



Health Care Mitigation Grants Program Final Report

Grant Recipient:	ALSAA-Asthma Life Skills Academy for Adults, Long Beach Health Department
Contract Number:	MOU-HD8322
Award Amount:	\$221,600
Date Submitted:	October 29, 2015

Total POLB Expenditures:	\$221,600
Total Number Beneficiaries Served:	1343
Please describe how you determined the number of beneficiaries served.*	
<ul style="list-style-type: none"> • 87 adults and seniors enrolled in the ALSAA In-home case management program • 85 adults and seniors participated in ALSAA “How to create an asthma friendly home environment” workshop • 135 adults and seniors took the ALSAA online bus pass exchange program • 871 adults, seniors and children visited the ALSAA outreach table at the annual Long Beach Asthma Resource Fair held in May 2015 • 165 LBUSD students took the ALSAA online bus pass exchange program <p><i>*Please note that these numbers reflect 2014-2015 ALSAA program activities.</i></p>	

<p>Provide a narrative description of the project.</p> <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. 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 and seniors 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>Additionally, the ALSAA program reached out to teens this grant period with a bus pass program designed to give high school and middle school teens the opportunity to learn about air quality and how it affects their health. And lastly, ALSAA reached out to Long Beach Unified School District 4th grade students with a program designed to teach them about asthma, asthma triggers and air quality through an interactive program that would deputize them as “Junior Health Inspectors”.</p> <p>The 2014-2015 ALSAA Program Objectives included the following:</p> <ol style="list-style-type: none"> a. Recruit and enroll an additional 80 adults and seniors with asthma who reside in Zones 1A, 2A, and 3A into the in-home asthma case management intervention program: 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. 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. 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. **Conduct five (5) ALSAA community workshops on “How to Create an Asthma Friendly Home Environment” for 120 community members who reside in Zones 1A, 2A and 3A:** ALSAA team members facilitated workshops at local elementary schools, housing communities and churches. The workshop included information on asthma and the health impacts of both indoor and outdoor air pollution. Pre- and post-workshop questionnaires were administered to assess knowledge gains from these workshops.
- c. **Continue to administer the in-home bus pass/air quality online education program to an additional 120 adults and seniors living and commuting in Zones 1A, 2A, and 3A of Long Beach:** 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.
- d. **Deputize 800, 4th grade students in Long Beach to become Junior Health Inspectors as part of the ALSAA Jr. Air Quality Matters (AQM) project residing in Zones 1A, 2A, and 3A:** The “Be a Junior Health Inspector – Air Quality Matters” program is tailored for students to learn about asthma and outdoor and indoor air quality issues. Through an interactive power point presentation, the students learn to identify asthma triggers in the home and are guided to find ways to prevent and or eliminate them from their homes.
- e. **Promote and administer the in-home bus pass/air quality online education program to 160 high school students in Long Beach residing in Zones 1A, 2A and 3A also as part of the ALSAA Jr. Air Quality Matters project:** The online bus pass/reduction of asthma triggers education exchange program teaches students about asthma and air pollution. Students must pass an online exam in order to qualify for the packet of five 1-day Long Beach Transit bus passes.

The implementation of the ALSAA Program provided many benefits to adults, seniors, and children residing in Long Beach. ALSAA Program services extended asthma health education services and continued to inform and educate residents on the health impacts of air pollution and 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.

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.

**CUMULATIVE EVALUATION SUMMARY FOR IN-HOME ASTHMA CASE MANAGEMENT
ASTHMA LIFE SKILLS ACADEMY FOR ADULTS (ALSAA)
OCTOBER 1, 2011 – SEPTEMBER 30, 2015[#]**

[#]The following findings reflect cumulative data of all applicable ALSAA program activities from 2011-2015, unless specified.

The educational and case management intervention of the ALSAA Program was designed to empower and motivate adults and seniors 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.

Three hundred forty-four (344) adults with asthma enrolled in the ALSAA Program. A majority (152) of enrolled persons reside in Zone 1A, 131 in Zone 2A, and 65 in Zone 3A. Of the enrolled clients, 338 (98%) completed the two home visits for a health status assessment, asthma education, and case management. In addition, 335 (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 47 years with nearly one-third being aged 55 years or more. The average age at asthma diagnosis was 26 years and respondents lived with asthma for nearly 21 years on average. The respondent cohort primarily identified as Hispanic/Latino (72%), nearly 17% 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 (18%), completed some high school (16%), college graduates (4%), and persons with post-baccalaureate degrees (2%). At enrollment, 23% reported not having medical insurance and this percent increased to 24% at the three-month follow-up assessment as 13 people obtained coverage and another 14 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. As stated earlier, 344 clients have completed the intervention and three-month follow-up assessment and their health outcomes are detailed in this report.

Percent of clients with good control of asthma symptoms and minimal sleep disturbances resulting from nighttime asthma symptoms:

- Slightly more than 90% (74% at Baseline) of clients reported well-controlled (i.e., 2 or fewer days during past 14 days) daytime asthma symptoms;
- More than 89% (75% at Baseline) of clients reported well-controlled (i.e., 2 or fewer nights during past 30 days) nighttime asthma symptoms;
- Nearly 77% (36% at Baseline) of clients reported awaking 2 or fewer nights with asthma symptoms during the past 30 days; and
- 96% (89% at Baseline) of clients reported proper reliance (i.e., two or fewer uses per week) on

quick-relief medications.

Collateral Impacts:

- More than 1% [5 of 195; 21% (34 of 188) at Baseline] of employed clients reported missing one or more days of work at Follow-up;
- More than 2% [2 of 62; 14% (14 of 95) at Baseline] of clients who attended school reported any missed days of school at the time of follow-up; and
- Less than 1% [1 of 187; 6% (14 of 211) at Baseline] of employed caregivers reported missing one or more days of work at Follow-up.

Emergency Services Utilization:

- 5% (22% at Baseline) of our clients reported visiting an emergency department for treatment of asthma symptoms;
- 2% (17% at Baseline) of our clients reported being hospitalized for treatment of asthma symptoms;
- 8% (40% at Baseline) of our clients reported an unscheduled visit to a doctor or clinic to treat acute asthma symptoms;
- Nearly 78% (86% at Baseline) of clients reported having one or more asthma wellness visits;

Prevalence of asthma medication and self-management behaviors:

- Nearly 30% (38% at Baseline) of clients reported taking an asthma controller medication daily;
- On an objective assessment of quality of life with asthma, nearly 79% of clients reported an improved score;
- Nearly 86% (91% at Baseline) of clients had one or more behavior-based asthma triggers evident in their residential environment.
- More than 12% of clients were able to eliminate behavior-based asthma triggers and 36% were able to reduce the number of behavior-based asthma triggers.
- Nearly 4% (10% at Baseline) of clients had evidence of smoking-related triggers in their home environment.
- Nearly 8% of clients were able to eliminate smoking-related triggers and less than 1% were able to reduce the number of smoking-related triggers.

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 87%.

ALSAA LIFE SKILLS ACADEMY SESSIONS – (conducted in 2011-2014)

To date, 123 ALSAA clients and 12 guests attended the ALSAA Life Skills Academy. Attendees at the 8 quarterly academy sessions provided 52 completed data sets 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:

- 52 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 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

Four hundred forty-two (442) Long Beach residents (277 adults, 165 students) completed the education exchange program to receive Long Beach Transit Bus Passes (program activities completed in 2014-2015 only). Four hundred thirteen (413) respondents provided complete data and are the subject of the following outcomes. Two-thirds of respondents were female and the average age of all respondents was slightly more than 40 years. In addition, 111 (27%) of respondents reported being diagnosed with asthma, nearly 103 (25%) reported living with a child that has asthma, 91 (22%) reported living with another adult who has asthma, and 29 (7%) reported living with a senior citizen who has asthma. Overall, the education and information resources provided during the training could impact a total of 1389 Long Beach residents, 417 of whom have asthma.

Respondents answered an average of 8 out of 15 questions correctly in an assessment of knowledge. More than 88% respondents reported subjective knowledge increases following the educational session. Specifically,

- 94% reported increased knowledge of asthma and its triggers,
- 94% increased knowledge of indoor air quality,
- 95% increased knowledge of outdoor air pollution,
- 96% increased knowledge of environmental health issues
- 91% 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,

- 84% were satisfied with the information they received about how to manage asthma
- 86% 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-nine percent (89%) expressed a desire for the bus pass education exchange to continue and 62% 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 20 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 eighty-eight (388) area residents attended one of the 20 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 388 attendees submitted at least one of the survey instruments. Results of the complete usable survey sets are detailed below.

- 368 usable survey sets
- 94% were Long Beach residents.
- 60% were female.
- 45% identified as Hispanic/Latino, 18% as Asian American/Pacific Islander, 15% as White/Caucasian, 12% 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.
- 36 (10%) adults had asthma.
- 18 (5%) adults said that someone smokes inside their home.
- 99 (27%) adults reported secondhand smoke drifting into their home.
- 5 (1%) adults with asthma lived with someone who smoked inside their home.
- 29 (8%) adults with asthma were exposed to drifting smoke inside their home.
- 920 children ($M = 2.5$) lived in respondents' home.
- 110 (30%) residences have one or more children with asthma.
- 220 (24%) of the children have asthma.
- 11 (3%) households of children with asthma lived with someone who smoked inside their home.
- 18 (16%) 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 ($p < .001$).
- 42% of respondent demonstrated increased knowledge, 45% retained their knowledge, and 13% exhibited a knowledge decrease.
- Overall, attendees reported being significantly more empowered following the workshop.
- 50% reported increased empowerment, 35% remained empowered, and 7% reported decreased empowerment.

WORKSHOP EVALUATION

- 477 submitted evaluation forms

- 98% reported increased knowledge of asthma and its triggers.
- 97% reported increased knowledge of indoor air quality issues.
- 97% 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.
- 93% reported increased knowledge of city-sponsored health services.
- 92% 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.

JUNIOR HEALTH INSPECTORS

The senior health educator presented the “It’s Up to You” Be a Junior Health Inspector” curriculum at 5 elementary schools with 21 classroom cohorts in the Long Beach Unified School District. The interactive educational presentation highlighted housing-based health hazards and encourages children to be involved in identifying health hazards in their homes and the surrounding environment. The trainer distributed the pre-workshop assessment survey to teachers one week prior to the workshop and collected these surveys when she arrived at the school site to facilitate the training. Educational components in the curriculum included: asthma triggers, lead poisoning and unintentional injury risks, and strategies to eliminate or reduce health hazards in the home environment. At the conclusion of the workshop, all students were “deputized” and provided with materials to inspect their homes for the hazards covered during the workshop and to engage their parents in a dialogue about how to improve the health and safety factors in their home. One week after the workshop, their teachers administered the knowledge assessment survey and returned it to the trainer.

Eight hundred twenty-one (821) 4th grade students attended the Junior Health Inspector workshops. Nearly 34% of the junior health inspectors reported that someone in their household has asthma, nearly 22% lived with a smoker, and nearly 14% reported exposure to secondhand smoke inside of their home. More importantly, nearly 34% of the households with a smoker also have a resident with asthma and 40% of the homes with secondhand smoke also have a resident with asthma.

KNOWLEDGE ASSESSMENT

Junior Health Inspectors demonstrated increased knowledge of the educational topics following the educational workshop. Pre-workshop knowledge scores averaged 6 points (on a 10-point scale) and increased to 7 points following the workshop. The statistical significance of this difference was verified by a paired samples t-test, $t(668) = -12.4, p < .001$. Further analyses reveal that nearly 60% of students improved their knowledge score after completing the educational workshop.

HOME-BASED HAZARDS

During the workshop students were asked to share the knowledge they gained with their family and to perform an informal inspection of their home environment. Their inspections revealed multiple health and safety hazards in their home environment (see Table X). Weekly cleaning practices (e.g., vacuuming, dusting, and mopping) were employed in more than half of the residences. Nearly 40% of homes did not have smoke detectors installed and this represents a violation of city housing and safety codes. The post-workshop increases in the prevalence of some of the hazards are further evidence of knowledge gained by the students. As expected many of the children were not as aware of health and safety hazards in their home prior to training and the increased reporting of hazards is a likely outcome of increased knowledge and awareness.

Item	Pre-Education	Post-Education
Talked with parents about health hazards in your home.	50.1%	54.7%
Does not vacuum at least once a week	54.3%	58.9%
Does not dust at least once a week	41.9%	51.6%
Mop the floors at least once a week	64%	70.9%
Use bath mats in the tub	72.5%	79.2%
Torn window screens	10%	13.2%
Cockroaches or mice	27.5%	31.5%
Cat or dog inside the home	35.7%	36%
Overflowing trashcan	17%	14.8%
Cleaning supplies stored with food	52.3%	54.6%
No smoke detector	55.9%	59.9%
Secondhand smoke inside the home	12.1%	13.6%

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 484 during the 6 months prior to enrollment to only 62 visits during the intervention. Controller medication compliance decreased over the course of the intervention, with more than two-thirds not taking a daily controller medication. Asthma wellness visit compliance with a physician was relatively high and decreased 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.