<tr>
<th>N</th>
<th>596</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How comfortable caring for children w/ asthma?</strong></td>
<td></td>
</tr>
<tr>
<td>Very comfortable</td>
<td>40%</td>
</tr>
<tr>
<td>Comfortable</td>
<td>55%</td>
</tr>
<tr>
<td>Uncomfortable</td>
<td>3%</td>
</tr>
<tr>
<td>Very uncomfortable</td>
<td>2%</td>
</tr>
</tbody>
</table>

| **Changes to be implemented immediately** |     |
| No smoking                        | 31% |
| Use pillow/mattress covers        | 30% |
| Wash sheets weekly hot water      | 34% |
| Wash/eliminate stuffed toys       | 49% |
| No pets                           | 26% |
| Eliminate mold                    | 31% |
| Dust/clean frequently             | 43% |
| Remove carpet                     | 13% |
| Clean/change filters monthly      | 27% |
| Vacuum frequently                 | 38% |
| Eliminate cockroaches             | 19% |
| Use airtight food containers      | 23% |
| Cover trash cans                  | 31% |
| Avoid play outside on code-red day| 34% |
| No sprays/perfumes                | 39% |
| Other                             | 8%  |

Table 3 shows pre/post changes in knowledge before and after completing the course for 19 questions. On average participants answered between one and two (1.6) more questions correctly after completing the class. Test questions where there were large increases in knowledge included: asthma can not be cured (T) (69% to 84%); droppings of cockroaches can trigger asthma (T) (54% to 95%); a peak flow meter monitors how lungs are working (T) (62% to 92%); and some asthma medicines are preventive (T) (71% to 88%). All but 4 of the 19 pre/post comparisons were statistically significant.
## Table 3. Child Care Provider Education -- Pre/Post Changes in Knowledge

<table>
<thead>
<tr>
<th>Question (correct answer)</th>
<th>Pre</th>
<th>Post</th>
<th>P-value$^1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>573</td>
<td>531</td>
<td></td>
</tr>
<tr>
<td>Total number of correct answers (out of 19)</td>
<td>14.3</td>
<td>15.9</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Asthma can not be cured (T)</td>
<td>69%</td>
<td>84%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Episodes occur suddenly and w/o warning (F)</td>
<td>29%</td>
<td>38%</td>
<td>.003</td>
</tr>
<tr>
<td>Many different things can bring on episodes (T)</td>
<td>95%</td>
<td>97%</td>
<td>.059</td>
</tr>
<tr>
<td>You can catch asthma like a cold (F)</td>
<td>82%</td>
<td>83%</td>
<td>.638</td>
</tr>
<tr>
<td>Children and adults with asthma should not exercise (F)</td>
<td>90%</td>
<td>88%</td>
<td>.059</td>
</tr>
<tr>
<td>Droppings of cockroaches can trigger asthma (T)</td>
<td>54%</td>
<td>95%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Tobacco smoke can cause an episode (T)</td>
<td>94%</td>
<td>98%</td>
<td>.001</td>
</tr>
<tr>
<td>Colds and flu can set off episode (T)</td>
<td>84%</td>
<td>91%</td>
<td>.001</td>
</tr>
<tr>
<td>Many children have asthma and allergies (T)</td>
<td>90%</td>
<td>95%</td>
<td>.001</td>
</tr>
<tr>
<td>A peak flow meter monitors how lungs are working (T)</td>
<td>62%</td>
<td>92%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>A child is not having an episode unless they are wheezing (F)</td>
<td>76%</td>
<td>85%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Asthma is a psychological illness (F)</td>
<td>86%</td>
<td>90%</td>
<td>.057</td>
</tr>
<tr>
<td>Small amount of peanuts OK with allergic people (F)</td>
<td>84%</td>
<td>82%</td>
<td>.274</td>
</tr>
<tr>
<td>Gloves, etc are potential latex sources (T)</td>
<td>87%</td>
<td>94%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Some asthma medicines are preventative (T)</td>
<td>71%</td>
<td>88%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>High pollen days can cause episode (T)</td>
<td>90%</td>
<td>97%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Reactions to food allergies can be life threatening (T)</td>
<td>94%</td>
<td>98%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Environmental changes can prevent episodes (T)</td>
<td>88%</td>
<td>94%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Children allergic to cat/dog dander should avoid those animals (T)</td>
<td>90%</td>
<td>96%</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Notes:
1 - p-value for individual-level paired t-test comparing pre/post. (Pre/post figures include all respondents, p-value is only for those with matched pre/post).

## Lessons Learned

There were several lessons learned from the child care training program that may prove useful for other, similar programs in the future:

- **Membership in an asthma coalition can enhance child care training programs.**
  The child care training benefited in at least three ways from being connected with the KCAF. First the training program developed linkages with AAFA-WA, and the AAA and Healthy Homes II Community Health Workers (CHWs). In addition, instructors started informing child care providers that they could refer clients to CHWs. These linkages are examples of integrating services. Second, KCAF membership allowed AAFA-WA to tap into experts in the community who can assist with the training. Third, membership in the coalition allowed AAFA-WA to receive the local EPA grant to provide both the classes and the in-home environmental evaluations.
• **Class timing is important.** Classes were held in the evening after work, and although this time fits best with providers’ schedules, it means that providers were often tired. Learning and absorbing information becomes more challenging. Instructors should explore ways of keeping people alert such as making the class interactive, providing food, and taking frequent breaks.

• **Language barriers need to be addressed.** English is a second language for many providers, and some of the class vocabulary (e.g., physiology, medications) is difficult to explain and for participants to comprehend. During class, participants will attempt to explain to one another what the terms mean, which may distract others who are listening to the instructor. Options such as translators or offering separate classes for those with different levels of English proficiency could be explored.

• **Quality instructors are critical.** AAFA-WA instructors received lots of very positive feedback and contributed a great deal to the success of the program.

• **Obtaining STARS accreditation provided an incentive** for child care providers to participate in the trainings.
Summary

Several Allies Against Asthma (AAA) activities focused on improving clinical asthma management, including the Learning Collaborative (LC), asthma registry, care coordination by the Community Health Workers (CHW) and other activities. Many of the activities continue after AAA funding has ended, including clinic improvements brought about through the learning collaborative and the asthma registry. The KCAF played an important role in supporting the clinic improvement activities.

Key accomplishments:

- **Learning Collaborative.** Four safety-net clinics used a modified version of the Institute for Health Care Improvement collaborative model to improve the quality of asthma care. Three of the clinics (those with more consistent top management support) made significant improvements: forming improvement teams with active clinical champions, actively testing changes, using asthma registries and beginning to spread improvements to other provider practices in their clinics. Asthma registry data showed increases in the use of controller medications and in the percent of visits where the asthma severity level was assessed. There were a number of lessons learned in the process related to program design, planning, and implementation (described below) that may prove useful for other clinics implementing learning collaboratives.

- **Asthma Registry.** AAA supported development of an asthma registry at five clinic sites and one City of Seattle site through provision of computers, software, technical assistance and funding of a registry manager. The registry collects data on components of care specified by current guidelines and/or desired by clinicians. The system uses the data to prepare patient management summaries for each clinic visit, which are then updated after the visit.

- **Care Coordination.** AAA Community Health Workers (CHWs) assisted clinicians in improving care for children with asthma by coordinating services and community resources, providing case management, coaching clients in provider-patient communication, and providing support for self-management.

- **Spirometry Training.** AAA assisted five clinics in implementing pulmonary function testing (spirometry) by providing resources and training. Spirometry is an important tool for accurately assessing asthma severity and for diagnosing asthma.
• **Provider Education.** In 2004, AAA provided three pediatric asthma “Evidence to Practice” presentations to 40 Harborview Medical Center physicians, 45 community health clinic providers, and 40 public health nurses. In addition, the chronic disease coordinator from a Learning Collaborative clinic was funded to participate in the Asthma Educator Institute.

• **Other Clinic Improvement Activities.** During 2003-2004 the Community Health Plan of Washington (CPHW) partnered with an organization of community health centers and KCAF to improve clinic-based asthma care for patients cared for by network providers, with an emphasis on increasing controller medication treatment for patients with persistent asthma.
Actual clinical practice often deviates from recommended clinical practice guidelines and evidence-based asthma management practice. King County Asthma Forum (KCAF) through its Allies Against Asthma project carried out a number of activities in clinics to bring actual practice closer to best practice. Four safety-net clinics that participated fully in these activities were Sea Mar Community Health Center, Rainier Beach Medical Center, Columbia Public Health Center, and Roxbury Family Healthcare-Highline Medical Group. The Eastside Community Health Clinic was participating but dropped out. Harborview Pediatric Clinic was involved in partial activities, and the North Public Health Center participated in some activities.

There were several AAA activities focused on improving clinical asthma management, including the Learning Collaborative (LC), Asthma Registry, care coordination by the Community Health Workers (CHW) and a project with a local community health plan. This section gives a brief overview of those activities.

**Learning Collaborative**

The primary strategy used by AAA to improve asthma care was based on an adaptation of the Learning Collaborative approach developed by the Institute for Health Care Improvement (IHI) ([http://www.ihi.org/](http://www.ihi.org/)) (described further below) The goal of this Collaborative is to improve the quality of care delivered to children with asthma in an evidence-based manner through a collective learning process and technical assistance. Clinics assess current quality of care, identify areas for improvement and implement system-level improvements that focus on assuring the delivery of evidence-based clinical care and the provision of strong support for family education and self-management. A second goal is to enhance the linkages between clinical care and supportive resources in the community for people with asthma. Community resources include Community Health Workers, education programs for families, child care sites and schools, and Neighborhood Asthma Committees.

The Collaborative uses three “models” to generate learning and improvement: the Chronic Care Model, the Model for Improvement, and the Learning Model. The Chronic Care Model, developed by Wagner and colleagues\(^1\),\(^2\) provides a framework for quality improvement efforts. Implementation of the Chronic Care Model is being promoted by application of the rapid cycle plan-do-study-act (PDSA) approach developed by the Institute for Healthcare Improvement (IHI)\(^3\),\(^4\),\(^5\) supported by expert consultation and cross-clinic interaction. The Learning Model is a 12-15

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4. [www.ihi.org](http://www.ihi.org)
month schedule of intensive learning in a collaborative setting interspersed with action periods in the health center setting.

From Fall 2002 through the end of 2004, four clinics used the collaborative model to improve the quality of asthma care. Three of the clinics made significant improvements: forming improvement teams with active clinical champions, actively testing changes, using asthma registries and beginning to spread improvements to other provider practices in their clinics. AAA supported 0.15 FTE of a clinician-leader’s time at each site to serve as the clinic asthma champion. The champion led a team effort to implement the IHI model and incorporate improved practices into clinic operations. Asthma champions received technical support from the AAA Asthma Management Coordinator (AMC) who served as the quality improvement consultant. As of August 2005, two clinics are sustaining significant improvements; one is addressing sustainability challenges and another is still in the implementation phase.

Learning among and from other teams and peers in the collaborative was a powerful factor in achieving results and spreading improvement to others. Clinics participated in regular bi-monthly gatherings to share strategies, resources, and lessons learned. Technical assistance was provided through site visits. Each month, clinics reported on improvement activities and measures of quality of care. These reports were shared among participating clinics via a listserv.

In addition to supporting the Learning Collaborative, during 2003 the KCAF began exploring methods for providing resources and education that were effective but did not require the efforts of a full-scale Learning Collaborative. They conducted an assessment of healthcare providers attending the Asthma Educator Institute (AEI) to identify asthma training needs and interests.

**Asthma Registry**

A critical tool in providing excellent care for chronic diseases is a clinical tracking system. AAA supported development of an asthma registry at four Learning Collaborative clinic sites and one City of Seattle site (North Public Health Center) through provision of computers, software, technical assistance and funding of a 0.1 FTE registry manager (who enters data, prepares reports and adds registry data to clinical charts). One clinic opted to use its own software, since it planned to develop a system-wide registry.

The registry collects data on components of care (such as severity assessments, use of inhaled steroids, and use of asthma action plans) and outcomes of care (number of symptom days) specified by current guidelines and/or desired by clinicians. The system uses the data to prepare patient management summaries for each clinic visit, which are then updated after the visit. These summaries permit assessment as to whether care is in conformance with guidelines. The registry also describes adherence to guidelines for the entire clinic population of patients with asthma in order to facilitate identification of targets for quality improvement. Registry data also serves as a source of evaluation data for the AAA project.

Three of the four participating clinics have dedicated resources to sustain their registries, data entry, and asthma champion time in 2005. AAA funding for the registries ended in 2004, although limited technical support was provided through June 2005. The four Learning
Collaborative clinics have committed staff and resources toward long-term management of the registry. This includes one clinic that received funding from King County STEPS to Health to support the registry through 2008.

Other Activities: CHWs, Spirometry, and the Community Health Plan of Washington Project

AAA Community Health Workers (CHWs) assisted clinicians in improving care for children with asthma by coordinating care with community resources, providing case management, coaching clients in provider-patient communication and providing support for self-management. As patients learn appropriate self-management skills they are better able to request appropriate assistance from their providers.

AAA assisted five clinics (the Learning Collaborative clinics and North Public Health Center) in implementing pulmonary function testing (spirometry) by providing resources and training. Spirometry is an important tool for accurately assessing asthma severity and for diagnosing asthma.

In 2003 the Community Health Plan of Washington (CPHW) partnered with an organization of community health centers (CHC's) and KCAF to improve clinic-based asthma care for health plan enrollees cared for by network providers. The catalyst was the health plan’s performance on the HEDIS asthma measure regarding controller medication treatment for patients with persistent asthma. This project took a broader view to understand and act upon what prevents optimal care. It is anticipated that improvements resulting from this project will extend to patients in other clinics in the CHC organization.

In 2004, AAA provided three pediatric asthma “Evidence to Practice” presentations to clinicians: 40 Harborview Medical Center physicians, 45 community health clinic providers, and 40 public health nurses.

Learning Collaborative: Design, Implementation, Refinement

The AAA Learning Collaborative was designed initially to follow the model developed by the Institute for Healthcare Improvement. After some challenges relating to resources and feedback from participants, the AAA Learning Collaborative adopted a modified structure. This section describes the IHI model and how it was adapted by AAA, challenges that arose in implementing the model, and the model that ultimately emerged. Lessons learned are presented that may help other clinics conduct similar efforts in the future.

IHI Model

The Health Disparities Collaboratives provide a proactive way of caring for people

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Section 4 – Improved Clinic Practices Around Asthma Control

with chronic illness. At the heart of this approach are three models:

- A Learning Model makes health centers part of a network of experts and fellow-learners.
- A Care Model outlines all of the elements of good chronic care.
- An Improvement Model enables teams to rapidly test and implement changes to improve care.

The **Learning Model** involves bringing together health center teams for intensive learning from experts and one another. In the Learning Sessions interdisciplinary teams from each health center attend three highly interactive two-day Learning Sessions, where they learn the elements of good care for patients with a particular chronic illness—diabetes, asthma, depression, HIV, cardiovascular disease—and a method for testing and implementing changes.

The Action Periods take place between the Learning Sessions. During Action Periods, teams try out these changes in their health centers—and collect data to measure the impact of the changes. They submit monthly progress reports and are supported by conference calls, site visits, and a web-based information network called a Listserv that allows them to share information and learn from national experts and other health centers across America. They also receive additional coaching from highly experienced Cluster Directors and information systems experts.

The **Care Model** includes six elements designed to create a system that is proactive and focused on keeping people as healthy as possible. In order to transform the system of care, health centers need to work on these six elements:

- **Self-Management.** Patients have a central role in determining their care, one that fosters a sense of responsibility for their own health.
- **Decision Support.** Health centers creatively integrate explicit, proven guidelines into the day-to-day practice of the primary care providers in an accessible and easy-to-use manner.
- **Clinical Information System.** A registry—an information system that can track individual patients as well as populations of patients—is a necessity when managing chronic illness or preventive care. The entire care team uses the registry to guide the course of treatment, anticipate problems, and track progress.
- **Delivery System Design.** The delivery of patient care requires not only determining what care is needed, but clarifying roles and tasks to ensure the patient gets care; making sure that all the clinicians who take care of a patient have centralized, up-to-date information about the patient’s status; and making follow-up a part of standard procedure.
- **Organization of Health Care.** The effort to improve care should be woven into the fabric of the organization and aligned with a quality improvement system.
- **Community.** Community programs and organizations that can support or expand a health system’s care for chronically ill patients and prevention strategies are often overlooked. To improve the health of the population, health centers reach out to form powerful alliances and partnerships with state programs, local agencies, schools, faith organizations, businesses, and clubs.

The **Improvement Model** defines how to test and implement changes in a fast and efficient way. The Improvement Model consists of three fundamental questions and a Plan-Do-Study-Act cycle to test and implement changes in real work settings.

- **Setting Aims.** An aim is a written statement summarizing what your health center’s team hopes to achieve.
Defining Measures. Measures play an important role in your efforts to improve care. They tell you whether a change actually leads to improvement.

Testing Changes. All improvement requires changes, but not all changes result in improvement. It is therefore important to identify promising changes.

Linking PDSA Cycles The completion of each PDSA cycle leads directly into the start of the next cycle. A team learns from the test. What worked and what didn’t work? What should be kept, changed, or discarded? A team uses the new knowledge to plan the next test. The team continues linking PDSA cycles in this way, refining the change until it is ready for broader implementation. Often, a team will test more than one change at a time, each change aimed at achieving the same ultimate goal. The use of several linked cycles will allow the team to test more than one change simultaneously.

AAA Implementation of Learning Collaborative Model

The AAA Learning Collaborative was modeled on IHI’s Learning Collaborative model described in the previous section. The AAA LC made some modifications of the model in order to adapt them to the local context. Modifications included:

- Number of teams: The AAA LC had four teams; IHI considers 15-20 teams optimal to achieve sufficient interaction and cross-clinic sharing and collaboration.
- Staffing and financial resources: The LC staffing was much lighter than what is outlined by IHI for staffing a collaborative. Participation in an IHI-sponsored collaborative typically requires staff support at the participating clinic equivalent to one FTE. AAA provided resources equivalent to about one-quarter of that: support for a 0.15 asthma champion and 0.1 data entry person.
- Geographic distribution of teams (local rather than national): AAA has a target area within King County from which clinics were recruited. Other collaboratives are regional or national in scope. This made it possible for closer interaction between sites, more connection to local community resources, and enabled more hands-on technical and personal support. However, it also meant fewer teams and less opportunity to learn from a wide variety of teams.
- Clinic readiness: Active recruitment of safety-net clinics in our target area meant that some teams may not have met readiness criteria that other collaboratives or improvement projects might require.

The LC was started in autumn of 2002. Four safety-net clinics in the AAA target area participated. Participation involved: 1) identifying a provider asthma champion and asthma QI team (nurse, medical assistant, medical records technician, nurse, etc.) to lead the project and participate in cross-clinic sharing; 2) designing and implementing Plan-Do-Study-Act (PDSA) care improvement cycles; 3) implementing and maintaining a CDEMS asthma registry; 4) providing spirometry for pediatric asthma patients; 5) senior leader support to ensure administrative buy-in for the activities; 6) participating in two 2-day structured Learning Sessions a few months apart and then meeting bi-monthly; 7) developing a plan for “spread” of activities; 8) submitting monthly activity and data reports to AAA staff; and 9) linking asthma patients to AAA Community Health Workers or other community resources.
Challenges Implementing the Initial Model of the Learning Collaborative

The initial version of the AAA Learning Collaborative was not as successful as hoped for a number of reasons, some related to implementation challenges, others to the time commitment required to implement the full IHI model. Interviews were conducted with LC participants; the following were the key challenges identified.

Challenges related to resources included:
- There were not enough resources (either time or expertise) to carry out a thorough planning process or to implement the LC as designed.
- Expectations were too high about what a Learning Collaborative experience could be relative to the level of resources available.
- Clinics have limited staff and financial resources and are pressured to focus on reimbursable activities. It is difficult for them to justify allocating time towards the planning and meeting time required by this intervention.
- Staff retention.
- Readiness of clinics.
- Uneven top management support.
- Being local, participants were inclined to respond to crises at their clinics and consistent attendance at bimonthly gatherings was difficult.

Implementation challenges included:
- More clarity was needed about roles, responsibilities, and purpose of the collaborative.
- The asthma registry needed to be in place prior to implementing the collaborative so that data could be available immediately to engage providers in the PDSA cycles.

Modified LC Model

The initial approach to training the teams was through 1 ½- to 2-day structured Learning Sessions a few months apart. However, these sessions were found to be too time intensive for participating clinics, and in June of 2003 that formal approach was replaced with a format requested by the participating clinics. The new format included bimonthly interactive clinic team gatherings. Six bimonthly team gatherings were held in 2004. In addition, at the request of the participating clinics, AAA agreed to extend support for a second year.
Lessons Learned

A number of lessons were learned in implementing the Learning Collaborative and other clinic improvement activities that may be useful to other community-based efforts related to chronic illnesses.

Program Design/Planning

- Assess which format and level of intensity is most appropriate, and provide adequate resources including leadership, staff time, and expertise for planning and implementation.
- Be flexible and modify the standard collaborative model to fit with the resources available and local context.
- Focus on clinics with a higher level of readiness. While difficult to assess, clinic readiness was a key factor for successful LC participants.
- If possible, have more teams participate to increase the potential for collaborative learning among teams and cross-clinic interaction can occur more readily.

Implementation

- Clearly communicate the purpose of the project and roles/responsibilities to all.
- Use terminology that accurately describes the activities so that false expectations and misunderstandings do not occur.
- Have a strong project leadership team in place.
- Engage senior clinic leaders often and regularly in collaborative activities.
- Have the registry up and running often and regularly in collaborative activities.
- Offer tangible services to participating clinics such as training or spirometers.
- Post monthly charts to help people see trends over time, about what is going on in a clinic, and to communicate with providers.
- Employ monthly progress reports to track and demonstrate progress.

Impact of the KCAF on the Learning Collaborative

Unlike other learning collaboratives, the AAA LC was closely connected to the King County Asthma Forum (KCAF). AAA staff worked on both the KCAF and the LC and clinic representatives were part of the KCAF. The following are benefits of being connected to the KCAF identified by LC participants:

- **Improved connection to community resources.** Typically the community domain is one of the weaker domains in the application of the Chronic Care model. The fact that the intervention was imbedded in a coalition approach strengthened the link with community resources and therefore placed greater emphasis on that domain.

- **Joint decision making about community programming.** The KCAF provides a feedback loop so that the LC participants can influence decisions that the KCAF makes about resources and priorities. It has allowed the clinical intervention to feed the design of other interventions, such as the Community Health Workers, and other provider education. This
made it possible to address asthma care improvement in the context of the whole local community rather than in one isolated clinic.

- **Facilitated access to resources.** As one of the clinic providers said, "We have gone from a place where you get your drugs to a resource for the community". The clinics have linked with ACT, Asthma Camps, CHWs, and the Seattle Asthma Program. It is likely that recruitment to these resources would have lacked coordination if not in a coalition context.

- **Improved information flow between CHWs and clinics.** A great deal of synergy occurred from having the Asthma Management Coordinator providing clinical back-up to the CHWs and coordinating the clinical intervention. Information was fed back and forth between programs to strengthen them both. For example, CHWs noticed symptoms that patients were having were not getting communicated to providers and this sometimes resulted in patients not being adequately treated. This information was then used as a topic of discussion at the bi-monthly gatherings of clinic teams: how to elicit information from patients in a short clinic visit.

- **Participatory coalition approach applied to LC.** The participatory nature of a coalition influenced the LC in the same way. Participants shaped the project.

- **Community awareness.** The KCAF members could help publicize the work that the clinics were doing; the clinics weren't doing it in a vacuum.

**Further Dissemination of LC/Clinical Asthma Management Improvement Efforts**

A number of other efforts were carried out to help disseminate the LC model, including:

- **Presentation to leadership group-PHSKC.** The project and results for one clinic were presented and the leadership group expressed intention to support planned care.

- **Community Health Center organizations are spreading the efforts to other clinics--9 medical clinics and 5 school-based health centers.**

- **Newspaper articles and radio shows about asthma and asthma care improvement projects at clinics have been publicized.**

- **A large community gathering was held to celebrate and showcase successes.**

- **Two clinics intend to apply the chronic care model to obesity.**

- **Presentation was made to 40 PHSKC nurses on nurse's role in using the chronic care model for diabetes and asthma.**

**Learning Collaborative Summary and Comments from Participants**

Four safety-net clinics used a modified version of the Institute for Health Care Improvement collaborative model to improve the quality of asthma care. Table 1 summarizes the differences between the IHI model and the AAA Learning Collaborative along several key dimensions. The AAA LC was smaller, with fewer supporting resources and more frequent but shorter and less-structured learning sessions. The approach to PDSA cycles was similar to the IHI model.
Table 1. Comparing IHI Model to Learning Collaborative Implemented by AAA

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>IHI Model</th>
<th>AAA LC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of teams</td>
<td>15-20 teams</td>
<td>4 teams</td>
</tr>
<tr>
<td>Clinic readiness</td>
<td>Meet criteria for readiness to change</td>
<td>Safety net clinics with varying degrees of readiness</td>
</tr>
<tr>
<td>Geographic area</td>
<td>Regional/National</td>
<td>Local (sub-county)</td>
</tr>
<tr>
<td>Resources</td>
<td>1 FTE (distributed across several positions)</td>
<td>.25 FTE (champion plus registry support)</td>
</tr>
<tr>
<td>Learning sessions</td>
<td>Three 1 ½- to 2-day structured Learning Sessions</td>
<td>Bimonthly, half-day interactive clinic team gatherings</td>
</tr>
<tr>
<td>PDSA cycles</td>
<td>Multiple overlapping cycles</td>
<td>Multiple overlapping cycles</td>
</tr>
</tbody>
</table>

Comments from Participants
Exit interviews were conducted with Learning Collaborative participants to identify accomplishments, challenges and lessons learned. The following are a brief summary of three key areas: changes producing the greatest impact on care, spread to other clinics, and most useful elements of the collaborative.

Changes producing the greatest impact on care. Areas identified by LC participants as being most likely to impact care included (quotes from interviews in italics):

- **Asthma registry**
  The registry has had a huge impact. It is a great tool to keep track of patients. The greatest impact was the asthma registry. We’re keeping track of our patients and getting them in for well visits. That was the biggest barrier from the patient point of view—they are not used to coming in well. It has made a big change in patient outcomes.

- **Care guidelines**
  There has also been a great impact from spreading the word about asthma guidelines to MD’s. (There has been a) clinic wide interaction on asthma—not just confined to doctors. Everyone knows what to do in their role.

- **Community connections**
  I think the connections with community resources that (we were) able to make have a good impact.

- **Spirometry**
  (Another benefit was) the spirometry and spirometry training, and the “Living With Asthma” program.
**Spread throughout clinic and system.** Respondents were asked whether the changes brought about by the LC were spreading to other parts of their clinics and/or clinic systems. Two of the participating clinics said that spread was occurring:

> The collaborative started with just the champion, then 2 doctors, and now all are participating. Almost all the nurses are trained. The whole clinic uses the forms and the collaborative’s process.

>(The changes have been spread) throughout the clinic. In the next few months we’ll begin spread to the system. Tacoma and Mt. Vernon are the next locations for the asthma registry and guidelines. We have been doing this with diabetes, and plan to do heart disease and obesity in the future.

**Most useful elements of the collaborative.** The most often mentioned useful elements of the Learning Collaborative were:

- **Bi-monthly meetings of participating clinics**
  The meetings of local groups were helpful. We heard about each others’ challenges and successes, and were able to see that we are all committed to good asthma care.  
  Bimonthly meetings were extremely helpful.  
  Bi-monthly meetings were great to hear others’ experiences.

- **Financial support for improvement activities**
  Being able to pay the champion is good.  
  The financial support was critical—this wouldn’t have happened without it.

- **Support from AAA staff and consultants (Marcia and Kathleen)**
  Marcia and Kathleen were everywhere and were helpful, knowledgeable and supportive.  
  Marcia kept people focused. Providers would come up with excuses, we’re too busy! And she reminded us what our goals are, she helped keep us proactive. She was in contact with us all the time...not just LC meetings.  
  Marcia was key for this effort. Both she and Kathleen provided great support and information about how the collaborative works.

Overall, the LC was well received by participants, who were impressed with what they accomplished and how the LC supported them. As one interview respondent said:

> This is, by far, the most successful of all the disease collaboratives (such as diabetes, hypertension) that I have seen. This one clearly makes a difference.
Measuring Progress toward Clinic Improvement Objectives

KCAF has used a number of indicators to track the success of the Learning Collaborative and other clinic improvement activities. These include process indicators: establishment of teams, identification of asthma champions and holding meetings, as well as outcome indicators: changes in clinical practice and improvements in asthma care (e.g., reduction in symptom days).

Process Indicators

Table 2 lists the process objectives set out at the beginning of the AAA funding period, shows the degree to which they were accomplished and next steps after AAA funding ends. All four clinics participating in the LC identified Asthma Champions and participated in learning sessions. A subset of the four clinics established QI teams and created asthma registries. Two of the clinics participated in a more limited way: one clinic because of a lack of senior leader support and another due to a lack of readiness and staff turnover. In the two more successful clinics, many of the changes resulting from the LC will survive the end of AAA funding. In addition, three pediatric asthma “Evidence to Practice” presentations were made to 125 clinicians.
## Table 2. Process Indicators of Success for Clinic Improvement Activities

<table>
<thead>
<tr>
<th>Process objective</th>
<th>Status/Indicators</th>
<th>Next Steps/ Post AAA</th>
</tr>
</thead>
</table>
| Teams are established to engage in quality improvement activities | • 5 teams originally, one stopped participating  
• Individual clinic team meeting frequency: variable  
• Collaborative (i.e., all clinics) meeting frequency: bi-monthly | • All four clinics have plans (and 3 have dedicated resources) to continue the quality improvement activities |
| Clinic Asthma Champions are in place | • 4 Asthma Champions | • Continue support for asthma champions |
| Registries are in place and in use | • 4 clinics are using registries  
• 1 additional clinic added a registry and some QI activities | • Increase number of patients in registry  
• Expand scope and utilization of registry reports  
• Continue spread of registry use to additional providers |
| Learning Sessions and didactic team get-togethers are held | • 2 learning sessions followed by bi-monthly team get-togethers  
• 2002-2003 Avg. attendance: 16  
• 2004 Avg. attendance: 13 | • Learning sessions discontinued |
| Communication methods are in place | • Listserv established and in use  
• Monthly conference calls held through June 03 but were discontinued  
• Bi-monthly all-team meetings occurring  
• AMC coached over 40 providers from other clinics with CHW clients on asthma care practices | • Conference calls and all-team meetings discontinued |
| Health care provider coaching and assessment project is implemented | • Assessment completed at 3 sites  
• 3 pediatric asthma “Evidence to Practice” presentations to 125 clinicians. 5 scholarships to a Learning Collaborative participant to attend Asthma Education Institute. | • King County STEPS to Health will support some provider education. |

### Outcome Indicators - Changes in Clinical Practice

Over 60 concrete changes to clinical practice were reported by clinics to have resulted from the Learning Collaborative and other clinic improvement activities. These are listed in detail in Appendix A (Table A-1). Table 3 gives examples of key clinic changes and whether they were sustained, grouped by the six domains in the IHI model. Changes designed to improve self-management included setting goals during asthma visits and working to have asthma plans communicated to schools and pharmacies. Decision support was improved through monthly reports to senior clinic leaders. Implementation of the asthma registry was the primary clinical information system innovation. The community domain was enhanced by establishing linkages between clinics and Community Health Workers.
### Table 3. Changes in Clinic Practice Resulting from the Learning Collaborative/QI - Selected Examples

<table>
<thead>
<tr>
<th>Domain (type of change)</th>
<th>Clinic change/Activity</th>
<th>Implemented successfully?</th>
<th>Sustained?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Management</td>
<td>Self-management goals set during asthma visits</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Self-Management</td>
<td>Using Action Plans in different languages and sharing them with schools and other providers</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Self-Management</td>
<td>Providers advising patients to show their action plans to the pharmacist at clinic pharmacy</td>
<td>Yes, although can’t track when patients go outside of clinic pharmacy.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Monthly reports to senior leaders, quarterly reports to leadership team</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Received a spirometer and spirometry training</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Decision Support</td>
<td>NHLBI guidelines posted in work clusters and integrated into asthma progress note template/registry form</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Clinical Information System</td>
<td>Using the registry for scheduling, provider feedback, and tailoring interventions for patients</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Clinical Information System</td>
<td>Use new database queries to determine effectiveness of care, conduct audits, assess outcomes, conduct follow-up</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Asthma provider visits coordinated with education visits</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Weekly asthma team meetings, including the Chronic Disease Coordinator</td>
<td>No. Weekly e-mails used instead</td>
<td>N/A.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Identified all charts of asthma patients with “stoplight” sticker for easy identification</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Organization of Health Care</td>
<td>Teams are “spreading” QI activities within their clinics, and to other clinics</td>
<td>Yes – in process:</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Clinic teams link asthma patients to community resources, CHWs</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Making sure medication is available at school</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Continue to provide Asthma Care Training by AAFA and Educator on-site</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

Notes:
1 - See Appendix A, Table A-1 for a complete list of clinic changes, by clinic.

**Outcome Indicators - Changes in Patient Care and Asthma Symptoms**

Four indicators were used to see if the clinic changes translated into improvements in care for patients. They include three clinical process indicators and one clinical outcome indicator selected by LC participants. The primary clinical process indicators pertain to all childhood asthma visits in a given month and are:

- Percent of visits in which an asthma severity classification was made (goal: 95%)
- Percent of visits for children with persistent asthma where anti-inflammatory treatments are prescribed or noted (goal: 95%)
- Percent of visits for children with persistent asthma where a current written asthma action plan is noted (goal: 95%)
The clinical outcome measure is the number of symptom-free days in the two-week period preceding the visit for children with persistent asthma (goal: 12 or more symptom-free days in a two-week period).

Figures 1-4 are plots, by quarter, of the four key outcome indicators for the clinic (Columbia) with the most asthma visits. Plots for the other two clinics (Sea Mar and Roxbury) along with a table with the quarterly indicator values are in Appendix B.

Figure 1 shows the percent of visits during each quarter from 2003:1 to 2004:4 (i.e., first quarter, 2003 to fourth quarter, 2004) with a severity classification recorded in the chart. Note that the initial increase in quarters 1 and 2 occurred during the pilot phase when the LC intervention (including the registry) was limited to a few providers. After spread occurred to the entire clinic, in the second quarter of 2003 (May/June), there was an initial decline in the percent with a severity classification that then returned to around 90% by the end of 2004.

Figure 1. Columbia: Percent of visits with a severity classification

1 - Spread to all providers occurred in Quarter 2 - second quarter, 2003
Figure 2 shows the percent of persistent patients where an action plan was noted - either initiated, reviewed or updated—in the previous 12 months. The percentage declined from 85% in to 70% from 1st to 4th quarters 2003 and was only just beginning to increase at the end of 2004.

Figure 2. Columbia: Percent of persistent patients with an action plan noted

Figure 3 shows the percent of visits by patients with persistent asthma where the patient was on a controller medication. The percentage declined initially and then increased steadily throughout 2004, to roughly 90% in the fourth quarter of 2004.

Figure 3. Columbia: Percent of visits by persistent patients on controller medications
The number of symptom-free days (Figure 4) increased from eight (in the past two weeks) to nearly 10 by the end of 2004, still below the goal of 12.

**Figure 4. Columbia: Average number of symptom-free days (past 2 weeks) among all patients with asthma**
Table A-1 provides a complete list of the clinic changes resulting from participation in the Learning Collaborative and other clinic improvement activities (as reported by the clinics). The table is organized by the six domains in the IHI Learning Collaborative model.

**Table A-1. Changes in Clinic Practice Resulting from the Learning Collaborative/QI**

<table>
<thead>
<tr>
<th>Domain (type of change)</th>
<th>Clinic change/Activity</th>
<th>Implemented successfully?</th>
<th>Sustained?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Management</td>
<td>Asthma education progress note used at visits (Sea Mar).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Self-Management</td>
<td>Providers advising patients to show their action plans to the pharmacist at clinic pharmacy (Sea Mar).</td>
<td>Yes. Can’t track when patients go outside of clinic pharmacy.</td>
<td>Yes</td>
</tr>
<tr>
<td>Self-Management</td>
<td>Self-management goals set during asthma visits (Sea Mar).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Self-Management</td>
<td>Using Action Plans in different languages and sharing them with schools and other providers (Columbia).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Self-Management</td>
<td>Assessment of family/patient asthma knowledge at each visit followed by teaching (Columbia).</td>
<td>Yes: up to individual providers.</td>
<td>Yes: up to individual providers.</td>
</tr>
<tr>
<td>Self-Management</td>
<td>CHPW helped us to get new action plans in multiple languages and for different age groups (Sea Mar).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Self-Management</td>
<td>Using “Asthma boxes”, so patients have all their meds, equipment and action plan together (Sea Mar).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Self-Management</td>
<td>Received STEPS grant and hired bilingual (Spanish) Chronic disease educator (Roxbury).</td>
<td>Yes</td>
<td>Yes: as long as STEPS funding is in place.</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Monthly reports to senior leaders, quarterly reports to leadership team (Columbia and Sea Mar).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Bimonthly review of data and presentation to providers (Columbia).</td>
<td>Yes, though not felt to be helpful to providers. Still providing it to senior leaders.</td>
<td>Yes</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Received a spirometer and spirometry training (Sea Mar, Columbia, and Rainier Beach).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Posted “Asthma boards” throughout the clinic and updating these monthly (Sea Mar).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Using “talking points” handout to communicate educational topics (Columbia).</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Domain (type of change)</td>
<td>Clinic change/Activity</td>
<td>Implemented successfully?</td>
<td>Sustained?</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
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<td>-----------------------------</td>
</tr>
<tr>
<td>Decision Support</td>
<td>NHLBI guidelines posted in work clusters and integrated into asthma progress note template/registry form (Columbia).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Ongoing training of interim staff/residents in use of guidelines and the chronic disease management system (Columbia).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Received a spirometer and spirometry training (Roxbury).</td>
<td>In process. Limitations: many patients under age 5, up to individual providers, no RN on site.</td>
<td>Yes – with limitations.</td>
</tr>
<tr>
<td>Decision Support</td>
<td>Providers are using the NIH/NAEPP tri-fold (Roxbury).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Decision Support</td>
<td>NICHQ form printed in Spanish, Vietnamese, Cambodian, Russian, Ahmaric, Somali, with English on back (Roxbury).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Clinical Information System</td>
<td>Using the registry for scheduling, provider feedback, and tailoring interventions for patients (Sea Mar, Columbia and Roxbury).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Clinical Information System</td>
<td>Started asking providers and medical assistants to fill out an Asthma CDEMS form at all visits (Sea Mar).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Clinical Information System</td>
<td>Use new database queries to determine effectiveness of care, conduct audits, assess outcomes, conduct follow-up (Sea Mar).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Clinical Information System</td>
<td>Medical Assistant will check charts for completed form and return incomplete forms to providers (Roxbury).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Clinical Information System</td>
<td>Using the registry for scheduling, provider feedback, and tailoring interventions for patients (Rainier Beach).</td>
<td>Somewhat. Implemented its own registry and data entry sheet.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Clinical Information System</td>
<td>Nurses/MA’s asked to assist in flagging charts for data entry and to complete part of registry form (Columbia).</td>
<td>Yes, though reminders required.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Centralized resources for providers about asthma education (“Asthma Toolbox”) (Sea Mar).</td>
<td>No. People kept forgetting about it.</td>
<td>N/A</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Centralized resources for providers about asthma education (“Asthma Toolbox”) (Columbia).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Same day appointment policy to improve access for patients (Sea Mar).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Patients’ charts have a chronic disease section, for asthma action plan and teaching plan, and self-management support flow sheet (Sea Mar).</td>
<td>Yes, though not using self-management flow sheet.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Alert note in the MISYS system identifies chronic disease patients (Sea Mar).</td>
<td>Yes.</td>
<td>Yes. May spread it to other sites.</td>
</tr>
<tr>
<td>Domain (type of change)</td>
<td>Clinic change/Activity</td>
<td>Implemented successfully?</td>
<td>Sustained?</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>---------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Asthma provider visits coordinated with education visits (Sea Mar).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Quarterly Asthma Day clinic asthma fairs and letters to patients during flu season to get patients in for planned visits (Sea Mar).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Weekly asthma team meetings, including the Chronic Disease Coordinator (Sea Mar).</td>
<td>No. Weekly e-mails instead since Chronic Disease Coordinator has other duties in Olympia.</td>
<td>N/A.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Green flow sheet for scheduling planned visits on Asthma Days in use, and was updated to include tools for classification and be appropriate for year round use (Columbia).</td>
<td>Yes. However, some use it sporadically.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Identified all charts of asthma patients with “stoplight” sticker for easy identification (Columbia).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Identifying asthma/chronic disease patients using chart dividers (Columbia).</td>
<td>No. Under discussion.</td>
<td>N/A.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Implemented asthma week, and on “return to clinic” scheduling slip added 2 blanks: Reason for visit and preferred day to increase planned visits (Columbia).</td>
<td>Yes.</td>
<td>Yes. A similar event is planned for this fall.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Spacers are available for self pay patients (Roxbury).</td>
<td>Yes, though still looking for a distributor who will provide them for free.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Chart review periodically to see if the persistent asthmatics are getting controllers (Roxbury).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Charts being flagged with a sticker and asthma note forms added at check-in (Roxbury).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Delivery System Design</td>
<td>Asking at visits if the child coughs when he/she is laughing and about the child’s activity endurance when playing with other children (Rainier Beach).</td>
<td>No. Assistance from an outside provider was anticipated but not available.</td>
<td>No.</td>
</tr>
<tr>
<td>Organization of Health Care</td>
<td>Teams are “spreading” QI activities within their clinics, and to other clinics (Sea Mar).</td>
<td>Yes – in process: spreading to the other 3 sites in Seattle.</td>
<td>Yes. Joining the federal collaborative.</td>
</tr>
<tr>
<td>Organization of Health Care</td>
<td>Teams are “spreading” QI activities within their clinics, and to other clinics (Columbia).</td>
<td>Yes: Registry has spread to all other providers in the clinic and is at one other clinic.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Organization of Health Care</td>
<td>Teams are “spreading” QI activities within their clinics, and to other clinics (Roxbury).</td>
<td>In process. Waiting on 2 other clinics. No computer technical support or funding for data entry.</td>
<td>No. Lack of funding.</td>
</tr>
<tr>
<td>Organization of Health Care</td>
<td>Teams are “spreading” QI activities within their clinics, and to other clinics (Rainier Beach).</td>
<td>In process. Spread to all providers in Rainer Beach clinic, and has started with other clinics.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Domain (type of change)</td>
<td>Clinic change/Activity</td>
<td>Implemented successfully?</td>
<td>Sustained?</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Community</td>
<td>Clinic teams link asthma patients to community resources, CHWs (Sea Mar).</td>
<td>Yes. Limitations: Spanish speaking CHW’s.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Making sure medication is available at school (Sea Mar).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Chronic Disease Coordinator participation in Sea Mar radio program (Sea Mar).</td>
<td>Yes- one time.</td>
<td>Maybe.</td>
</tr>
<tr>
<td>Community</td>
<td>Clinic teams link asthma patients to community resources, CHWs (Columbia).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Screen registry for subgroups who may qualify for targeted interventions (Columbia).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Making sure medication is available at school is incorporated into routine care (Columbia).</td>
<td>Yes: up to individual providers.</td>
<td>Yes: up to individual providers.</td>
</tr>
<tr>
<td>Community</td>
<td>Clinic teams link asthma patients to community resources, CHWs (Roxbury).</td>
<td>Yes. Don’t always get to follow up with families.</td>
<td>Yes. For the most part</td>
</tr>
<tr>
<td>Community</td>
<td>Continue to provide Asthma Care Training by AAFA and Educator on-site (Roxbury).</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Emergency department liaison (Roxbury).</td>
<td>In process. Limitations: communications with MDs.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Community</td>
<td>Clinic teams link asthma patients to community resources, CHWs (Rainier Beach).</td>
<td>Somewhat. Limitations: language barriers.</td>
<td>Questionable: lack of funding.</td>
</tr>
</tbody>
</table>
Table A-1 includes all of the data shown in Figures 1-4 above and A-1 to A-8 below. Note that Columbia had significantly more asthma visits than either Sea Mar or Roxbury where the numbers were relatively small. As the figures show, the use of controller medications and action plans increased at both Sea Mar and Roxbury while there were no clear trends in either symptom-free days or percent of visits with severity classification.

### Table A-1. Key Registry Indicators, by Clinic

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Year</th>
<th>Qtr</th>
<th>All</th>
<th>Persistent</th>
<th>Severity rating</th>
<th>Action plan</th>
<th>Controller medications</th>
<th>Symptom-free days (2 wks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia</td>
<td>2003</td>
<td>1</td>
<td>112</td>
<td>51</td>
<td>71%</td>
<td>86%</td>
<td>88%</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>166</td>
<td>95</td>
<td>90</td>
<td>84</td>
<td>80</td>
<td>7.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>281</td>
<td>140</td>
<td>84</td>
<td>79</td>
<td>78</td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>416</td>
<td>192</td>
<td>82</td>
<td>71</td>
<td>78</td>
<td>9.3</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>1</td>
<td>380</td>
<td>190</td>
<td>86</td>
<td>71</td>
<td>80</td>
<td>8.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>380</td>
<td>218</td>
<td>91</td>
<td>68</td>
<td>86</td>
<td>9.4</td>
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<tr>
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<td>3</td>
<td>314</td>
<td>158</td>
<td>89</td>
<td>69</td>
<td>92</td>
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<tr>
<td></td>
<td></td>
<td>4</td>
<td>320</td>
<td>180</td>
<td>88</td>
<td>73</td>
<td>89</td>
<td>10.3</td>
</tr>
<tr>
<td>Roxbury</td>
<td>2003</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>7.0</td>
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<td></td>
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<td>2</td>
<td>4</td>
<td>0</td>
<td>75</td>
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<td>3</td>
<td>17</td>
<td>2</td>
<td>59</td>
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<td>11.2</td>
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<td>4</td>
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<td>82</td>
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<td>1</td>
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<td>24</td>
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<td>13</td>
<td>84</td>
<td>66</td>
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<tr>
<td>Sea Mar</td>
<td>2003</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>89</td>
<td>50</td>
<td>0</td>
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<td>2004</td>
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<td>26</td>
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<td>134</td>
<td>57</td>
<td>78</td>
<td>71</td>
<td>51</td>
<td>9.9</td>
</tr>
</tbody>
</table>

Notes:
1 - % of visits each month among all patients with severity assessment
2 - % of persistent patients with action plan indicated in past 12 months
3 - % of visits among persistent patient on controller
4 - Average # of symptom-free days/2 weeks-all visits
Figure A-1. Sea Mar: Percent of visits with a severity classification

1 - Spread to all providers occurred in Quarter 5 - first quarter, 2004

Figure A-2. Sea Mar: Percent of persistent patients with an action plan noted
Figure A-3. Sea Mar: Percent of visits by persistent patients on controller medications

Figure A-4. Sea Mar: Average number of symptom-free days (past 2 weeks) among all patients with asthma
Section 4 – Improved Clinic Practices Around Asthma Control

Figure A-5. Roxbury: Percent of visits with a severity classification

Figure A-6. Roxbury: Percent of persistent patients with an action plan noted
Figure A-7. Roxbury: Percent of visits by persistent patients on controller medications

Figure A-8. Roxbury: Average number of symptom-free days (past 2 weeks) among all patients with asthma
Section 5 – Coalition Building and Community Education/Organizing

This is a collaborative report coauthored by the Evaluation Team at Group Health Community Foundation, with others involved in the process, including: the AAA Project Director, Co-Director, and Project Manager/KCAF Coordinator.

August 2005

Summary

A key strategy of Allies Against Asthma (AAA) was to increase community connections—both among organizations that have the potential to impact asthma care and among families of children with asthma. This section describes those efforts, including coalition building (supporting the King County Asthma Forum) and community education/organizing (Neighborhood Asthma Committees).

Coalition Building

AAA coalition-building efforts focused on strengthening the King County Asthma Forum (KCAF) by providing it with 1.8 FTE of staff support. KCAF was established in 1998 by Public Health - Seattle and King County and the American Lung Association of Washington State. The KCAF’s mission is to establish an ongoing asthma network to communicate about, collaborate on, and coordinate projects that improve and support asthma prevention, diagnosis and management in King County. There are a number of ways in which the collaboration brought about by KCAF has led to strengthening community connections for promoting improved asthma care and outcomes:

- **Networking.** KCAF meetings and communication provides a way for community-based organizations, medical providers and others to connect with each other to bring about improvements in asthma care and outcomes. Examples of the benefits of networking include: increased knowledge about best practices and organizational resources, and jointly submitted grants.
- **Coordination.** KCAF increases the ability of providers, community-based organizations and asthma-related projects to work together to coordinate their activities. The Cross-Project Coordination committee (see below under committees) has played a key role in promoting a more seamless system of triage and referral to projects serving different populations and providing different types of service.
- **Integration.** Coordination across care providers can lead to more complete integration of programs and services.
- **Service Delivery.** Grants providing direct services have come about as a result of KCAF resources for development and grant writing.
- **Policy.** The KCAF provides a vehicle for organizations to combine forces and advocate more effectively for policy change.
Section 5 – Coalition Building and Community Education

- **Systems change.** KCAF works with a variety of providers and organizations to promote improvements in the system of asthma care.

Key accomplishments in the coalition building efforts include:

- **Strengthening the KCAF governance structure, formalizing the communication processes, and developing new committees.** KCAF has a well-developed governance structure defined by periodically updated by-laws (link to bylaws). The KCAF modified its by-laws to relegate decision-making to the Steering Committee, and kept quarterly forums focused on information sharing, education and networking. The KCAF also updated its goals, and set priorities using specific criteria, to guide the work of KCAF from 2005-2008. These priorities shift functions towards more policy advocacy and technical assistance work, and less provision of direct services. As the KCAF has evolved, its committees have also adapted to better fit the direction it is taking. In addition, ad-hoc committees were developed as short-term needs were identified.

- **Increasing the number of members and services affiliated with the KCAF.** KCAF now has 30 members and 178 people in its information network, representing health care providers, caregivers of children with asthma, researchers, school nurses, pharmacists, academicians, and representatives of non-profit organizations, clinics and hospitals. Asthma projects within King County have been recognizing the value of a KCAF affiliation and so have actively sought these out. In order to better define a project’s affiliation to KCAF, three levels were developed and include “core”, “sponsored”, and “endorsed”.

- **Developing and adopting a KCAF sustainability plan,** including identifying top priorities at annual planning retreats, creating a KCAF logo, letterhead, and a public relations packet. A standing Public Relations/Sustainability committee was formed and will carry out the plan. With assistance from the Washington State Department of Health, KCAF worked with a public relations consultant to more effectively convey key messages in the community. In addition to these efforts, proposals submitted as a result of KCAF collaborations will help continue asthma-related work (see Appendix A).

- **Increasing both local and national recognition of KCAF as a leader in asthma coalition development.** KCAF members have been keynote speakers at meetings held by the Centers for Disease Control and Prevention, the National Heart Lung and Blood Institute, and the New York City Asthma Partnership. Members have also taken a leadership role in The Washington Asthma Initiative and mentored other asthma coalitions in the state.

- **Developing a strong, functional coalition.** In self-administered surveys and interviews, KCAF members reported high levels of satisfaction with virtually all aspects of KCAF, including leadership, decision-making, coalition operations, benefits to themselves and their organization and overall satisfaction. In interviews, members identified areas in which KCAF was providing tangible benefits to the communities, clients and families that they serve.

### Community Education/Organizing

The most significant community education/organizing activity was the formation of four Neighborhood Asthma Committees (NACs) to bring parents and other community members into the work of KCAF and to launch local asthma projects. In addition to supporting the NACs, an AAA Community Organizer/Health Educator met regularly with community-based organizations
Section 5 – Coalition Building and Community Education

(CBOs) to promote awareness of asthma and identify ways that AAA could be supportive of their ongoing efforts. The KCAF quarterly meetings also served a community education function, since each forum included a presentation, and community members were invited, including NAC members as well as physicians. Types of attendees varied depending on the presentation topic.

Key accomplishments of the community/education organizing efforts included:

- **Establishing four Neighborhood Asthma Committees** that bring residents together to talk about their concerns and to take on asthma projects specific to the needs and interests of each particular community.

- **Initiating NAC local projects.** Rainer Valley/New Holly worked with three local summer camps to help them launch a counselor training on asthma. They also held a World Asthma Day event at Aki Kurose and 90 students participated in a “What is Asthma?” poster contest. The South Park NAC also had a World Asthma Day event. They had a poster competition and they displayed them at Concord Elementary. The Burien NAC hosted an “Asthma Wheel of Fortune Night” at Hazel Valley Elementary with about 80 participants. The Burien NAC is pursuing summer camp counselor trainings and is contacting the Southwest Boys and Girls Club to make arrangements. For World Asthma Day in 2004, the NACs organized teams to participate in the ALA’s Asthma Walk, worked with local restaurants to go smoke free for the day, and held a neighborhood health fair.

- **Strengthening leadership skills among community members.** In 2002 NAC leaders participated in a Tools for Schools training in Washington, D.C., and in 2003 one NAC member presented information about the NACs at a national conference (American Public Health Association) in San Francisco. In June 2004, the local leaders took on a higher level of responsibility for coordinating their individual NACs.

- **Developing and staging an asthma play** to raise awareness of asthma among middle school kids. The play was identified as an important activity by one of the NACs. It was developed with input from the NACs and kids with asthma, and performed three times with a total of 500 attendees.

- **Creating a speaker’s bureau** that draws from coalition membership. Topics offered are diverse and through the discussions, NAC members have become more educated on asthma issues. They are also learning self-advocacy skills. NAC members stated that these speakers are effective and succeeded in changing community member attitudes and knowledge levels.

- **Holding quarterly forums to educate the community about asthma.** Types of attendees varied depending on the presentation topic. The forums were an important strategy for drawing people in who did not want to get involved in operations of KCAF.
Description of Coalition Building and Community Education/Organizing Activities

An important strategy of Allies Against Asthma (AAA) was to increase community connections, both among organizations that have the potential to impact asthma care and among families of children with asthma. This section describes the coalition-building and community education/organizing efforts and attempts to assess the impact of those efforts on both process and outcome indicators.

Coalition Building

AAA coalition-building efforts were focused on strengthening the King County Asthma Forum (KCAF) by providing 0.3 FTE for coalition coordination, 1.0 FTE for outreach, and 0.5 FTE for administrative support. KCAF was brought together in 1998 by Public Health - Seattle and King County and the American Lung Association of Washington State. Its mission is to establish an ongoing asthma network to communicate about, collaborate on, and coordinate projects that improve and support asthma prevention, diagnosis and management in King County. The KCAF’s overall goals are to:

- Improve control of indoor and outdoor environmental triggers of asthma.
- Improve clinical management of asthma by providers, patients, schools and child care organizations.
- Increase community awareness of asthma, including prevention, diagnosis, and management.
- Advocate for policies that improve asthma care

Currently, the KCAF has over 70 individual and organizational members. These members include, but are not limited to health care providers, caregivers of children with asthma, researchers, school nurses, pharmacists, academicians, and representatives of non-profit organizations, clinics and hospitals. For a complete list of members, see the KCAF’s website at http://www.metrokc.gov/health/asthma/forum.htm.

KCAF Committees. The Steering Committee provides strategic oversight, direction and vision for the coalition. KCAF leaders (i.e. chair, vice-chair) are elected by the Steering Committee. The standing committees serve as hubs of networking and creative strategizing for solutions to reduce the impact of asthma. They are the driving force behind the KCAF’s projects and activities. During AAA funding, standing committees included the following, many of which continue to meet unless otherwise noted:

- Schools Committee. The KCAF Schools Committee provides the oversight, direction and coordination for the KCAF’s school-based activities. Key accomplishments of the committee include the development of Asthma Management in Educational Settings (AMES) manual, developing asthma training curricula for teachers, health educators and family support workers, and developing a system for responding to asthma-related school concerns.
• **Neighborhood Asthma Committees (NACs).** The KCAF/AAA helped organize four NACs in target community neighborhoods. (See below in the Community Education/Organizing section for more details on the NACs).

• **Cross Project Coordination Committee.** The Cross Project Coordination (CPC) committee was formed and met bi-monthly to systematically coordinate communication, recruitment, and referrals, and to triage asthma services. Members included representatives from all core and sponsored KCAF projects and any other organizations that wished to coordinate their services with others. The CPC provided a venue for potentially competing organizations to collaborate on the delivery of their services and to coordinate the consistency of asthma messages.

• **Public Relations and Sustainability (PR) Committee.** The PR committee is responsible for policy work, integration and awareness raising activities. It also allows for timely and effective responses to media opportunities. The activity is coordinated by the Project Manager with support from the public relations consultant. The committee is also providing support (e.g. input, testimonials) for the Attack Asthma Bill that is being presented by the Washington Asthma Initiative to the Washington state legislature this year.

• **Quarterly Forum.** The Quarterly Forum was not a committee, but it is described here because it served an important coalition building and community education roles for the KCAF. Quarterly forum meetings provided a venue for all KCAF members to network, share information, and learn about asthma. Each Quarterly Forum included an educational presentation as well as time for information sharing. Types of attendees varied depending on the presentation topic. The forums were an important strategy for drawing people in who did not want to get involved in operations of KCAF.

**KCAF Projects.** The KCAF’s projects are another vehicle for making positive changes for those with asthma. These projects have all committed to ensuring a high level of coordination and integration among their services. Selected projects, in addition to AAA, are described below.

**Core and Sponsored Projects**
These projects have direct oversight and supervision by KCAF and membership on the Cross Project Coordination Committee to insure coordination across projects.

• **ACT (Asthma Care Training)—** ACT is a clinic-based educational program of the Washington Chapter of the Asthma & Allergy Foundation (AAFA-WA) that is funded by the Centers for Disease Control and Prevention. The program provides a series of three educational sessions for children with asthma, between the ages of 7 and 12, and their families. Children are taught to recognize and describe their symptoms, to understand their asthma and medications and how to use a peak flow meter. Parents receive education about asthma and have an opportunity to ask questions, as well as share their issues and concerns with other parents. Together the family learns how to minimize triggers in their environment.

• **Better Homes for Asthma—** Funded by HUD and administered by PHSKC, this 3-year research project provides structural housing remediation for conditions that increase exposure to asthma triggers with the intention of lowering exposures and improving health status among children with asthma. Families will also receive one-on-one
education from trained Community Health Environmental Specialists and tools that will assist them with creating and maintaining an indoor home environment that minimizes asthma triggers and optimizes health.

- **Healthy Homes II**— HH-II is a research project of Public Health- Seattle & King County funded by the National Institute of Environmental Health Sciences. The goal of HH-II is to compare two approaches to improving asthma control: 1) providing patient education, training in self-management, development of a patient-specific asthma action plan, and case management review by an asthma nurse; and 2) providing the above, plus in-home outreach, education, and resources to address environmental triggers. Findings from the home environmental assessment and the baseline clinical visit are utilized to develop an in-home asthma management plan, tailored to each participant and the conditions in their home.

**KCAF Sustainability.** As AAA funding ended, KCAF was well on its way to becoming self-sustaining. Several grant opportunities were being pursued and the KCAF Steering Committee had established priorities to pursue from 2005-2008. These priorities reflect a greater emphasis on advocacy for policy change and provision of technical assistance by the KCAF. Specific goals included:

- Advocate for reimbursement of asthma education by health plans, including Medicaid.
- Improve linkages between schools and clinics.
- Advocate for the adoption and enforcement of healthy indoor standards.
- Build political and institutional awareness of asthma by advocating for legislation and getting information out to key policy stakeholders.
- Expand the implementation of the chronic care model by providing technical assistance to develop and implement disease registries, dissemination of guidelines and advocating for reimbursement of asthma education services.
- Reduce exposure to secondhand smoke by increasing the number of smoke-free workplaces.
- Improve communication between emergency departments and primary care clinics.

**Community Education/Organizing**

The most significant community education activity was the formation of four Neighborhood Asthma Committees (NACs) to bring parents and other community members into the work of KCAF and to launch local asthma projects. The first NAC was formed in January 2002 in the Rainier Valley and New Holly communities. NACs were then established in White Center, Burien, and South Park. The goals of the NACs are to provide asthma education, increase support for families with asthma, develop leadership among NAC members, and develop small-scale projects chosen by the NAC members. The AAA Outreach Coordinator/Community Health Educator worked with leaders from each NAC helping them prepare an agenda for monthly meetings. Each NAC identified one or two members to attend monthly coalition Steering Committee meetings to increase grassroots participation in KCAF governance and to help them understand how the NACs fit into the overall work of KCAF/AAA. These NAC members were “bridges” between the Steering and Neighborhood Committees facilitating information flow in both directions.
In addition to supporting the NACs, the AAA Community Organizer/Health Educator met regularly with community-based organizations (CBOs) to promote awareness of asthma and identify ways that AAA could be supportive of their ongoing efforts. Recently, this outreach work expanded to include the three AAA Community Health Workers and often included having an asthma booth at local health fairs or presenting information to community health clinics and schools in the target areas. Awareness efforts served as a recruiting mechanism for the AAA CHW home visit program. In addition, the KCAF/AAA website was recently revised to make the site more useful and user-friendly for community members. The site will serve as a resource for community members and other professionals working in the asthma arena.

In 2004, the Community Organizer/Health Educator left the program, and the local leaders took on a higher level of responsibility for coordinating their individual NACs. Leaders received monthly stipends for their work. The KCAF Schools Committee applied for and received a grant from the King County Steps to Health project on behalf of the American Lung Association to fund the NACs as Neighborhood Health Advocacy Committees. Under this grant, the committees will retain a focus on asthma, but may also work on other issues of chronic disease and social justice.

There is no dedicated funding for outreach after AAA funding ends, although King County STEPS to Health will fund a 0.05 FTE coalition coordinator for a year. Any outreach that occurs in 2005 will be carried out by staff or coalition members for whom this is a secondary priority/responsibility.
Measuring Progress in Coalition Building and Community Education/Organizing

Multiple data sources were used to track progress in the AAA coalition building and community education/organizing efforts, including surveys of KCAF and NAC members, meeting minutes, logs and other documents. The primary process indicators for the coalition building and community education efforts are the number of KCAF, NAC and other community meetings and outreach activities as well as the number of community presentations made by AAA staff and volunteers. Outcome indicators include member satisfaction with coalition functioning, development of sustainability mechanisms, new grants awarded to KCAF projects, and the number of projects developed and carried out by the NACs.

Process Indicators

Table 1 lists process indicators for the coalition building and community education/organizing activities. The KCAF met its primary process objectives of establishing a governance structure and meeting regularly, including meetings of the KCAF overall, Steering Committee and subcommittees. The NAC process indicators included number of meetings, and presentations at NAC meetings. In both 2003 and 2004 the four NACs met over 40 times per year, and had over 30 educational presentations per year made at NAC meetings. In addition to NAC activities, over 50 community educational presentations were made, in a variety of settings, including community-based organizations, schools, clinics, professional organizations, universities, state health foundations, and other health departments. KCAF sponsored or participated in a variety of other outreach and educational activities, including health fairs, posters, asthma plays and radio/TV stories.
### Table 1. Process Indicators of Success for Coalition Building and Community Education Activities

<table>
<thead>
<tr>
<th>Process objective</th>
<th>Status/Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coalition Building</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Establish governance structure and bylaws | - KCAF coalition and Steering Committee governance structure established  
| | - Updated by-laws in 2003 |
| Hold regular KCAF Coalition, Steering Committee and sub-committee meetings | - 12 Steering and 4 Coalition meetings/year  
| | - Average attendance (2004): Steering – 10, Quarterly - 15  
| | - Regular subcommittee meetings held for Schools, PR/Sustainability, Cross-Project Coordination |
| **Community Education** | |
| Create and sustain active Neighborhood Asthma Committees | - 4 active NACs; meet monthly  
| | - Leaders identified, attend and occasionally report at monthly Steering Committee meetings  
| | - 2003: NACs met 44 times, 116 participants  
| | - 2004: NACs met 40 times, 53 participants  
| | - 34 interactive self-management presentations to members in 2003  
| | - 30 interactive self-management presentations to members in 2004 |
| Make presentations to community-based organizations, clinics and schools. | - Number of presentations through June 2005: 52 to community organizations. Three presentations in 2004 at the KCAF quarterly meeting, and two in the first half of 2005.  
| | - Sectors reached: CBO’s, schools, clinic, professional organizations, universities, state health foundations, other health departments, |
| Attend and participate in other outreach activities | (Through June 2005)  
| | - Number and types of activities: 29 health fairs, 1NFL alumni event, 1 fundraiser, 4 school open houses/family nights  
| | - Held an asthma play at 3 locations for middle school students – 500 attendees  
| | - 5 radio stories.  
| | - 3 newspaper/magazine stories  
| | - Developed KCAF poster for distribution  
| | - Distributed 33,487 flyers and over 50 posters to over 20,000 elementary schools and families in 4 districts and numerous community sites and clinics. |

### Outcome Indicators - Coalition Building

Surveys of KCAF members were the primary source of information about coalition building and KCAF community education outcomes. These included a self-administered closed-ended survey administered annually from 2002-2004 and an open-ended telephone survey administered in 2003 and 2004.
Coalition Self-Assessment Survey (CSAS). CSAS is a self-administered, closed-ended survey created by the Allies Against Asthma (AAA) National Program Office. The criterion for inclusion in the survey sample was attendance at least two KCAF-related meetings in the previous year, including standing committees. NAC members were not included in the CSAS sample, as they were not well informed of the KCAF and so would not be able to comment on coalition functioning. Response rates to the survey were 69% in 2002, 85% in 2003, and 83% in 2004.

Table 2 shows the distribution of the survey sample by the role of the respondent in KCAF (e.g., Chair/Officer, Executive Committee (Steering Committee) member). For the purposes of the table, respondents are assigned to a single category even though they often serve in more than one role (see note for assignment rule). A review of the detailed responses showed an increase in people wearing multiple "hats;" for example, the number serving on both the Steering Committee and another committee increased from one in 2003 to five in 2004 and the overall number with multiple roles increased from five in 2003 to 14 in 2004.

There were some changes over the three years the survey was administered in the composition of the KCAF sample. The number of respondents who are Executive (Steering) Committee members increased from 28% in 2002 to 44% in 2004 and the number of individual KCAF members (with no other role) declined from 31% to 10%.

Table 2. CSAS Respondent Profile

<table>
<thead>
<tr>
<th>Variable</th>
<th>2002</th>
<th></th>
<th>2003</th>
<th></th>
<th>2004</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Total respondents</td>
<td>36</td>
<td>%</td>
<td>34</td>
<td>%</td>
<td>29</td>
<td>%</td>
</tr>
<tr>
<td>Executive committee</td>
<td>10</td>
<td>28%</td>
<td>11</td>
<td>32%</td>
<td>13</td>
<td>44%</td>
</tr>
<tr>
<td>Coalition Chair or Officer</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Committee Chair or co-chair</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Committee member</td>
<td>0</td>
<td>0%</td>
<td>5</td>
<td>15%</td>
<td>4</td>
<td>14%</td>
</tr>
<tr>
<td>Member (no other responsibility)</td>
<td>11</td>
<td>31%</td>
<td>6</td>
<td>18%</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>Staff</td>
<td>5</td>
<td>14%</td>
<td>11</td>
<td>32%</td>
<td>5</td>
<td>17%</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>28%</td>
<td>1</td>
<td>3%</td>
<td>2</td>
<td>7%</td>
</tr>
</tbody>
</table>

NOTE: Respondents were able to check more than one category. Table 2 shows a recoding into mutually exclusive categories using an NPO algorithm. Categories higher in the table take precedence: e.g., if someone checked executive committee and staff they would be listed as executive committee.

Table 3 presents results for a number of key indicators of coalition effectiveness drawn from the CSAS results. Highlights of the findings included:

- Respondents felt that they had a voice in coalition activities; however, representation from key sectors in the coalition and member influence were rated somewhat low (for example, only a third of respondents felt that members had a lot of influence over decisions).
- The KCAF decision-making process was considered fair by over 80% of respondents in each year and similar percentages felt the coalition made good decisions.
Levels of trust were consistently high and reported conflict was minimal. KCAF leadership was rated highly - approximately 80% of respondents felt that leadership had a clear vision, kept the project on task and sought the views of other members. Members were generally satisfied with coalition functioning, including communication, agreement on mission and the degree to which members took responsibility for completing tasks. Overall satisfaction with operations declined somewhat in 2004 compared to the previous two years (from 80% to 60%). The function of KCAF shifted over time from being primarily a vehicle for professional networking in 2002 to include operating programs and carrying out policy advocacy in 2004. Primary benefits of membership included developing relationships with other organizations, getting services for clients, and increasing professional skills. Benefits of participating at both the organizational and personal level outweighed costs for the substantial majority of participants. Most respondents felt that KCAF was bringing benefits to their community and was improving asthma outcomes for children. A growing number over time felt that resources were being identified to implement the changes sought by the coalition. In 2004, the majority of respondents reported a strong sense of loyalty and organizational commitment, although both of these indicators were higher in previous years.

Table 3. CSAS Results: Measures of KCAF Effectiveness

<table>
<thead>
<tr>
<th>Variable</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total respondents</strong></td>
<td>36</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td><strong>Representation/Member Influence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate representation from key sectors (Q6)</td>
<td>33%</td>
<td>43%</td>
<td>35%</td>
</tr>
<tr>
<td>Proportion of members with authority to commit support to the coalition (Q9)</td>
<td>30%</td>
<td>44%</td>
<td>39%</td>
</tr>
<tr>
<td>Members have “a lot of influence” (Q10)</td>
<td>35%</td>
<td>29%</td>
<td>31%</td>
</tr>
<tr>
<td>I have a voice (Q26a)</td>
<td>82%</td>
<td>74%</td>
<td>72%</td>
</tr>
<tr>
<td><strong>Decision-making</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Very comfortable” with decision making process (Q13)</td>
<td>50%</td>
<td>53%</td>
<td>52%</td>
</tr>
<tr>
<td>Decision-making process is fair (Q14c)</td>
<td>81%</td>
<td>82%</td>
<td>89%</td>
</tr>
<tr>
<td>Coalition makes good decisions (Q14e)</td>
<td>85%</td>
<td>80%</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Trust/Conflict</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can talk openly and honestly at meetings (Q21c)</td>
<td>89%</td>
<td>85%</td>
<td>81%</td>
</tr>
<tr>
<td>Members respect each others’ views (Q21f)</td>
<td>94%</td>
<td>88%</td>
<td>86%</td>
</tr>
<tr>
<td>More conflict than expected (Q14a)</td>
<td>7%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership has clear vision (Q17a)</td>
<td>85%</td>
<td>82%</td>
<td>79%</td>
</tr>
<tr>
<td>Leadership seeks others’ views (Q17f)</td>
<td>88%</td>
<td>82%</td>
<td>72%</td>
</tr>
<tr>
<td>Leadership keeps coalition on task (Q17m)</td>
<td>82%</td>
<td>77%</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Coalition Functioning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General agreement on mission (Q22b)</td>
<td>80%</td>
<td>82%</td>
<td>82%</td>
</tr>
<tr>
<td>Action plan is well-written (Q22e)</td>
<td>57%</td>
<td>65%</td>
<td>46%</td>
</tr>
<tr>
<td>Members take responsibility for completing work (Q19d)</td>
<td>82%</td>
<td>77%</td>
<td>79%</td>
</tr>
<tr>
<td>Variable</td>
<td>2002</td>
<td>2003</td>
<td>2004</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Communication method is effective (Q32a)</td>
<td>94%</td>
<td>73%</td>
<td>69%</td>
</tr>
<tr>
<td>I am satisfied with operations (Q26c)</td>
<td>79%</td>
<td>78%</td>
<td>62%</td>
</tr>
<tr>
<td><strong>Purpose of Coalition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major function: Professional networking (Q20a)</td>
<td>74%</td>
<td>59%</td>
<td>61%</td>
</tr>
<tr>
<td>Major function: Operate programs (Q20f)</td>
<td>44%</td>
<td>59%</td>
<td>57%</td>
</tr>
<tr>
<td>Major function: Local policy advocacy (Q20g)</td>
<td>38%</td>
<td>38%</td>
<td>52%</td>
</tr>
<tr>
<td>Major function: State policy advocacy (Q20h)</td>
<td>32%</td>
<td>27%</td>
<td>39%</td>
</tr>
<tr>
<td><strong>Benefits/Costs of Membership</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benefit: Developing relationships with other agencies (Q28a)</td>
<td>88%</td>
<td>85%</td>
<td>90%</td>
</tr>
<tr>
<td>Benefit: Funding for my organization (Q28d)</td>
<td>25%</td>
<td>38%</td>
<td>29%</td>
</tr>
<tr>
<td>Benefit: Getting services for clients (Q28e)</td>
<td>50%</td>
<td>62%</td>
<td>64%</td>
</tr>
<tr>
<td>Benefit: Increase professional skills (Q28g)</td>
<td>91%</td>
<td>82%</td>
<td>82%</td>
</tr>
<tr>
<td>Benefit: Access to policy makers (Q28i)</td>
<td>38%</td>
<td>36%</td>
<td>43%</td>
</tr>
<tr>
<td>Benefit: Support for policies (Q28k)</td>
<td>38%</td>
<td>58%</td>
<td>46%</td>
</tr>
<tr>
<td>Helped me learn about asthma (Q34)</td>
<td>94%</td>
<td>85%</td>
<td>83%</td>
</tr>
<tr>
<td>Problem: Activities do not reach my primary constituency (Q29a)</td>
<td>31%</td>
<td>33%</td>
<td>29%</td>
</tr>
<tr>
<td>Problem: My skills and time are not well-used (Q29d)</td>
<td>28%</td>
<td>22%</td>
<td>36%</td>
</tr>
<tr>
<td>Problem: Not taking any meaningful action (Q29f)</td>
<td>3%</td>
<td>9%</td>
<td>29%</td>
</tr>
<tr>
<td>Problem: Coalition competes with my organization (Q29j)</td>
<td>10%</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Benefits outweigh costs from organizational perspective (Q30)</td>
<td>73%</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>Benefits outweigh costs from personal perspective (Q31)</td>
<td>90%</td>
<td>70%</td>
<td>82%</td>
</tr>
<tr>
<td><strong>Outcomes/Sustainability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coalition brought benefit to my community (Q36)</td>
<td>77%</td>
<td>65%</td>
<td>83%</td>
</tr>
<tr>
<td>Coalition is improving asthma outcomes for children (Q37b)</td>
<td>68%</td>
<td>80%</td>
<td>69%</td>
</tr>
<tr>
<td>Resources are being identified to support the systemic/program changes implemented by the coalition (Q38c)</td>
<td>38%</td>
<td>51%</td>
<td>66%</td>
</tr>
<tr>
<td>Coalition will exist beyond RWJF funding period (Q38d)</td>
<td>53%</td>
<td>51%</td>
<td>66%</td>
</tr>
<tr>
<td><strong>Overall Satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel a strong sense of loyalty (Q26d)</td>
<td>61%</td>
<td>69%</td>
<td>59%</td>
</tr>
<tr>
<td>My organization is committed (Q27d)</td>
<td>76%</td>
<td>82%</td>
<td>59%</td>
</tr>
<tr>
<td>Satisfied in general with the coalition (Q39c)</td>
<td>90%</td>
<td>89%</td>
<td>72%</td>
</tr>
</tbody>
</table>

1 - % reporting more than half of the members or nearly all of the members.
2 - % agree or strongly agree.
3 - % reporting some benefit or great benefit.
4 - % reporting this is a minor problem or major problem.

**Key informant interviews.** In addition to the CSAS, key informant interviews were conducted (by Battelle) with a diverse group of stakeholders on two occasions (between August and October, 2003 and between October and December, 2004). Respondents included KCAF leaders,
members, outsiders, and staff. The results presented below were taken from the Time 2 (follow-up) Battelle report and focus mainly on questions related to coalition impact and value added of the coalition.

**Individual impact.** A number of respondents highlighted the value of the personal benefit they received from their participation in AAA/KCAF:

“I learned a lot more about asthma….Being part of the coalition allowed me to see agencies that I wouldn't know about that serve a large population on a low budget. It inspired me to do better work - questioning what else we can do with the money we have.”

“But my appreciation for asthma has been heightened from what I have learned and being involved in AAA. It has been an educational venue as well because you are learning things you would not have learned about asthma. The meetings are educational and informative so I have definitely reaped some benefits from being involved.”

“This has been a great experience for me. I get to be part of a network of passionate people. It is inspirational. I have learned more about asthma in different sectors. And I've learned a lot about coalitions.”

“I have better connections with the asthma community locally. I have grown professionally.”

**Organizational impact.** Respondents spoke about the value of participation to their organization in terms of increased visibility, access to networks, and access to resources:

“Allies has brought funding to the health department. It has also benefited from being part of a national program.”

“The opportunity to get advice and counsel in terms of our ACT grant has been very positive. For me, personally, we are a very small organization…”

“School nurses have been concerned about asthma for a long time and we continue to grapple with it... The work with AAA has benefited that. Certainly the AMES manual, although not a direct outgrowth of AAA, it was happening in tandem, and has been a continued resource for school nurses and the school community.”

**Benefits of collaboration.** A number of respondents reported benefits from collaborations that grew out of their participation in KCAF:

“The cross-project coordination has been immensely useful. I thank our IRB for cross-project coordination. They said we could not just pass names around between different projects so they forced us to sit down and work out some good ways to share activities and referral mechanisms that work and that the IRB approves.”

“There was certainly more coordination of the projects going on in our target area than there would have been without the coalition clearly. The fact that there is one phone number that consumers and clinicians can call now is a huge benefit - somebody who now has an overview of all the various things and who's eligible for what. I remember that all these things were confusing before so I didn't access things a lot for my patients.”

“I see more dialogue and collaboration among organizations around seeking funding. The childcare area is an example between AAF, AAA, and the health department. I also see more respect for a broad range of ways to address a problem. Before there was more competition. Now people fundamentally recognize that problems can be approach from many different ways. Community Health Plan grant is an example.”

“Organizations are sharing education and collaborating on programs and grants. For example, AAF and ALA work together, and I think that's rare across the country.”

“Right now Seattle schools is working on a small grant with the ALA to do some work on another asthma based curriculum in schools. The fact of Allies and continued relationships that were born there or were supported there working together as it moved to Steps, it is clearly an outgrowth of those opportunities.”
Impact of KCAF on asthma interventions. The collective nature of KCAF has facilitated implementation of interventions that would have been challenging for a single organization to take on and has helped make interventions stronger. The coalition has encouraged and supported more activities that are multi-sector, and interventions that are intensive and that require paid staff to implement.

“These accomplishments would not have happened without a coalition being there. The proof is in the organizational relationships and the process rather than on asthma morbidity. It is more appropriate for partners to implement models and do direct services in general. Coalitions are better at supporting them and doing integration.”

“We [health department] probably could have done most of the interventions without a coalition but not as gracefully and with less coordination and resource sharing.”

“I'm skeptical that any of them [interventions] would have happened without the coalition. There might have been talk, but I doubt they would have organized to do it.”

“I don't think the level of education for families and the level of education for providers would be there without Allies.”

“I think there is a need for a clearinghouse role. I'm not sure if there are any other roles that a coalition could perform other than that and managing grants.”

Increased sense of community needs. Participating in KCAF has provided participants with a better sense of the community needs and the barriers to meeting those needs. It helped members think more creatively about solutions. It has provided the community with: a better understanding of asthma care in settings such as schools, daycare centers, and clinics; ideas about how to coordinate across organizational settings to improve care; and direct service programs of high quality that target perceived needs:

“Couldn't have created awareness in certain communities without the coalition. Would be able to have lively discussions on how to improve asthma in King County and what we can do to create policies that help children and families who are asthmatic.”

“It has also affected awareness and knowledge among parents, schools, clinics. We're the eyes and ears of providers from what we observe in the home. The doctors asked for this from us. This came out of the Learning Collaborative which [CHW supervisor] facilitates through Allies.”

“Once a quarter we try to have a latest in asthma meeting - like a CE program. Very informal though. People have enjoyed it - we move it around. We get some good speakers…. Striking a balance between what community members and professionals wanted. Our speakers have been good at reaching both groups.”

“I think that even though we were more rushed in the planning year, it was a good process and out of it we seemed to really grasp the needs and really targeted those pretty well.”

Systems Change. Cross sector connections are a priority for KCAF to attempt to change the practice of those treating pediatric asthma. Respondents reported seeing positive changes among providers in terms of getting them to think more systematically about asthma care and delivering a higher standard of care:

“With the clinics we've seen changes in systems that are leading to changes in care. Providers are more aware of optimal care and national guidelines.”
Section 5 – Coalition Building and Community Education

“I do think that there have been positive changes in some clinical practices. I also run into families that got environmental changes, such as mattress covers, vacuum cleaners, or filters. Although it is not always clear to me or to them whether it was Healthy Homes or Allies that was responsible.”

“Our primary success is in implementing the CHW model. We're also successful at getting the clinics to think more systematically about asthma care. They are more aware of resources and linking patients to it…. We have been successful at raising prevention control and chronic disease control as a priority for kids. This is not traditionally the focus of public health for children which has traditionally focused on acute care and well child care.”

“As far as systems change, we've affected systems within organizations, like the clinics, where change happens slowly and then spreads through the organization. Not sure that anything is happening in terms of systems AMONG organizations. There is more awareness but is not translated to systems change.”

**Community Impact.** Families with asthma in the target community have enrolled in the CHW home visit program. Families are making changes in their homes and some are sharing that knowledge with others in the community. Impacts also include: greater awareness of asthma among parents, clinics and housing projects; greater knowledge of how asthma should be managed; and improved asthma care.

“The CHW program has made a difference to managing asthma. We have 152 baseline families now. We have seen hospitalizations go down. We have had an impact on enrolled families but probably not beyond. I don't think that families have been educating their neighbors or friends. The High Point housing project is using our protocols to work in their housing units. In a community setting, not much is happening that is not dependent directly on our project. We could do more with another year. It takes knowing a system well to know where to intervene and that takes time. We're just getting there and we're running out of time.”

“The impact in homes is huge. They show me what they have learned from the CHWs and then they teach others what they learned.”

“It has also affected awareness and knowledge among parents, schools, clinics.”

“They've also had an effect on health care providers. It has helped them give better asthma care to patients.”

**Outcome Indicators - Community Education**

**Community Organizing/NACs.** The primary outcomes for the NACs are the community projects they carry out. Project examples include:

- Rainer Valley/New Holly worked with three local summer camps to help them launch counselor training on asthma. They also held a World Asthma Day event at Aki Kurose and 90 students participated in a “What is Asthma?” poster contest.
- The South Park NAC also had a World Asthma Day event. They had a poster competition and they displayed the posters at Concord Elementary.
- The Burien NAC hosted an “Asthma Wheel of Fortune Night” at Hazel Valley Elementary with about 80 participants. They are pursuing having summer camp counselor trainings and are contacting the Southwest Boys and Girls Club to make arrangements.
- For World Asthma Day in 2004, the NACs organized teams to participate in the ALA’s Asthma Walk, worked with local restaurants to go smoke free for the day, and held a neighborhood health fair.
KCAF member perspectives on NACs. The Battelle interviews contained a number of positive comments about the impact of the NACs.

“The neighborhood groups are growing up and taking charge.”

“The NACs have also been active in promoting visibility. They participated in the Asthma Walk. For World Asthma Day they decided to have a Smoke Out in restaurants in Rainier Valley and White Center. All the restaurants they approached said yes. It worked. They're planning to continue with their work to influence neighborhood restaurant policy.”

“The group is very culturally diverse. We have people from all walks of life and from various cultures who bring their own perspectives to the table. So when you see that this universal problem is shared by many cultures, I think that is a strength and that doesn't put a tag or label on any one cultural group. It makes it a universal problem and that is definitely a strength.”

“I am very happy with the Neighborhood Asthma Committee. That intervention has been very successful in terms of providing education to people in the community and getting people who are usually sitting behind a desk out into the community and seeing people. I've very happy with that.”

“One thing that is great is that the NACs are a nice entry way because they are less formal but yet it gives somebody a start in the whole process. If they have gotten comfortable with the NAC meetings, that's a nice first step.”

“NACs - we'll see the benefits of this for a long time. We've trained people and have developed expertise among these community members.”

“A lot of the NAC members would go back to their physicians and question some of the things the physician was telling them especially about use and directions of medication. They were more vocal and could have dialog with the physician.”

“Yes, they serve a need. For parents and kids, the community group meetings [NACs] are important.”

“The NAC leaders noticed that people in our communities are concerned about other health issues such as diabetes, hypertension, and depressions. AAA committees are going to become the Neighborhood Health Justice Committees. In addition to asthma they will also take on diabetes, hypertension, and depression… They were getting interest from people with diabetes in the same household as someone who had asthma already.”

**Lessons Learned**

A number of lessons were learned as KCAF/AAA implemented the coalition building and community education/organizing strategies that may be useful for other communities carrying out similar activities.

**Lessons Learned about Coalition Building**

- **A coalition is required to develop the linkages** for carrying out a complex project with multi-level interventions. It can help develop a shared project vision, coordinate activities, and get participation of necessary sectors/stakeholders.

- **Coalition development requires staffing and other infrastructure support**, such as space, communications resources, and capacity to host meetings. Short-term grants (e.g. 4-5 years) are not the best source of funds for this infrastructure support.

- **Use multiple methods for engaging participation and obtaining feedback** that go beyond meetings and surveys. Decisions are often made in venues that don’t attract a lot of
community participants. Having alternative ways to get community participation and input (e.g. focus groups, community meetings) can add integrity to the decision-making process. An investment in email communication, phone calls, visits, and other communication channels is important.

- **Resources should be shared as widely as possible within the coalition** especially funding opportunities.
- **Fiscal/administrative agents must be willing to cede decision-making authority** for grants that are based in a community coalition to the coalition membership, even though the agent is accountable to the funding agency.
- **Delegate operational decision-making** to an interested, dedicated committee in order to keep meetings such as the quarterly forums focused on issues of interest and benefit to members. The KCAF changed its by-laws and transferred most of the operational business out of the quarterly forum to the steering committee and is now considering further narrowing the group who recommends operational decisions to the Steering Committee to increase efficiency and allow the Steering Committee to focus on strategy and leadership of the KCAF.
- **Identify as early as possible individuals who will have the time and be willing to take on responsibilities to carry out the work of the KCAF.** KCAF learned that despite significant energy and resources spent dedicated to growing membership size, and regardless of how many people participated in meetings, a fairly small core group took on most of the initiative and leadership in work of the KCAF. The core group who sustained active participation primarily consisted of individuals for whom asthma was a primary focus in their work.
- **Implementing projects before taking on policy advocacy work was worthwhile for the KCAF because it helped the KCAF build recognition and understand policy issues on a practical level.** It is possible to engage in policy and project implementation work simultaneously, though during the AAA years the KCAF focused on implementation.
- **Competing life demands make it difficult for people to take on leadership roles,** even if there are financial or other incentives for participating. For example, most of the NAC leaders were working full time and had families, and two of the leaders had major health problems.

**Lessons Learned about Community Education/Organizing**

- **It takes a long time to develop a functioning Neighborhood Asthma Committee,** and continual staff support is needed to oversee such items as location, agenda and food.
- **Organizers must be sensitive to time commitments.** Professionals often have an ideal of what “community participation” means, but often people in the community don’t have the time or interest to assume leadership roles.
- **Stipends are only somewhat helpful for getting community members to the table.** NAC member participation on the Steering Committee increased with the provision of stipends to help reimburse for time away from the job.
- **The participatory approach to planning** creates satisfaction and allows for the incorporation of multiple perspectives.
- **Having outreach presenters that share information** about a variety of topics effectively engages and informs participants.
Appendix A - Funding Opportunities Pursued

**Coalition Building**
- Funding opportunities were pursued and awarded (see table below).

<table>
<thead>
<tr>
<th>Grant/Project</th>
<th>Description/Notes</th>
<th>Start/End Dates</th>
<th>Total Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHII</td>
<td>HHII is a research project of Public Health-Seattle &amp; King County that is funded by the National Institute of Environmental Health Sciences. HHII’s goal is to compare two approaches to improving asthma control: 1) providing patient education, training in self-management, development of a patient-specific asthma action plan, and case management review by an asthma nurse; and 2) providing the above, plus in-home outreach, education, and resources to address environmental triggers.</td>
<td>10/01/01-9/30/06</td>
<td>1,955,839 (includes indirect)</td>
</tr>
<tr>
<td>HUD Better Homes for Asthma</td>
<td>This 3-year research project will provide structural housing remediation for conditions that increase exposure to asthma triggers with the intention of lowering exposures and improving health status among children with asthma.</td>
<td>4/15/02 - 4/14/05</td>
<td>998,617 (includes indirect)</td>
</tr>
<tr>
<td>ACT</td>
<td>ACT is an educational program of the Allergy and Asthma Foundation of America-Washington State Chapter, and funded by the Centers for Disease Control and Prevention. The program provides a series of 3 educational sessions for children with asthma between 7 and 12 and their caregivers. The program is conducted in English and held at community clinics or community-based organizations.</td>
<td>10/1/03-10/1/04</td>
<td>$135,000</td>
</tr>
<tr>
<td>EPA Home Away from Home</td>
<td>Supporting asthma training for childcare providers and follow-up indoor environmental assessments and education.</td>
<td>10/1/03-10/1/04</td>
<td>$20,000 (AAFA-WA)</td>
</tr>
<tr>
<td>Seattle Housing Authority</td>
<td>Building healthy homes in public housing units for people with asthma. Conducting indoor environmental assessments and trigger reduction education at public housing sites.</td>
<td>10/1/03-9/30/07</td>
<td>$900,000</td>
</tr>
<tr>
<td>Washington DOH</td>
<td>For mentoring other coalitions and developing a public relations plan.</td>
<td>7/1/03-12/31/03</td>
<td>$10,000</td>
</tr>
</tbody>
</table>
| STEPS to a HealthierUS | Healthier STEPS is a CDC grant to provide support to communities to address multiple chronic diseases and related conditions, including: diabetes, asthma, obesity, nutrition, tobacco, and physical activity. | 10/1/03-9/30/08 | Asthma interventions:  
  o $112 (CHWs)  
  o $23,000 (AAFA-WA) |
<table>
<thead>
<tr>
<th>Grant/Project</th>
<th>Description/Notes</th>
<th>Start/End Dates</th>
<th>Total Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nesholm Foundation</td>
<td>To fund one Community Health Worker.</td>
<td>Awarded</td>
<td>$30,000 July 05-May 06</td>
</tr>
</tbody>
</table>

WA classes
- $29,000 (NACs)
Section 6 – Increasing Coordination Among Schools, Clinics, Child Care Settings, and Managed Care Plans

This is a collaborative report coauthored by the Evaluation Team at Group Health Community Foundation and other involved in the process, including: the AAA Project Director, Co-Director, and Project Manager/KCAF Coordinator.

August 2005

Summary

King County Asthma Forum (KCAF) and its core Allies Against Asthma (AAA) project carried out a number of activities to increase coordination across organizations that care for and educate children with asthma, including: developing referral protocols across levels of care, developing common educational messages, promoting a unified approach to training, developing and promoting a common asthma action plan, and in general promoting standard approaches to asthma.

Accomplishments of the coordination effort include:

- **A range of service providers** have committed to coordinating care.
- **Communication systems were developed** for linking Community Health Workers (CHWs), the Asthma Management Coordinator (AMC), clinics, child care sites, and schools.
- **A phone triage line was set up** for responding to requests for services.
- **A Cross Project Coordination committee was formed** to coordinate communication, recruitment, referrals, and triage to asthma services.
- **The Asthma Management Coordinator (AMC) coordinated care for 89 families** (Based on the number of first contacts from July 2003 through April 2005). On average, four families per month were having their care coordinated by the AMC.
- **Ninety callers were referred to KCAF programs** and other community resources through the phone triage line between January 2003 and June 2005. (The phone triage line received a total of 572 calls from Jan 2003 through August 2005, most of whom were referred to AAA or mailed information).
Description of Coordination Activities

One of the King County Asthma Forum’s primary goals through Allies Against Asthma (AAA) was to increase coordination across organizations that care for and educate children with asthma. Coordination strategies developed during AAA included: initiating a Cross Project Coordination group that developed recruitment and referral protocols; supporting an asthma services triage line; developing referral protocols among asthma-related projects, developing common educational messages, promoting a unified approach to training, promoting a common asthma action plan, and in general promoting standard approaches to asthma. This section briefly describes the AAA coordination activities.

Cross Project Coordination group. A number of asthma projects were underway during the period of AAA funding, including: Healthy Homes II, Better Homes for Asthma (projects sponsored by KCAF), the Seattle Asthma Project, Asthma Care Training (ACT), and the Master Home Environmentalist program. KCAF members raised concerns about the potential confusion and competition that could emerge as concurrent programs commenced operations. In response to those concerns, the KCAF developed a Cross Project Coordination group (CPC) in late 2002 to coordinate client recruitment, cross referrals, and communication about asthma services in King County. CPC members included representatives from AAA, all sponsored KCAF programs and any other organizations that wished to coordinate their asthma services.

The CPC developed a recruitment protocol for projects to minimize potential competition for clients. Through the CPC, the projects also developed simplified messages to inform people about asthma services available in the county. These messages formed the basis for a KCAF asthma services poster (link to poster) that was displayed in schools, clinics, social service programs and other locations, and a flyer that was sent home each fall to nearly 20,000 elementary and middle school students. The poster and flyer were designed to emphasize services, rather than programs, since funding for programs is often short term and services may be sustained over time by different entities. The CPC currently does not meet, but may recommence regular meetings if the need for coordinating new referrals presents itself, such as when a new intervention or project begins.

Asthma services phone triage line. The CPC recognized the difficulty that community members would have in sorting out the exact services provided by different programs and eligibility criteria for each program. To simplify access to asthma services, the CPC developed an asthma services triage line and accompanying triage protocol. The AAA Community Health Workers (CHWs) staffed the triage line, which made it accessible to people speaking Vietnamese, Spanish, and English. When the CHW received a call they would assess the needs of the client and refer him/her to the program that best fits his/her needs. KCAF is attempting to continue the phone triage line, with funding from Steps to Health- King County, though with reduced capacity.
Development of common educational resources and protocols to promote delivery of consistent, reinforcing health education messages. In 2002, an ad hoc work group of the KCAF reviewed many asthma education materials and identified the most appropriate products for the KCAF programs to use. The KCAF provided packets of the materials to clinics partnering with KCAF in an effort to standardize and reinforce educational messages. All KCAF home visiting programs utilized the same self-management and home environmental education protocols. Toward the end of AAA, the Master Homes Environmentalist Program began using them, as well. (link to examples of educational materials and protocols). Through Tools for Schools, child care environmental assessments, and the home visiting programs, the KCAF is promoting common messages and providing common resources about indoor environments and asthma.

Promoting standard approaches to asthma medical care. Through the Learning Collaborative operated by AAA, NHLBI guidelines and systematic tracking of patient care was promoted to facilitate standard medical care for children with asthma. KCAF has also promoted the guidelines to over 200 providers who have participated in “asthma evidence to practice” education sessions.

Care coordination. Community Health Workers and the Asthma Management Coordinator helped coordinate care for individual clients. The Community Health Workers taught clients how to communicate with their providers to obtain clear and consistent asthma information and action plans. In some instances, CHWs also communicated with providers or schools to coordinate care on behalf of patients. CHWs and the Asthma Management Coordinator also encouraged caregivers to communicate with their children’s schools and child care providers to insure they had the necessary information and tools to manage the child’s care. In situations where there were problems with care coordination, the Asthma Management Coordinator assisted with care coordination by communicating with the provider or clinic nurse/MA regarding a child’s symptoms, medication, and treatment plan clarification. The Asthma Management Coordinator position ended in June 2005.

Joint training and case conferencing to promote coordination and reinforce common messages. KCAF programs provided forty hours of initial training over several weeks for their Community Health Workers and other staff, as well as ongoing training and biweekly case conferencing. Topics addressed the full range of information and skills that Community Health Workers need to be effective educators and advocates (i.e. self-management, home environmental triggers, motivational interviewing). All trainings were open to members of the KCAF. The intent of the joint trainings and case conference were to efficiently use resources, promote consistent educational messages, and build referral linkages among participating projects.

Development of a common asthma action plan for use by schools, clinics, Community Health Workers and childcare sites. KCAF developed an action plan in consultation with asthma champions, CHWs, school liaisons, caregivers of children with asthma, and KCAF member organizations. Some members of the Steering Committee requested that the KCAF endorse the plan and encourage organizations across the county to adopt the
plan in lieu of any others in use. Many members were unwilling to support this request, given that their organizations preferred use of a different plan. Despite those barriers, AAA and two other KCAF programs used the same action plan, developed by RAMP of California. A number of AAA Learning Collaborative clinics also chose to use the same plan. The steering committee dropped the goal of adopting a common plan in 2004. *(Note - add link to action plan).*

### Measuring Progress in Coordination

The measures of success in the AAA coordination effort are related to process indicators, intermediate outcome indicators and client satisfaction. It was not possible to systematically measure the impact of coordination efforts on long-term outcomes such as symptom days and health services utilization.

**Process Indicators**

Process indicators include: development and use of common asthma educational resources, the extent to which a common action plan was adopted across organizations, types of communication systems developed, and degree of communication across various sectors of the community.

Development, adoption and promotion of a *common action plan*:
- KCAF was not able to adopt or implement a common action plan, though it did develop an action plan with stakeholders and attempt to adopt it.
- KCAF provides the clinics it works with and the home visiting programs it operates with the same action plan, and some of clinics use it.

Development and use of *common educational resources and protocols* by relevant organizations:
- Adopted in the spring of 2003.
- Common educational materials used by families, clinics, and CHWs on their home visits, in partnering with clinics, at health fairs, and on the KCAF website.
- 24 educational protocols in use by four different asthma projects in King County.

**Promotion of care coordination** and referring community members to appropriate resources:
- The Asthma Management Coordinator (AMC) coordinated care for 89 families (Based on the number of first contacts from July 2003 through April 2005). On average, four families per month were having their care coordinated by the AMC.
- Ninety callers (from January, 2003 through June, 2005) were referred to KCAF programs and other community resources through the phone triage line. Appropriateness of referrals was not evaluated. (The phone triage line received a total of 572 calls from Jan 2003 through August 2005; most were referred to AAA or mailed information).
Enhanced communication among sectors and projects:
- KCAF Cross Project Coordination committee met bi-monthly through 2004.
- Asthma Management Coordinator held bi-weekly case conferences and joint trainings with the 3 home visiting programs involved in the KCAF, to review cases and cover home visit protocols.
- Referral communication system (asthma services phone triage line) to coordinate access to asthma services.
- Referral communication system (Asthma Management Coordinator and CHW protocols) established in 2002 that integrate AAA services with clinics and schools.
- The extent to which cross sector communication occurred and its effectiveness was not evaluated.

Client Satisfaction

Key informant interviews with CHW families gave some indication of client satisfaction with the care coordination process. The results presented below were taken from the September, 2004 Caregiver Key Informant Interview Report conducted by the AAA Project Director and focus mainly on how the CHW helped coordinate asthma care.

Of the 20 families interviewed, seven said that the CHW coordinated asthma management services for them, 9 said they did not receive help with coordinating services and 4 were not sure. However, of the 9 who said they did not receive asthma coordination help, 2 said they were able to coordinate services on their own and a third said the CHW taught them how to talk with the doctor and the pharmacist.

Examples of what the CHW did to coordinate services included:

Talked with our doctor at the clinic – now everything is coordinated and runs smoothly.

“Had them send me a letter” (A Spanish speaking parent got a letter from the doctor to take to the child’s school, so now feels that the schools knows about her son’s asthma and she does not have to worry about him so much).

KCAF Member Views

Key informant interviews were conducted (by Battelle) with a diverse group of stakeholders between October and December 2004. Respondents included KCAF leaders, members, outsiders, and staff. The comments related to coordination and expressed satisfaction with the functioning of the Cross-Project Coordination Committee and phone triage line.

The cross-project coordination has been immensely useful. I thank our IRB for cross-project coordination. They said we could not just pass names around between different projects so they forced us to sit down and work out some good ways to share activities and referral mechanisms that work and that the IRB approves.
There was certainly more coordination of the projects going on in our target area than there would have been without the coalition clearly. The fact that there is one phone number that consumers and clinicians can call now is a huge benefit - somebody who now has an overview of all the various things and who's eligible for what. I remember that all these things were confusing before so I didn't access things a lot for my patients.

Lessons Learned

In the course of implementing the coordination activities, we learned a number of lessons.

- **Incentives are important for promoting coordination.** KCAF learned that unless there are incentives, which may include improved care for clients/patients as well as monetary incentives, people are far less likely to expend energy and resources to coordinate.
- **Projects must be willing to expend resources** and give up some control to achieve coordination. Cross project coordination efforts often require individuals to set aside their organizational agendas for the benefit of the collaboration, and are very time-intensive.
- **A coalition is a valuable tool for promoting coordination.** The level of coordination that is being pursued would not be possible without the input of coalition members whose backgrounds and experiences provide the variety of perspectives necessary for success. Having a key coordinating body facilitates coordination and standardization. The Cross Project Coordination committee was an essential vehicle for resolving issues and mobilizing support for coordination across projects.
- **Implementing a common action plan is challenging.** Some organizations use their own action plans and are unwilling or unable to use a common plan. It was not feasible to achieve the original Steering Committee goal of adopting and implementing one common action plan across KCAF member organizations. The goal was revised to allow for different plans to be used.
- **Educate organizational partners about HIPAA and IRB restrictions,** so that misunderstandings about restrictions related to patient confidentiality do not create barriers to coordination.
- **Coordination requires detailed and specific protocols** and mechanisms that are incorporated into every day practice.
- **On an individual level, care coordination resolves gaps in care.** The Asthma Management Coordinator and interviews with caregivers provided a number of examples of how gaps in care were resolved.
- **It proved beneficial to emphasize services rather than projects in recruitment materials.** Once AAA and other projects’ funding ended it was not necessary to redevelop the poster and flyers because other projects are sustaining many services.
• Improving coordination and integration of services may be a more effective role for coalitions than service delivery, as coordination and integration strategies most likely require fewer resources than service delivery and may produce more institutionalized systems changes.
Section 7 – Promoting Asthma Control Policies

This is a collaborative report coauthored by the Evaluation Team at Group Health Community Foundation, with others involved in the process, including: the AAA Project Director, Co-Director, and Project Manager/KCAF Coordinator.

August 2005

Summary

Since its inception, KCAF has viewed the promotion of effective asthma control policies as a key component of making long-term improvements in asthma outcomes. However, during the timeframe of AAA, policy development was a lower priority than providing direct service interventions. Now that AAA funding for some of the more direct service components is ending, policy advocacy is emerging as a priority area and the KCAF members are devoting much of their time and energy to promoting policy change.

Priority areas for KCAF policy advocacy include:

- Promoting reimbursement of asthma education and institutionalizing Community Health Worker services.
- Adopting and enforcing healthy indoor air standards.
- Reducing exposure to secondhand smoke (increasing the number of smoke-free workplaces, banning smoking in all public places).

KCAF supported partners’ policy efforts by gathering signatures, writing letters, and creating a forum to exchange information. KCAF partners made some progress in several of the priority areas noted above, including:

- At the last legislative session a law passed (Senate Bill 59) requiring that landlords notify tenants of mold in rental housing. Two active KCAF members helped make this happen by meeting with the Chair of the Housing Committee.
- HB 1904/ SSB 5841 was passed, providing for the prevention, diagnosis and treatment of asthma. The law requires public elementary and secondary schools to allow students to self-administer medication to treat asthma. KCAF assisted by providing asthma legislative updates and providing a forum to help a Seattle Public Schools employee who is an active participate in the Schools Committee implement this policy.
- ALA, in partnership with Breathe Easy Washington, American Cancer Society, and others obtained enough signatures to get a Healthy Indoor Air Initiative I-901 (secondhand smoke bill) on the ballot for Fall, 2005.
Description of Policy Promotion Activities

KCAF has always viewed the promotion of effective asthma control policies as a key component of making long-term improvements in asthma outcomes. However, during the timeframe of AAA, policy development was a lower priority than providing direct service interventions: Community Health Workers, improvements in clinical systems, care coordination and school/child care management. There were several reasons for this, including a lack of concrete plans about which policies would be pursued and how, the need for KCAF to build credibility as an organization, to understand the gaps that could be filled by policy action, and to build relationships with policy stakeholders.

Now that AAA funding for some of the more direct service components is ending, policy advocacy is emerging as a priority area and the KCAF members are devoting much of their time and energy to promoting policy change.

The initial policy goals of KCAF/AAA were:
- Promoting coordination of care and services through creating access to common client-specific asthma-related health data (e.g. on-line asthma registries).
- Promoting cultural competence in asthma care.
- Developing funding mechanisms to support care coordination, self-management education/support and other system components.
- Promoting school policies that support students with asthma.
- Promoting policies in the housing sector, which supports healthy home environments for children with asthma.
- Expanding asthma surveillance activities and launching media campaigns as a mechanism to increase community awareness and monitor trends.
- Participating in asthma policy groups.

Some initial steps were taken in several of these policy areas. In terms of general policy advocacy by KCAF, a public relations package was developed to serve as foundation from which to pursue policy work and a story and photo bank was developed for media and advocacy. KCAF members began to work with the Washington state Medicaid agency and Community Health Plan of Washington to include coverage for allergy control bedding encasements. KCAF members also sent letters to the Washington state legislative Committee on Transportation to support a bill to change vehicle emission standard provisions.

Current policy goals of KCAF

As part of a strategic planning exercise towards the end of AAA funding, criteria were developed for areas to focus KCAF activities. Three primary criteria were identified:
- Activity is consistent with KCAF functions.
- There is evidence that it will be effective in meeting KCAF asthma goals and 3-year objectives.
Section 7 – Promoting Asthma Control Policies

- There is a high level of confidence that it can be implemented because it: 1) does not require funding; 2) the KCAF coordinator can do it; 3) another organization can absorb it, or is already doing it and the KCAF can link to that organization; 4) funding is available and the KCAF can identify a potential grantee; or 5) the KCAF will seek funding directly.

Applying these criteria, seven priority areas were identified (see Table 1). Of the seven, three were directly related to policy:
- Reimbursement of asthma education (and also institutionalizing CHW services).
- Healthy indoor air standards adopted and enforced.
- Reduce exposure to secondhand smoke (increase number of smoke-free workplaces, ban smoking in all public places).

Another priority area is to lay the ground work for policy and systems change:
- Political and institutional awareness (combined with raising awareness of KCAF through networking with organizations, coalitions and elected officials).

Measuring Progress in Policy Promotion Activities

Measuring progress in policy development and advocacy is difficult since it often involves working in partnership with other organizations and changes occur slowly for reasons that are difficult to attribute to a single organization or effort. KCAF supported partners’ efforts by gathering signatures, writing letters, and providing a forum for exchanging information to raise awareness about policy goals. KCAF partners made progress in several KCAF priority areas already (see Table 1 for more details), including:
- At the last legislative session a law passed (Senate Bill 59) requiring that landlords notify tenants of mold in rental housing. Two active KCAF members helped make this happen by meeting with the Chair of the Housing Committee.
- HB 1904/ SSB 5841 was passed, providing for the prevention, diagnosis and treatment of asthma. The law requires public elementary and secondary schools to allow students to self-administer medication to treat asthma. KCAF provided asthma legislative updates and a forum to help the Seattle Public Schools employee who is also a participant in the Schools Committee implement this policy.
- ALA, in partnership with Breathe Easy Washington, American Cancer Society, and others obtained enough signatures to get a Healthy Indoor Air Initiative I-901 (secondhand smoke bill) on the November 2005 ballot.

Lessons Learned

There have been a few lessons learned already in the policy area:
- Develop concrete plans for policy work, and incorporate opportunities for short-term accomplishments to sustain momentum and track progress.
- Policy work may be a more effective role for coalitions than service delivery because it requires fewer resources and produces more institutionalized systems changes.
• It is important to be clear about which level of policy activity may be most productive in which to engage; one level is policy work with legislators, another level is policy and procedures work within an organization.

• Policy development and advocacy is time intensive work where cultivating relationships is important, but relationships are not necessarily sustained because individuals can be elected in and out of office.

• Policy advocacy activities must be tailored to what people and organizations are allowed to do: some cannot lobby but can inform and educate while other coalition members can lobby.
### Table 1. KCAF Priorities for 2005: Status as of July 25, 2005

<table>
<thead>
<tr>
<th>Priorities</th>
<th>Current Activity / Considerations</th>
<th>July 25 Update</th>
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| **1. Reimbursement of asthma education (also institutionalizing CHW services)** | - Consider reimbursement for CHWs working under direction of certified asthma educator (1/05)  
  - Texas and Arizona have reimbursement for CHWs. (1/05) | - No updates. |
| **2. Improve emergency department communication (24-hr notification to clinics, referrals for asthma pts, etc)** | - Steps is piloting this with Harborview utilizing the syndromic surveillance system to track asthma ED visits.  
  - This effort will involve 2 phases: (1) establishing a surveillance system and (2) setting up a case management system. | - Using the syndromic surveillance system, EPE is now getting de-identified data from nearly all emergency departments (Valley is not yet included). They are working on improving the quality of the data before it can be useful. |
| **3. Healthy indoor air standards adopted and enforced** | - Jim K and Kris E met with Mark Miloscia, Chair of the House Housing Committee. If we could organize 10 people to advocate for this in Olympia we would have high likelihood of passing new standards. | - At the last legislative session, Senate Bill 59 passed. This law requires that landlords notify tenants of mold in rental housing. It is only general and informational. It does not require that landlords inform tenants of any mold hazards on their property or that they mitigate them. DOH developed the fact sheet.  
  - David Williams has had discussions with the City of Seattle about their interest in developing an initiative on indoor air quality and health. |
| **4. Improve linkages between schools and clinics (increase use of action plans)** | - Jill Lewis is reviewing the “beginning of the year” forms. Carolyn and Jill will revise existing asthma questions with input from the KCAF Schools Committee. One of the revisions will request that parents request asthma action Plans from their provider. Note: schools are not in the position to require action plans, this would require legislation or a mandate from OPSI.  
  - Carolyn will discuss with Jill if there is a possibility that the schools could require an action plan with self-carry review.  
  - Suggestions for providers: (1) have name of school and fax number on | - Carolyn reported that she and Jill edited the Beginning of the Year form that encourages parents to provide action plans to the school. She emphasized that the school can’t mandate that parents provide them because they need to be developed by providers.  
  - They have also drafted a letter for parents regarding the self-carry law.  
  - Carolyn and Jill would like assistance with standardizing asthma definitions across school districts. KCAF will help with this. |
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<td>action plan so it is easy to fax to schools, (2) don't require one specific action plan, (3) include the HIPAA release with the forms.</td>
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<td>5. Political and institutional awareness (combined with raising awareness of KCAF through networking with organizations, coalitions and elected officials).</td>
<td>• Public Relations committee is developing materials for on outreach/PR plan.&lt;br&gt;• SC needs to identify a plan for reaching out to policy makers.</td>
<td>• No update.</td>
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<tr>
<td>6. Reduce exposure to 2nd-hand smoke (increase number of smoke-free workplaces, ban smoking in all public places)</td>
<td>• American Lung Association is the lead for this. ALA in partnership with Breath Easy Washington, American Cancer Society, and others is launching the Healthy Indoor Air Initiative I-901 (2nd hand smoke bill) on 2/17. Volunteers will collect signatures.&lt;br&gt;• We could link with the tobacco coalition (working with unions).</td>
<td>• Aileen reported that ALAW got enough signatures for I-901 to get on the ballot</td>
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<tr>
<td>7. Expand use of the Planned Care Model (PCM)</td>
<td>• We will build on lessons learned from the Learning Collaborative. We will look into ways to support clinics in implementing elements of the PCM, such as developing or promoting a manual with limited tech assistance.</td>
<td>• Our Merck proposal addresses this through Creating a Medical Home for Asthma.</td>
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Notes:  
1 - Priority areas directly related to policy highlighted in bold