



### Health Care Mitigation Grants Program Final Report

<b>Grant Recipient:</b>	ALSAA-Asthma Life Skills Academy for Adults, Long Beach Health Department
<b>Contract Number:</b>	MOU-HD7834
<b>Award Amount:</b>	\$798,622
<b>Date Submitted:</b>	October 30, 2014

<b>Total POLB Expenditures:</b>	\$798,622
<b>Total Number Beneficiaries Served:</b>	2242
<b>Please describe how you determined the number of beneficiaries served.</b>	
<ul style="list-style-type: none"> <li>• 261 adults and seniors enrolled in the ALSAA In-home case management program</li> <li>• 303 adults and seniors participated in ALSAA “How to create an asthma friendly home environment” workshop</li> <li>• 278 adults and seniors took the ALSAA online bus pass exchange program</li> <li>• 1400 families visited the ALSAA outreach table at the annual Long Beach Asthma Resource Fairs held in May 2012, May 2013 and May 2014.</li> </ul>	

<b>Provide a narrative description of the project.</b>
<p>The goals of the ALSAA Program (Asthma Life Skills Academy for Adults) are to improve the health and well-being of adults and seniors with asthma and assist communities primarily residing in Zones 1A and 2A to effectively manage their asthma. Implementation of the ALSAA Program afforded the Health Department to strengthen its asthma health services to adults and seniors in Long Beach. Because asthma is a chronic condition, the ALSAA Program was designed as an advanced asthma case management program and emulated the intensive in-home case management program conducted by the Health Department’s CAARE (Community Asthma and Air Quality Resource Education) Program. These asthma programs provide a comprehensive approach in facilitating high quality, cost effective, in-home and clinic based medical care, health education and outreach for adults and seniors with asthma in Long Beach. The ALSAA Program adopted the American Lung Association’s (ALA) “Breathe Well, Live Well: An Asthma Management Program for Adults” because it is a proven curriculum where adults with asthma learn real hands-on skills to effectively manage their asthma and focuses on reducing illness and disability due to asthma by improving asthma knowledge and self-management skills.</p> <p><b>The ALSAA Program primary objectives consisted of:</b></p> <ol style="list-style-type: none"> <li>a. The in-home case management interventions of the ALSAA Program were conceived to inspire long-term behavior changes in adults and seniors with asthma around preventive care practices. Completion of an earlier intervention--the Community Asthma and Air Quality Resource Education (CAARE)—gave many ALSAA participants the tools needed to improve their asthma symptoms from poorly-controlled, crisis levels to well-controlled and managed. However, many CAARE participants struggled to consistently employ effective asthma management practices to maintain control of their asthma symptoms in the long-term. These practices are critically important for long-term well-being because ALSAA participants reside in Long Beach communities with poor air quality that are adjacent to major international shipping ports, major freeways, oil refineries, truck corridors, and rail yards. Enrollment of adults and seniors (aged 55 or older) with asthma who reside in Zones 1A, 2A and 3A into the in-home case management</li> </ol>

intervention. The in-home asthma case management program is an intensive intervention wherein one-on one, in-home educational visits are employed to assess participants' social support and medical needs, decrease environmental triggers within the home, and educate residents on asthma treatment and asthma care sources. Participants received spacers, peak flow meters, and a Green Kit bucket containing non-toxic cleaning supplies such as Murphy's Oil Soap, vinegar, boric acid, gloves, washable cloths and recipe guide, along with a demonstration on how to use the alternative cleaning supplies to empower them to decrease asthma triggers in their home. Follow-up assessment activities took place three months after the initial assessment and visits included an administration of the assessment instruments (i.e., Client Assessment Survey, Mini Asthma Quality of Life Questionnaire, and Asthma Home Environment Checklist).

- b. ALSAA team members facilitated community workshops on "*How to Create an Asthma Friendly Home Environment*" for community members. These quarterly community-based workshops utilized hands-on demonstrations, role-play activities, and lectures to teach the "*7 Principles of a Healthy Home*" developed by the U.S. Department of Housing and Urban Development. Pre- and post-workshop questionnaires were administered to assess knowledge gains from these workshops; and
- c. The in-home bus pass/reduction of asthma triggers education exchange program where adults and seniors received a 30 day bus pass by completing an education session about asthma, ways to reduce their contribution to emissions, and minimize exposure to air pollutants. The online teaching center will be monitored and evaluated to determine program's efficiency and effectiveness.

The implementation of the ALSAA Program provided many benefits to adults and seniors with asthma in Long Beach. ALSAA Program services extended asthma health education services and continued to empower Long Beach residents in effectively managing their asthma which is a chronic condition and requires constant attention of eliminating triggers and making behavioral changes that will produce positive health outcomes. With continued funding and a strong partnership with the Port of Long Beach, the Health Department is committed to providing excellence in its asthma health services to the community and will continue to strengthen its partnership with local and regional asthma providers.

**Provide a narrative discussion of the actual project results (outputs and outcomes) based on the metrics defined in your workplan. Please describe the methodology used for any quantitative results. Outcomes and outputs may include, but are not limited to:**  
Number of filters installed;

- Number of people served;
- Number of educational sessions held;
- Decrease in missed school/work days;
- Decrease in hospitalizations;
- Improvements in quality of life;
- Other

**Use additional sheets if necessary.**

**EVALUATION SUMMARY FOR IN-HOME ASTHMA CASE MANAGEMENT  
ASTHMA LIFE SKILLS ACADEMY FOR ADULTS (ALSAA)  
OCTOBER 1, 2011 – SEPTEMBER 30, 2014**

The educational and case management intervention of the ALSAA Program was designed to empower and motivate adults with asthma to adopt asthma wellness promotion behaviors and make tangible changes in their home environment to create a healthier home environment. Focal health outcome areas included: emergency health care utilization, asthma symptoms frequency and severity, and asthma preventive care and management behaviors. Assessment of these outcomes began with administration of the Client Assessment Survey (CAS), Asthma Home Environment Checklist (HEC), and the Mini Asthma Quality of Life Questionnaire (Mini-AQLQ) at each of the home visits conducted by the ALSAA Community Health Workers.

Two hundred sixty-one (261) adults with asthma enrolled in the ALSAA Program. A majority (121) of enrolled persons reside in Zone 1A, 87 in Zone 2A, and 54 in Zone 3A. Of the enrolled clients, 257 (98%) completed the two home visits for a health status assessment, asthma education, and case management. To date, 254 (97%) clients have completed the three-month follow-up assessment and the health outcomes of this cohort are summarized in this report. Nearly three-quarters (74%) were female and the average age of respondents is 45 years. The average age at asthma diagnosis was 27 years and respondents lived with asthma for nearly 19 years on average. The respondent cohort primarily identified as Hispanic/Latino (72%), nearly 16% as African American/Black, 6% as White/Caucasian, 3% as Asian American/Pacific Islander, and 2% as Native American/Alaskan Native. The largest educational groupings were high school graduates (28%), persons who completed elementary education (24%), persons who completed some college (17%), completed some high school (17%), college graduates (5%), and persons with post-baccalaureate degrees (2%). At enrollment, nearly 28% reported not having medical insurance and this percent increased to nearly 39% at the three-month follow-up assessment as 11 people obtained coverage and another 13 lost coverage.

Evaluation of the ALSAA interventions utilized a quasi-experimental design that compared health outcomes and asthma management practices at enrollment (i.e., Baseline) and at the assessment three-months after completion of the intervention. A key emphasis of these analyses is comparison of the percent of clients exhibiting the desired health outcomes and practices at Baseline and at the Follow-up assessment. As stated earlier, 254 clients have completed the intervention and three-month follow-up assessment thus far and their health outcomes are detailed in this report.

At the three-month post-intervention assessment:

- Nearly 92% (74% at Baseline) of clients reported well-controlled (i.e., 2 or fewer days during past 14 days) daytime asthma symptoms.
- More than 93% (76% at Baseline) of clients reported well-controlled (i.e., 2 or fewer nights during past 30 days) nighttime asthma symptoms.
- More than 82% (34% at Baseline) of clients reported awaking 2 or fewer nights with asthma symptoms during the past 30 days.
- 96% (87% at Baseline) of clients reported proper reliance (i.e., two or fewer uses per week) on quick-relief medications.

- More than 1% [2 of 151; 21% (30 of 146) at Baseline] of employed clients reported missing one or more days of work at Follow-up.
- More than 2% [1 of 46; 14% (11 of 77) at Baseline] of clients who attended school reported any missed days of school at the time of follow-up.
- Less than 1% [1 of 146; 6% (10 of 157) at Baseline] of employed caregivers reported missing one or more days of work at Follow-up.
- 5% (22% at Baseline) of our clients reported visiting an emergency department for treatment of asthma symptoms.
- 2% (16% at Baseline) of our clients reported being hospitalized for treatment of asthma symptoms.
- 7% (38% at Baseline) of our clients reported an unscheduled visit to a doctor or clinic to treat acute asthma symptoms.
- More than 77% (85% at Baseline) of clients reported having one or more asthma wellness visits.
- More than 24% (38% at Baseline) of clients reported taking an asthma controller medication daily.
- On an objective assessment of quality of life with asthma, nearly 78% of clients reported an improved score.
- More than 84% (92% at Baseline) of clients had one or more behavior-based asthma triggers evident in their residential environment.
- Nearly 3% (11% at Baseline) of clients had evidence of smoking-related triggers in their home environment.

#### ***Outcome Evaluation Summary***

The ALSAA home visits have made considerable progress toward stated health outcome goals for adults with asthma. Program data indicate that proper implementation of the CHW model has contributed to more than half of clients gaining control of asthma symptoms and more than three-quarters increasing their quality of life with asthma. Reliance on emergency and inpatient services for treatment of acute asthma symptoms declined more than 90%. There is room for improvement in the areas of asthma wellness and preventive health behaviors as the percent of clients reporting an asthma wellness visit with a physician and adherence to a daily asthma controller medication declined over the intervention timeline. Finally, a variety of persistent, behavior-based asthma triggers in the home environment of a considerable majority of clients.

#### **ALSAA LIFE SKILLS ACADEMY SESSIONS**

To date, 50 ALSAA clients and 12 guests attended the ALSAA Life Skills Academy. Attendees at the 7 quarterly academy sessions provided 48 completed for analyses. Attendees completed a questionnaire to assess their knowledge levels before and after the session and their perceived empowerment to implement the strategies and techniques presented during the group session. In addition, attendees completed an anonymous evaluation form to give assess their perceived knowledge changes and provide feedback on presentation content. A summary of these assessments follows:

- 45 usable questionnaire sets submitted
- 92% were Long Beach residents.
- 61% were female.
- 69% identified as Hispanic/Latino, 13% as White/Caucasian, 7% as African American/Black, 2% as Asian American/Pacific Islander, and 2% as multiethnic.
- 45 (100%) adults had asthma.
- 3 (7%) adult with asthma lived with someone who smoked inside their home.
- 18 (40%) adults with asthma were exposed to drifting smoke inside their home.
- 149 children (M = 3.5) lived in respondents' home.
- 42 (94%) residences have one or more children with asthma.

- 76 (51%) of the children have asthma.
- 3 (7%) households of children with asthma lived with someone who smoked inside their home.
- 17 (38%) households of children with asthma were exposed to drifting smoke inside their home.
- Overall, respondents provided more correct answers at post-test ( $M = 6$ ) when compared to pre-test ( $M = 5$ ). This change in assessment scores was statistically significant ( $p = .03$ ) and was likely due to change in knowledge.
- 40% of respondents increased their knowledge, 49% of respondents retained their knowledge, and 11% decreased their knowledge.
- Overall, attendees reported significant increases in empowerment following the academy session.
- 31% reported increased empowerment and 42% remained empowered.

#### *GROUP SESSION EVALUATION*

- 58 submitted forms
- 98% reported increased knowledge of asthma and its triggers.
- 95% reported increased knowledge of indoor air quality issues.
- 97% reported increased knowledge of outdoor air pollution issues.
- 97% reported increased knowledge of environmental health issues.
- 95% reported increased knowledge of non-toxic cleaning methods.
- 95% reported increased knowledge of city-sponsored health services.
- 100% of attendees believed that the knowledge gained at the workshop will benefit their home environment.
- The presenters were rated 9.6 on a 10-point scale.
- Workshop content was rated 9.5 on a 10-point scale.
- The overall workshop was rated 9.6 on a 10-point scale.

#### **AIR QUALITY EDUCATION AND BUS PASS EXCHANGE**

Two hundred seventy-eight Long Beach residents completed the education exchange program to receive a one-month, Long Beach Transit Bus Pass. Nearly two-thirds of respondents were female and the average age of all respondents was slightly more than 41 years. In addition, 77 (28%) of respondents reported being diagnosed with asthma, nearly 68 (24%) reported living with a child that has asthma, 55 (20%) reported living with another adult who has asthma, and 14 (5%) reported living with a senior citizen who has asthma. Overall, the education and information resources provided during the training could impact a total of 905 Long Beach residents, 265 of whom have asthma.

Respondents answered an average of 8 out of 15 questions correctly in an assessment of knowledge. More than 87% respondents reported subjective knowledge increases following the educational session. Specifically,

- 92% reported increased knowledge of asthma and its triggers,
- 94% increased knowledge of indoor air quality,
- 95% increased knowledge of outdoor air pollution,
- 95% increased knowledge of environmental health issues
- 90% increased knowledge of non-toxic cleaning methods.

To assess whether the bus pass education exchange component was meeting respondents' needs, we asked whether they received the information that they hoped to receive. In summary,

- 82% were satisfied with the information they received about how to manage asthma
- 87% received information on how to reduce asthma triggers
- 90% received information on how air pollution affects your health
- 84% received information about available asthma resources in the City of Long Beach.

Eighty-seven percent expressed a desire for the bus pass education exchange to continue and 60% expressed a desire to receive additional information from the ALSAA team about asthma, environmental

triggers and air pollution.

### **COMMUNITY WORKSHOPS**

The ALSAA team has facilitated 13 community education workshops in the targeted geographic zones. These workshops provide an opportunity for those who are not enrolled in the in-home case management program to learn more about asthma, air pollution, and its health effects. Three-hundred three (303) area residents attended one of the 13 workshops implemented in the targeted geographic zones. These workshops are designed to educate and empower residents to reduce environmental hazards in the interior and exterior of their home that may contribute to or exacerbate asthma, allergies, and respiratory illnesses. In addition, these workshops were designed to engage and connect the community to available asthma care and air pollution resources. The workshop provides information about:

- Indoor and outdoor air quality issues
- Indoor and outdoor environmental health hazards
- Non-toxic cleaning agents and methods
- Basic information about asthma and allergies
- Available supportive programs and services

The results from those 303 attendees submitted at least one of the survey instruments. Results of the complete usable survey sets are detailed below.

- 228 usable survey sets
- 92% were Long Beach residents.
- 57% were female.
- 47% identified as Hispanic/Latino, 17% as Asian American/Pacific Islander, 13% as White/Caucasian, 13% as African American/Black, and 3% as multiethnic.
- 50% were 18-54 years of age, 22% were 55+, and 2% were less than 18 years of age.
- 30 (11%) adults had asthma.
- 15 (6%) adults said that someone smokes inside their home.
- 73 (28%) adults reported secondhand smoke drifting into their home.
- 3 (1%) adults with asthma lived with someone who smoked inside their home.
- 13 (5%) adults with asthma were exposed to drifting smoke inside their home.
- 613 children ( $M = 2.6$ ) lived in respondents' home.
- 75 (28%) residences have one or more children with asthma.
- 115 (20%) of the children have asthma.
- 4 (3%) households of children with asthma lived with someone who smoked inside their home.
- 20 (13%) households of children with asthma were exposed to drifting smoke inside their home.
- Overall, respondents increased number of correct answers at post-test (8 out of 10) from pre-test (7 out of 10). This change in assessment scores was statistically significant ( $p < .001$ ).
- 41% of respondent demonstrated increased knowledge, 45% retained their knowledge, and 15% exhibited a knowledge decrease.
- Overall, attendees reported being significantly more empowered following the workshop.
- 49% reported increased empowerment, 35% remained empowered, and 7% reported decreased empowerment.

### **WORKSHOP EVALUATION**

- 232 submitted evaluation forms
- 97% reported increased knowledge of asthma and its triggers.
- 97% reported increased knowledge of indoor air quality issues.
- 96% reported increased knowledge of outdoor air pollution issues.
- 96% reported increased knowledge of environmental health issues.
- 97% reported increased knowledge of non-toxic cleaning methods.
- 95% reported increased knowledge of city-sponsored health services.

- 91% of attendees believed that the knowledge gained at the workshop will benefit their home environment.
- The presenters were rated 9.6 on a 10-point scale.
- Workshop content was rated 9.6 on a 10-point scale.
- The overall workshop was rated 9.6 on a 10-point scale.

The general goals of the community education workshops were achieved as most participants demonstrated increased knowledge of the subject matter and a perceived ability to implement the skills and knowledge they acquired. Ratings of the presenters and workshop content were also very favorable.

#### **OUTCOME EVALUATION SUMMARY**

Adults with asthma enrolled in the ALSAA Program have made considerable progress toward our stated health outcome goals. Program data indicate that proper implementation of the Community Health Worker program has contributed to more than 9 out of 10 clients gaining control of asthma symptoms; nearly 9 out of 10 increased their quality of life with asthma; and emergency medical service visits for acute asthma symptoms declined from 400 during the 6 months prior to enrollment to only 40 visits during the intervention. While daily controller medication compliance increased over the course of the intervention, slightly less than one-fifth of clients reporting compliance. Asthma wellness visit compliance with a physician was relatively high and decreased slightly over the course of the intervention. The relatively high compliance rates are somewhat contrary to those found in many other chronic disease prevention and management studies, however the declining compliance rates are largely consistent with chronic disease prevention studies. Unfortunately, as chronic disease symptom frequency and severity decline, so does the vigilance to maintain preventive behaviors. It is important that clients receive educational prompts and reminders about the value of these preventive measures, particularly when they feel well. There is considerable room for improvement in preventive health behaviors as nearly 90% of home environments have one or more behavior-based asthma triggers; however, in-home smoking and secondhand smoke exposure are rare within our client cohort. Behavior change in these areas can be slow and the degree of resistance can be high. There is evidence to suggest that clients' extended relationship with a community health worker following the intervention increases the likelihood that preventive care measures become habitual.