

# **EXHIBIT C**

**CENTRAL CALIFORNIA ASTHMA  
COLLABORATIVE**

**CENTRAL CALIFORNIA ASTHMA**  
**COLLABORATIVE**

**Asthma Impact Model Madera County**



### Supplemental Environmental Project Proposal Form

**Directions:** Use this form to submit detailed supplemental environmental project (SEP) proposals. Complete this SEP proposal form cover page, and attach the supplementary proposal documents as requested below. Questions may be directed to [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov).

Project proposal submissions shall be directed to either [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov) or mailed to:

Air Resources Board  
Enforcement Division  
ATTN: SEP Proposal  
P.O. Box 2815  
Sacramento, CA 95812-2815

#### Organization Contact Information

Organization Name: Central California Asthma Collaborative  
Contact Name: Kudzai Nyandoro  
Contact Title: Associate Director  
Address: 4991 E. McKinley Ave, suite 109  
City: Fresno State: CA ZIP: 93727  
Phone: 559-272-4874 Ext. 14 Email: kudzai.nyandoro@centralcalasthma.org

- Organization Description:** Provide an attachment with a brief history of the organization (mission, vision, and goals). Indicate whether you are a nonprofit 501(C)(3), government or local agency, tribal government, small business, etc.
- Organization Experience:** Provide an attachment with information on the organization’s ability and capacity to complete the proposed project. Describe previous project management experience, including a list of completed projects/dates and who funded the project.

#### Additional Project Information – Attachment Checklist

- Project Name:** Provide the project name on the submission attachments.
- Project Description:** Provide a scope of work for the project and explain how the proposed project will benefit air quality. If applicable, explain how the project benefits disadvantaged communities.
- Project Location(s):** Provide the address(es) or GPS coordinates of where the proposed project will take place.
- Emission Benefits:** For projects with a direct emissions benefit, provide an analysis of the emissions prevention/reduction which results from the proposed SEP project.
- Project Timeline:** Include a timeline for project implementation. Provide a breakdown of the major milestones required to implement the project, including completion dates.
- Itemized Budget:** Provide a detailed list of what is needed to complete the project and the funding needed for each item. Cost breakdown should include capital, operational, and administrative costs.

**Acknowledgment.** By checking this box, you verify that all information given to ARB about your organization and your proposed project is factual.

Submitter Name: Kudzai Nyandoro Date: 07/15/2019  
Submitter Title: Associate Director

**Organization Description:**

Central California Asthma Collaborative (CCAC), a 501(c)3 non-profit organization, was established in 2011 by a group of healthcare professionals to provide education and direct services, build regional capacity, and advocate for sensible policies to improve health through the prevention and management of chronic disease. This is accomplished through the development of a network of stakeholders who work in a regional capacity to improve health and the quality of life for San Joaquin Valley residents affected by air pollution, asthma and other chronic health issues.

**Organization Experience:**

CCAC emphasizes the importance of healthy indoor air quality through its multi-component intervention program, the Asthma Impact Model (AIM). We completed the initial three-year pilot in April 2016 to develop and evaluate the AIM program in Fresno and Madera counties with funding from The California Endowment. The program successfully assists families to reduce asthma triggers and improve their overall home environment. Additionally, the program improves asthma disease management and significantly reduces asthma emergencies among high-risk populations. Referrals come from collaborating clinical partners, such community health centers, health plans, physicians and other safety net providers, who provide care to the majority of low-income, uninsured and vulnerable populations in the region. Through recent SEP funding, the program has been expanded to include patients in Kern, Merced and Kings counties.

CCAC also recently completed a five-year project in partnership with the San Joaquin Valley Air Pollution Control District (SJVAPCD) named Healthy Air Living Schools (HALS) that included over 1,900 schools in more than 250 school districts across the eight counties of the San Joaquin Valley (SJV). HALS is a school-based outreach program focused on 1) education, implementation and utilization of the Air District's "Real-time Air Advisory Network" (RAAN) to ensure district staff and teachers are aware of hourly variations in air quality, 2) school district adoption of "Real-time Outdoor Activity Risk" (ROAR) guidelines that ensure school-aged children are not

**Project Name:** Asthma Impact Model for Madera County

**Project Description:**

CCAC is requesting funds to expand the AIM program to include a total of 50 low income clients, children and/or adults, who may also be undocumented and/or underinsured in Madera County. Twenty of these patients will be selected/referred by partnering agencies and will reside in Madera County. These funds will allow for one Community Health Worker to conduct home visitations and a portion of program management time to provide supervision and oversight, direct the development of the local resource partnership network, conduct quality assurance activities, and ensure all grant deliverables, reports and invoices are completed.

CCAC will leverage existing relationships with Madera County Public Health Departments, and local school districts to facilitate referrals for the AIM program. CCAC will also leverage existing relationships with county asthma coalitions to conduct outreach for the expansion and promotion of this project.

CCAC will prioritize disadvantaged communities by ensuring that under-insured and uninsured clients enrolled in the AIM, regardless of residency status, receive the complete AIM program. This includes but is not restricted to: 1) a home assessment (as needed); 2) air pollution and behavioral changes needed to reduce it 3) asthma education; 4) home remediation (as needed); 5) see a primary care physician about their asthma; 6) receive a formal asthma diagnosis; and 7) follow-up on proper medication usage. The focus for these clients will be to receive an asthma diagnosis and proper asthma medication. Understanding the impact of both out-door and in-door air pollution on health and strategic behavior changes needed to reduce both. Additionally, for those individuals solely enrolled in the AIM program they will be

**Project Location(s):** Madera County

**Emissions Benefits:**

We will provide education on the San Joaquin Valley Air Pollution Control District's "Check Before You Burn" and "Burn Cleaner" programs. AIM program staff will educate families about how they can receive rebates from replacing their wood-burning device with natural gas inserts, thereby reducing black carbon. In addition, we will connect families to the Clean Vehicle Rebate Program and this will give them an opportunity to replace their old vehicles with new Electric and/or plug-in hybrids, significantly reducing both NOx and black carbon from engine emissions. This project is focused on reducing impacts of exposure and will create indirect benefits as well as in the form of certain but unknown reductions in criteria pollutants and precursors resulting from individual and family behavior changes.

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

<b>Goal 1:</b>	The Asthma Impact Model Expansion will promote access to high-quality health care, promote advancement of health and air pollution knowledge and behaviors, and improve the management of asthma for those who would typically not have access to those services.			
<b>Target Population: Underserved patients with asthma in disadvantaged communities and unincorporated areas of Madera County.</b>				
<b>Objective</b>	<b>Activities to Reach Goal</b>	<b>Expected Measurable Outcome(s)</b>	<b>Evaluation Method(s)</b>	
Determine the presence of asthma triggers in and outside the home	<ol style="list-style-type: none"> <li>Utilize a modified EPA Home Environmental Checklist to assess asthma triggers in and outside the home.</li> <li>Conduct asthma and trigger education with patient and caregiver throughout the home assessment.</li> </ol>	<ol style="list-style-type: none"> <li>At least 50 families will receive an asthma home assessment</li> <li>Clients will receive a home visit every 3 months for 1 year.</li> <li>Obtain three commitments from the caregiver of changes that they will make in their home and/or outdoor activities to reduce air pollution</li> <li>Increased client asthma trigger knowledge will result in trigger reduction in the home.</li> </ol>	<ol style="list-style-type: none"> <li>Home will be evaluated for triggers every 3 months for 1 year.</li> <li>If client relocates, the new location will be assessed.</li> </ol>	
Determine present asthma disease management status in order to formulate appropriate intervention recommendations.	<ol style="list-style-type: none"> <li>Conduct Childhood Asthma Control Test.</li> <li>Conduct Mini Pediatric Quality of Life Test.</li> <li>Assess Disease Knowledge with Patient/Caregiver Needs Assessment.</li> <li>Medication Compliance.</li> <li>Assess client's medical home.</li> </ol>	<ol style="list-style-type: none"> <li>At least 70% decrease in asthma symptoms due to medication compliance.</li> <li>100% Increase caregiver/client confidence in asthma symptom management.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial home visit and re-evaluated every 3 months for 1 year.</li> </ol>	
Reduce the impact of home and outdoor environmental triggers on patient's asthma and improve patient's asthma disease management.	<ol style="list-style-type: none"> <li>Reduce exposure to in-home and outdoor triggers</li> <li>Ensure Medication Compliance</li> <li>Educate clients re: Air Pollution and Health 101, asthma management and medication.</li> <li>Educate clients and caregivers to utilize low cost incentives to decrease asthma symptoms.</li> </ol>	<ol style="list-style-type: none"> <li>At least 98% of Clients/Caregivers will be more confident in asthma management.</li> <li>At least 70% of Clients will see an improvement in asthma symptoms.</li> <li>At least 80% of Clients will see an increase in medication compliance.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> <li>If the need is determined, clients may require additional home visits.</li> </ol>	
Determine past and present asthma impact to evaluate program effectiveness.	<ol style="list-style-type: none"> <li>Determine past healthcare utilization due to asthma.</li> <li>Determine missed school/work days due to asthma.</li> <li>Educate clients on cost savings of reduced green house gas foot print and its impact on their health.</li> </ol>	<ol style="list-style-type: none"> <li>At least 50% decrease in hospitalizations and emergency department visits due to asthma.</li> <li>At least 70% decrease in missed school/work days due to asthma,</li> <li>At least 40% increase in Well-care visits to client's primary care physician and follow-up visits.</li> <li>At least 80% of clients/caregivers will have working knowledge of the relationship between air pollution and health.</li> <li>100% of clients will have a medical home.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> </ol>	

## Madera County AIM SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Asthma Impact Model Expansion  
**Budget Contact Name & Phone:** Kudzai Nyandoro (559) 272-4874 Ext: 14

PROJECT BUDGET	TOTAL BUDGET	In-Kind (if applicable)	Request from funder	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES</b>				
<i>(List title and % FTE on project)</i>				
<b>1 Program Community Health Worker 1.0 FTE</b>	\$ 35,360.00	\$ 3,536.00	\$ 31,824.00	Program community health worker will conduct home assessments, ensure proper medication usage, identify barriers to compliance, track outcomes, collect and report data.
<b>Program Direction and Supervision, .10 FTE</b>	\$ 10,400.00	\$ 1,040.00	\$ 9,360.00	Training, supervision and direction of program staff to ensure accountability and progress toward deliverables
<b>Benefits (32) % of Personnel)</b>	\$ 14,643.20	\$ 1,464.32	\$ 13,178.88	Taxes, Health, Dental, Vision
<b>Subtotal, Personnel/Staffing Expenses</b>	\$ 60,403.20	\$ 6,040.32	\$ 54,362.88	
<b>NON-PERSONNEL EXPENSES</b>				
<b>Office Supplies</b>	\$ 2,000.00	\$ 200.00	\$ 1,800.00	
<b>Travel</b>	\$ 4,000.00	\$ 400.00	\$ 3,600.00	Travel Reimbursement will cover travel to and from clients homes at a current federal IRS mileage reimbursement rate.
<b>Home Remediation Incentives</b>	\$ 10,000.00	\$ 1,000.00	\$ 9,000.00	Home Remediation Project coordinators will allocate on a case by case basis (Includes incentive items such as; HEPA vacuum cleaner, HVAC filters, spacers, etc.) along with training and demonstration in their use.
<b>Subtotal Program Direct Expense</b>	\$ 16,000.00	\$ 1,600.00	\$ 14,400.00	
<b>OTHER EXPENSES</b>				
<b>INDIRECT/OVERHEAD EXPENSE</b>				
<b>__15_% of Direct Expenses* (Direct Expenses = Personnel + Non-Personnel)</b>	\$ 11,460.48	\$ 1,146.05	\$ 10,314.43	
<b>TOTAL EXPENSES (Personnel + Non-Personnel + Other Costs)</b>	\$ 87,863.68	\$ 8,786.37	\$ 79,077.31	

\*Maximum of 15% of project's total direct costs

**CENTRAL CALIFORNIA ASTHMA**  
**COLLABORATIVE**

**Asthma Impact Model Merced County**



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### Organization Contact Information

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Contact Title: Associate Director  
Address: 4991 E. McKinley Ave, suite 109  
City: Fresno State: CA ZIP: 93727  
Phone: 559-272-4874 Ext. 14 Email: kudzai.nyandoro@centralcalasthma.org

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Submitter Name: Kudzai Nyandoro Date: 07/15/2019  
Submitter Title: Associate Director

**Organization Description:**

Central California Asthma Collaborative (CCAC), a 501(c)3 non-profit organization, was established in 2011 by a group of healthcare professionals to provide education and direct services, build regional capacity, and advocate for sensible policies to improve health through the prevention and management of chronic disease. This is accomplished through the development of a network of stakeholders who work in a regional capacity to improve health and the quality of life for San Joaquin Valley residents affected by air pollution, asthma and other chronic health issues.

**Organization Experience:**

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**Project Name:** Asthma Impact Model for Merced County

**Project Description:**

CCAC is requesting funds to continue the AIM program to include a total of 50 low income clients, children and/or adults, who may also be undocumented and/or underinsured in Merced County. Twenty of these patients will be selected/referred by partnering agencies and will reside in Merced County. These funds will allow for one Community Health Worker to conduct home visitations and a portion of program management time to provide supervision and oversight, direct the development of the local resource partnership network, conduct quality assurance activities, and ensure all grant deliverables, reports and invoices are completed.

CCAC will leverage existing relationships with Merced County Public Health Departments, and local school districts to facilitate referrals for the AIM Expansion program. CCAC will also leverage existing relationships with county asthma coalitions to conduct outreach for the expansion and promotion of this project.

CCAC will prioritize disadvantaged communities by ensuring that under-insured and uninsured clients enrolled in the AIM, regardless of residency status, receive the complete AIM program. This includes but is not restricted to: 1) a home assessment (as needed); 2) air pollution and behavioral changes needed to reduce it 3) asthma education; 4) home remediation (as needed); 5) see a primary care physician about their asthma; 6) receive a formal asthma diagnosis; and 7) follow-up on proper medication usage. The focus for these clients will be to receive an asthma diagnosis and proper asthma medication. Understanding the impact of both out-door and in-door air pollution on health and strategic behavior changes needed to reduce both. Additionally, for those individuals solely enrolled in the AIM program they will be

**Project Location(s):** Merced County

**Emissions Benefits:**

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

<b>Goal 1:</b>	The Asthma Impact Model Expansion will promote access to high-quality health care, promote advancement of health and air pollution knowledge and behaviors, and improve the management of asthma for those who would typically not have access to those services.			
<b>Target Population: Underserved patients with asthma in disadvantaged communities and unincorporated areas of Merced County.</b>				
<b>Objective</b>	<b>Activities to Reach Goal</b>	<b>Expected Measurable Outcome(s)</b>	<b>Evaluation Method(s)</b>	
Determine the presence of asthma triggers in and outside the home	<ol style="list-style-type: none"> <li>Utilize a modified EPA Home Environmental Checklist to assess asthma triggers in and outside the home.</li> <li>Conduct asthma and trigger education with patient and caregiver throughout the home assessment.</li> </ol>	<ol style="list-style-type: none"> <li>At least 50 families will receive an asthma home assessment</li> <li>Clients will receive a home visit every 3 months for 1 year.</li> <li>Obtain three commitments from the caregiver of changes that they will make in their home and/or outdoor activities to reduce air pollution</li> <li>Increased client asthma trigger knowledge will result in trigger reduction in the home.</li> </ol>	<ol style="list-style-type: none"> <li>Home will be evaluated for triggers every 3 months for 1 year.</li> <li>If client relocates, the new location will be assessed.</li> </ol>	
Determine present asthma disease management status in order to formulate appropriate intervention recommendations.	<ol style="list-style-type: none"> <li>Conduct Childhood Asthma Control Test.</li> <li>Conduct Mini Pediatric Quality of Life Test.</li> <li>Assess Disease Knowledge with Patient/Caregiver Needs Assessment.</li> <li>Medication Compliance.</li> <li>Assess client's medical home.</li> </ol>	<ol style="list-style-type: none"> <li>At least 70% decrease in asthma symptoms due to medication compliance.</li> <li>100% increase caregiver/client confidence in asthma symptom management.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial home visit and re-evaluated every 3 months for 1 year.</li> </ol>	
Reduce the impact of home and outdoor environmental triggers on patient's asthma and improve patient's asthma disease management.	<ol style="list-style-type: none"> <li>Reduce exposure to in-home and outdoor triggers</li> <li>Ensure Medication Compliance</li> <li>Educate clients re: Air Pollution and Health 101, asthma management and medication.</li> <li>Educate clients and caregivers to utilize low cost incentives to decrease asthma symptoms.</li> </ol>	<ol style="list-style-type: none"> <li>At least 98% of Clients/Caregivers will be more confident in asthma management.</li> <li>At least 70% of Clients will see an improvement in asthma symptoms.</li> <li>At least 80% of Clients will see an increase in medication compliance.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> <li>If the need is determined, clients may require additional home visits.</li> </ol>	
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## Merced County AIM SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Asthma Impact Model Expansion  
**Budget Contact Name & Phone:** Kudzai Nyandoro (559) 272-4874 Ext: 14

PROJECT BUDGET	TOTAL BUDGET	In-Kind (if applicable)	Request from funder	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES</b>				
<i>(List title and % FTE on project)</i>				
<b>1 Program Community Health Worker 1.0 FTE</b>	\$ 35,360.00	\$ 3,536.00	\$ 31,824.00	Program community health worker will conduct home assessments, ensure proper medication usage, identify barriers to compliance, track outcomes, collect and report data.
<b>Program Direction and Supervision, .10 FTE</b>	\$ 10,400.00	\$ 1,040.00	\$ 9,360.00	Training, supervision and direction of program staff to ensure accountability and progress toward deliverables
<b>Benefits (32) % of Personnel)</b>	\$ 14,643.20	\$ 1,464.32	\$ 13,178.88	Taxes, Health, Dental, Vision
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<b>NON-PERSONNEL EXPENSES</b>				
<b>Office Supplies</b>	\$ 2,000.00	\$ 200.00	\$ 1,800.00	
<b>Travel</b>	\$ 4,000.00	\$ 400.00	\$ 3,600.00	Travel Reimbursement will cover travel to and from clients homes at a current federal IRS mileage reimbursement rate.
<b>Home Remediation Incentives</b>	\$ 10,000.00	\$ 1,000.00	\$ 9,000.00	Home Remediation Project coordinators will allocate on a case by case basis (Includes incentive items such as; HEPA vacuum cleaner, HVAC filters, spacers, etc.) along with training and demonstration in their use.
<b>Subtotal Program Direct Expense</b>	<b>\$ 16,000.00</b>	<b>\$ 1,600.00</b>	<b>\$ 14,400.00</b>	
<b>OTHER EXPENSES</b>				
<b>INDIRECT/OVERHEAD EXPENSE</b>				
<b>__15_% of Direct Expenses* (Direct Expenses = Personnel + Non-Personnel)</b>	\$ 11,460.48	\$ 1,146.05	\$ 10,314.43	
<b>TOTAL EXPENSES (Personnel + Non-Personnel + Other Costs)</b>	<b>\$ 87,863.68</b>	<b>\$ 8,786.37</b>	<b>\$ 79,077.31</b>	

\*Maximum of 15% of project's total direct costs

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**Project Name:** Asthma Impact Model for San Joaquin County

**Project Description:**

CCAC is requesting funds to expand the AIM program to include a total of 50 low income clients, children and/or adults, who may also be undocumented and/or underinsured in San Joaquin County. Twenty of these patients will be selected/referred by partnering agencies and will reside in San Joaquin County. These funds will allow for one Community Health Worker to conduct home visitations and a portion of program management time to provide supervision and oversight, direct the development of the local resource partnership network, conduct quality assurance activities, and ensure all grant deliverables, reports and invoices are completed.

CCAC will leverage existing relationships with San Joaquin County Public Health Departments, and local school districts to facilitate referrals for the AIM program. CCAC will also leverage existing relationships with county asthma coalitions to conduct outreach for the expansion and promotion of this project.

CCAC will prioritize disadvantaged communities by ensuring that under-insured and uninsured clients enrolled in the AIM, regardless of residency status, receive the complete AIM program. This includes but is not restricted to: 1) a home assessment (as needed); 2) air pollution and behavioral changes needed to reduce it 3) asthma education; 4) home remediation (as needed); 5) see a primary care physician about their asthma; 6) receive a formal asthma diagnosis; and 7) follow-up on proper medication usage. The focus for these clients will be to receive an asthma diagnosis and proper asthma medication. Understanding the impact of both out-door and in-door air pollution on health and strategic behavior changes needed to reduce both

**Project Location(s):** San Joaquin County

**Emissions Benefits:**

We will provide education on the San Joaquin Valley Air Pollution Control District's "Check Before You Burn" and "Burn Cleaner" programs. AIM program staff will educate families about how they can receive rebates from replacing their wood-burning device with natural gas inserts, thereby reducing black carbon. In addition, we will connect families to the Clean Vehicle Rebate Program and this will give them an opportunity to replace their old vehicles with new Electric and/or plug-in hybrids, significantly reducing both NOx and black carbon from engine emissions. This project is focused on reducing impacts of exposure and will create indirect benefits as well as in the form of certain but unknown reductions in criteria pollutants and precursors resulting from individual and family behavior changes.

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

**Goal 1:** The Asthma Impact Model Expansion will promote access to high-quality health care, promote advancement of health and air pollution knowledge and behaviors, and improve the management of asthma for those who would typically not have access to those services.

**Target Population: Underserved patients with asthma in disadvantaged communities and unincorporated areas of San Joaquin County.**

<b>Objective</b>	<b>Activities to Reach Goal</b>	<b>Expected Measurable Outcome(s)</b>	<b>Evaluation Method(s)</b>
Determine the presence of asthma triggers in and outside the home	<ol style="list-style-type: none"> <li>Utilize a modified EPA Home Environmental Checklist to assess asthma triggers in and outside the home.</li> <li>Conduct asthma and trigger education with patient and caregiver throughout the home assessment.</li> </ol>	<ol style="list-style-type: none"> <li>At least 50 families will receive an asthma home assessment</li> <li>Clients will receive a home visit every 3 months for 1 year.</li> <li>Obtain three commitments from the caregiver of changes that they will make in their home and/or outdoor activities to reduce air pollution</li> <li>Increased client asthma trigger knowledge will result in trigger reduction in the home.</li> </ol>	<ol style="list-style-type: none"> <li>Home will be evaluated for triggers every 3 months for 1 year.</li> <li>If client relocates, the new location will be assessed.</li> </ol>
Determine present asthma disease management status in order to formulate appropriate intervention recommendations.	<ol style="list-style-type: none"> <li>Conduct Childhood Asthma Control Test.</li> <li>Conduct Mini Pediatric Quality of Life Test.</li> <li>Assess Disease Knowledge with Patient/Caregiver Needs Assessment.</li> <li>Medication Compliance.</li> <li>Assess client's medical home.</li> </ol>	<ol style="list-style-type: none"> <li>At least 70% decrease in asthma symptoms due to medication compliance.</li> <li>100% increase caregiver/client confidence in asthma symptom management.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial home visit and re-evaluated every 3 months for 1 year.</li> </ol>
Reduce the impact of home and outdoor environmental triggers on patient's asthma and improve patient's asthma disease management.	<ol style="list-style-type: none"> <li>Reduce exposure to in-home and outdoor triggers</li> <li>Ensure Medication Compliance</li> <li>Educate clients re: Air Pollution and Health 101, asthma management and medication.</li> <li>Educate clients and caregivers to utilize low cost incentives to decrease asthma symptoms.</li> </ol>	<ol style="list-style-type: none"> <li>At least 98% of Clients/Caregivers will be more confident in asthma management.</li> <li>At least 70% of Clients will see an improvement in asthma symptoms.</li> <li>At least 80% of Clients will see an increase in medication compliance.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> <li>If the need is determined, clients may require additional home visits.</li> </ol>
Determine past and present asthma impact to evaluate program effectiveness.	<ol style="list-style-type: none"> <li>Determine past healthcare utilization due to asthma.</li> <li>Determine missed school/work days due to asthma.</li> <li>Educate clients on cost savings of reduced green house gas foot print and its impact on their health.</li> </ol>	<ol style="list-style-type: none"> <li>At least 50% decrease in hospitalizations and emergency department visits due to asthma.</li> <li>At least 70% decrease in missed school/work days due to asthma,</li> <li>At least 40% increase in Well-care visits to client's primary care physician and follow-up visits.</li> <li>At least 80% of clients/caregivers will have working knowledge of the relationship between air pollution and health.</li> <li>100% of clients will have a medical home.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> </ol>

## San Joaquin County AIM SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Asthma Impact Model Expansion  
**Budget Contact Name & Phone:** Kudzai Nyandoro (559) 272-4874 Ext: 14

PROJECT BUDGET	TOTAL BUDGET	In-Kind (if applicable)	Request from funder	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES</b>				
<i>(List title and % FTE on project)</i>				
<b>1 Program Community Health Worker 1.0 FTE</b>	\$ 35,360.00	\$ 3,536.00	\$ 31,824.00	Program community health worker will conduct home assessments, ensure proper medication usage, identify barriers to compliance, track outcomes, collect and report data.
<b>Program Direction and Supervision, .10 FTE</b>	\$ 10,400.00	\$ 1,040.00	\$ 9,360.00	Training, supervision and direction of program staff to ensure accountability and progress toward deliverables
<b>Benefits (32) % of Personnel)</b>	\$ 14,643.20	\$ 1,464.32	\$ 13,178.88	Taxes, Health, Dental,Vision
<b>Subtotal, Personnel/Staffing Expenses</b>	<b>\$ 60,403.20</b>	<b>\$ 6,040.32</b>	<b>\$ 54,362.88</b>	
<b>NON-PERSONNEL EXPENSES</b>				
<b>Office Supplies</b>	\$ 2,000.00	\$ 200.00	\$ 1,800.00	
<b>Travel</b>	\$ 4,000.00	\$ 400.00	\$ 3,600.00	Travel Reimbursement will cover travel to and from clients homes at a current federal IRS mileage reimbursement rate.
<b>Home Remediation Incentives</b>	\$ 10,000.00	\$ 1,000.00	\$ 9,000.00	Home Remediation Project coordinators will allocate on a case by case basis (Includes incentive items such as; HEPA vacuum cleaner, HVAC filters, spacers, etc.) along with training and demonstration in their use.
<b>Subtotal Program Direct Expense</b>	<b>\$ 16,000.00</b>	<b>\$ 1,600.00</b>	<b>\$ 14,400.00</b>	
<b>OTHER EXPENSES</b>				
<b>INDIRECT/OVERHEAD EXPENSE</b>				
<b>__15_% of Direct Expenses* (Direct Expenses = Personnel + Non-Personnel)</b>	\$ 11,460.48	\$ 1,146.05	\$ 10,314.43	
<b>TOTAL EXPENSES (Personnel + Non-Personnel + Other Costs)</b>	<b>\$ 87,863.68</b>	<b>\$ 8,786.37</b>	<b>\$ 79,077.31</b>	

\*Maximum of 15% of project's total direct costs

**CENTRAL CALIFORNIA ASTHMA**  
**COLLABORATIVE**

**Asthma Impact Model Tulare County**



### Supplemental Environmental Project Proposal Form

**Directions:** Use this form to submit detailed supplemental environmental project (SEP) proposals. Complete this SEP proposal form cover page, and attach the supplementary proposal documents as requested below. Questions may be directed to [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov).

Project proposal submissions shall be directed to either [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov) or mailed to:

Air Resources Board  
Enforcement Division  
ATTN: SEP Proposal  
P.O. Box 2815  
Sacramento, CA 95812-2815

#### Organization Contact Information

Organization Name: Central California Asthma Collaborative  
Contact Name: Kudzai Nyandoro  
Contact Title: Associate Director  
Address: 4991 E. McKinley Ave, suite 109  
City: Fresno State: CA ZIP: 93727  
Phone: 559-272-4874 Ext. 14 Email: kudzai.nyandoro@centralcalasthma.org

- Organization Description:** Provide an attachment with a brief history of the organization (mission, vision, and goals). Indicate whether you are a nonprofit 501(C)(3), government or local agency, tribal government, small business, etc.
- Organization Experience:** Provide an attachment with information on the organization’s ability and capacity to complete the proposed project. Describe previous project management experience, including a list of completed projects/dates and who funded the project.

#### Additional Project Information – Attachment Checklist

- Project Name:** Provide the project name on the submission attachments.
- Project Description:** Provide a scope of work for the project and explain how the proposed project will benefit air quality. If applicable, explain how the project benefits disadvantaged communities.
- Project Location(s):** Provide the address(es) or GPS coordinates of where the proposed project will take place.
- Emission Benefits:** For projects with a direct emissions benefit, provide an analysis of the emissions prevention/reduction which results from the proposed SEP project.
- Project Timeline:** Include a timeline for project implementation. Provide a breakdown of the major milestones required to implement the project, including completion dates.
- Itemized Budget:** Provide a detailed list of what is needed to complete the project and the funding needed for each item. Cost breakdown should include capital, operational, and administrative costs.

**Acknowledgment.** By checking this box, you verify that all information given to ARB about your organization and your proposed project is factual.

Submitter Name: Kudzai Nyandoro Date: 07/15/2019  
Submitter Title: Associate Director

**Organization Description:**

Central California Asthma Collaborative (CCAC), a 501(c)3 non-profit organization, was established in 2011 by a group of healthcare professionals to provide education and direct services, build regional capacity, and advocate for sensible policies to improve health through the prevention and management of chronic disease. This is accomplished through the development of a network of stakeholders who work in a regional capacity to improve health and the quality of life for San Joaquin Valley residents affected by air pollution, asthma and other chronic health issues.

**Organization Experience:**

CCAC emphasizes the importance of healthy indoor air quality through its multi-component intervention program, the Asthma Impact Model (AIM). We completed the initial three-year pilot in April 2016 to develop and evaluate the AIM program in Fresno and Madera counties with funding from The California Endowment. The program successfully assists families to reduce asthma triggers and improve their overall home environment. Additionally, the program improves asthma disease management and significantly reduces asthma emergencies among high-risk populations. Referrals come from collaborating clinical partners, such community health centers, health plans, physicians and other safety net providers, who provide care to the majority of low-income, uninsured and vulnerable populations in the region. Through recent SEP funding, the program has been expanded to include patients in Kern, Merced and Kings counties.

CCAC also recently completed a five-year project in partnership with the San Joaquin Valley Air Pollution Control District (SJVAPCD) named Healthy Air Living Schools (HALS) that included over 1,900 schools in more than 250 school districts across the eight counties of the San Joaquin Valley (SJV). HALS is a school-based outreach program focused on 1) education, implementation and utilization of the Air District's "Real-time Air Advisory Network" (RAAN) to ensure district staff and teachers are aware of hourly variations in air quality, 2) school district adoption of "Real-time Outdoor Activity Risk" (ROAR) guidelines that ensure school-aged children are not

**Project Name:** Asthma Impact Model for Tulare County

**Project Description:**

CCAC is requesting funds to expand the AIM program to include a total of 50 low income clients, children and/or adults, who may also be undocumented and/or underinsured in Tulare County. Twenty of these patients will be selected/referred by partnering agencies and will reside in Tulare County. These funds will allow for one Community Health Worker to conduct home visitations and a portion of program management time to provide supervision and oversight, direct the development of the local resource partnership network, conduct quality assurance activities, and ensure all grant deliverables, reports and invoices are completed. CCAC will leverage existing relationships with Tulare County Public Health Departments, and local school districts to facilitate referrals for the AIM Expansion program. CCAC will also leverage existing relationships with county asthma coalitions to conduct outreach for the expansion and promotion of this project. CCAC will prioritize disadvantaged communities by ensuring that under-insured and uninsured clients enrolled in the AIM, regardless of residency status, receive the complete AIM program. This includes but is not restricted to: 1) a home assessment (as needed); 2) air pollution and behavioral changes needed to reduce it 3) asthma education; 4) home remediation (as needed); 5) see a primary care physician about their asthma; 6) receive a formal asthma diagnosis; and 7) follow-up on proper medication usage. The focus for these clients will be to receive an asthma diagnosis and proper asthma medication. Understanding the impact of both out-door and in-door air pollution on health and strategic behavior changes needed to reduce both

**Project Location(s):** Tulare County

**Emissions Benefits:**

We will provide education on the San Joaquin Valley Air Pollution Control District's "Check Before You Burn" and "Burn Cleaner" programs. AIM program staff will educate families about how they can receive rebates from replacing their wood-burning device with natural gas inserts, thereby reducing black carbon. In addition, we will connect families to the Clean Vehicle Rebate Program and this will give them an opportunity to replace their old vehicles with new Electric and/or plug-in hybrids, significantly reducing both NOx and black carbon from engine emissions. This project is focused on reducing impacts of exposure and will create indirect benefits as well as in the form of certain but unknown reductions in criteria pollutants and precursors resulting from individual and family behavior changes.

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

<b>Goal 1:</b>	The Asthma Impact Model Expansion will promote access to high-quality health care, promote advancement of health and air pollution knowledge and behaviors, and improve the management of asthma for those who would typically not have access to those services.			
<b>Target Population: Underserved patients with asthma in disadvantaged communities and unincorporated areas of Tulare County.</b>				
<b>Objective</b>	<b>Activities to Reach Goal</b>	<b>Expected Measurable Outcome(s)</b>	<b>Evaluation Method(s)</b>	
Determine the presence of asthma triggers in and outside the home	<ol style="list-style-type: none"> <li>Utilize a modified EPA Home Environmental Checklist to assess asthma triggers in and outside the home.</li> <li>Conduct asthma and trigger education with patient and caregiver throughout the home assessment.</li> </ol>	<ol style="list-style-type: none"> <li>At least 50 families will receive an asthma home assessment</li> <li>Clients will receive a home visit every 3 months for 1 year.</li> <li>Obtain three commitments from the caregiver of changes that they will make in their home and/or outdoor activities to reduce air pollution</li> <li>Increased client asthma trigger knowledge will result in trigger reduction in the home.</li> </ol>	<ol style="list-style-type: none"> <li>Home will be evaluated for triggers every 3 months for 1 year.</li> <li>If client relocates, the new location will be assessed.</li> </ol>	
Determine present asthma disease management status in order to formulate appropriate intervention recommendations.	<ol style="list-style-type: none"> <li>Conduct Childhood Asthma Control Test.</li> <li>Conduct Mini Pediatric Quality of Life Test.</li> <li>Assess Disease Knowledge with Patient/Caregiver Needs Assessment.</li> <li>Medication Compliance.</li> <li>Assess client's medical home.</li> </ol>	<ol style="list-style-type: none"> <li>At least 70% decrease in asthma symptoms due to medication compliance.</li> <li>100% increase caregiver/client confidence in asthma symptom management.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial home visit and re-evaluated every 3 months for 1 year.</li> </ol>	
Reduce the impact of home and outdoor environmental triggers on patient's asthma and improve patient's asthma disease management.	<ol style="list-style-type: none"> <li>Reduce exposure to in-home and outdoor triggers</li> <li>Ensure Medication Compliance</li> <li>Educate clients re: Air Pollution and Health 101, asthma management and medication.</li> <li>Educate clients and caregivers to utilize low cost incentives to decrease asthma symptoms.</li> </ol>	<ol style="list-style-type: none"> <li>At least 98% of Clients/Caregivers will be more confident in asthma management.</li> <li>At least 70% of Clients will see an improvement in asthma symptoms.</li> <li>At least 80% of Clients will see an increase in medication compliance.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> <li>If the need is determined, clients may require additional home visits.</li> </ol>	
Determine past and present asthma impact to evaluate program effectiveness.	<ol style="list-style-type: none"> <li>Determine past healthcare utilization due to asthma.</li> <li>Determine missed school/work days due to asthma.</li> <li>Educate clients on cost savings of reduced green house gas foot print and its impact on their health.</li> </ol>	<ol style="list-style-type: none"> <li>At least 50% decrease in hospitalizations and emergency department visits due to asthma.</li> <li>At least 70% decrease in missed school/work days due to asthma,</li> <li>At least 40% increase in Well-care visits to client's primary care physician and follow-up visits.</li> <li>At least 80% of clients/caregivers will have working knowledge of the relationship between air pollution and health.</li> <li>100% of clients will have a medical home.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> </ol>	

## Tulare County AIM SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Asthma Impact Model Expansion  
**Budget Contact Name & Phone:** Kudzai Nyandoro (559) 272-4874 Ext: 14

PROJECT BUDGET	TOTAL BUDGET	In-Kind (if applicable)	Request from funder	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES</b>				
<i>(List title and % FTE on project)</i>				
<b>1 Program Community Health Worker 1.0 FTE</b>	\$ 35,360.00	\$ 3,536.00	\$ 31,824.00	Program community health worker will conduct home assessments, ensure proper medication usage, identify barriers to compliance, track outcomes, collect and report data.
<b>Program Direction and Supervision, .10 FTE</b>	\$ 10,400.00	\$ 1,040.00	\$ 9,360.00	Training, supervision and direction of program staff to ensure accountability and progress toward deliverables
<b>Benefits (32) % of Personnel)</b>	\$ 14,643.20	\$ 1,464.32	\$ 13,178.88	Taxes, Health, Dental, Vision
<b>Subtotal, Personnel/Staffing Expenses</b>	\$ 60,403.20	\$ 6,040.32	\$ 54,362.88	
<b>NON-PERSONNEL EXPENSES</b>				
<b>Office Supplies</b>	\$ 2,000.00	\$ 200.00	\$ 1,800.00	
<b>Travel</b>	\$ 4,000.00	\$ 400.00	\$ 3,600.00	Travel Reimbursement will cover travel to and from clients homes at a current federal IRS mileage reimbursement rate.
<b>Home Remediation Incentives</b>	\$ 10,000.00	\$ 1,000.00	\$ 9,000.00	Home Remediation Project coordinators will allocate on a case by case basis (Includes incentive items such as; HEPA vacuum cleaner, HVAC filters, spacers, etc.) along with training and demonstration in their use.
<b>Subtotal Program Direct Expense</b>	\$ 16,000.00	\$ 1,600.00	\$ 14,400.00	
<b>OTHER EXPENSES</b>				
<b>INDIRECT/OVERHEAD EXPENSE</b>				
<b>__15_% of Direct Expenses* (Direct Expenses = Personnel + Non-Personnel)</b>	\$ 11,460.48	\$ 1,146.05	\$ 10,314.43	
<b>TOTAL EXPENSES (Personnel + Non-Personnel + Other Costs)</b>	\$ 87,863.68	\$ 8,786.37	\$ 79,077.31	

\*Maximum of 15% of project's total direct costs

**CENTRAL CALIFORNIA ASTHMA**  
**COLLABORATIVE**

**Children's Health and Outdoor Activities  
Restrictions in Fresno County Schools  
(CHOAR-F)**



## Supplemental Environmental Project Proposal Form

**Directions:** Use this form to submit detailed supplemental environmental project (SEP) proposals. Complete this SEP proposal form cover page, and attach the supplementary proposal documents as requested below. Questions may be directed to [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov).

Project proposal submissions shall be directed to either [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov) or mailed to:

Air Resources Board  
Enforcement Division  
ATTN: SEP Proposal  
P.O. Box 2815  
Sacramento, CA 95812-2815

### Organization Contact Information

Organization Name: Central California Asthma Collaborative  
Contact Name: Kevin Hamilton  
Contact Title: Executive Director  
Address: 4991 E. McKinley Ave, suite 109  
City: Fresno State: CA ZIP: 93727  
Phone: 559-272-4874 Email: kevin.hamilton@centralcalasthma.org

- Organization Description:** Provide an attachment with a brief history of the organization (mission, vision, and goals). Indicate whether you are a nonprofit 501(C)(3), government or local agency, tribal government, small business, etc.
- Organization Experience:** Provide an attachment with information on the organization's ability and capacity to complete the proposed project. Describe previous project management experience, including a list of completed projects/dates and who funded the project.

### Additional Project Information – Attachment Checklist

- Project Name:** Provide the project name on the submission attachments.
- Project Description:** Provide a scope of work for the project and explain how the proposed project will benefit air quality. If applicable, explain how the project benefits disadvantaged communities.
- Project Location(s):** Provide the address(es) or GPS coordinates of where the proposed project will take place.
- Emission Benefits:** For projects with a direct emissions benefit, provide an analysis of the emissions prevention/reduction which results from the proposed SEP project.
- Project Timeline:** Include a timeline for project implementation. Provide a breakdown of the major milestones required to implement the project, including completion dates.
- Itemized Budget:** Provide a detailed list of what is needed to complete the project and the funding needed for each item. Cost breakdown should include capital, operational, and administrative costs.

**Acknowledgment.** By checking this box, you verify that all information given to ARB about your organization and your proposed project is factual.

Submitter Name: Kevin Hamilton Date: 08/06/2018  
Submitter Title: Executive Director

**Organization Description:**

Central California Asthma Collaborative (CCAC), a 501(c)3 non-profit organization, was established in 2009 by a group of healthcare professionals to provide education and direct services, build regional capacity, and advocate for sensible policies to improve health through the prevention and management of chronic disease. This is accomplished through the development of a network of stakeholders who work in a regional capacity to improve health and the quality of life for San Joaquin Valley residents affected by air pollution, asthma and other chronic health issues. CCAC was formally incorporated and granted 501c.3 status in November of 2011.

**Organization Experience:**

CCAC recently completed a five-year project in partnership with the San Joaquin Valley Air Pollution Control District (SJVAPCD) named Healthy Air Living Schools (HALS) that included over 1,900 schools in more than 250 school districts across the eight counties of the Air District. HALS is a school-based outreach program focused on 1) education, implementation and utilization of the Air District's "Real-time Air Advisory Network" (RAAN) to ensure district staff and teachers were aware of hourly shifts in air quality, 2) school district adoption of "Real-time Outdoor Activity Risk" (ROAR) guidelines that ensure school-aged children are not unnecessarily exposed to high levels of air pollution during outside activities, and 3) the Clean Air Champions program that supported air quality-related projects implemented by student groups at select schools across the Valley.

CCAC also emphasizes the importance of healthy indoor air quality through its multi-component intervention program, the Asthma Impact Model (AIM). We completed the initial three-year pilot in April 2016 to develop the AIM program in Fresno, Kings and Madera counties with funding from The California Endowment. The program successfully assists families to reduce asthma triggers and improve their overall home and school environment. Additionally, the program improves asthma disease management and significantly reduces asthma emergencies among high-risk populations. Referrals come from collaborating clinical partners, such community health centers, health plans, physicians and other safety net providers, who provide care to the majority of low-income, uninsured and vulnerable populations in the region. Through current SEP funding, the program has been expanded to Kern, Merced and Kings counties.

CCAC is currently funded by the California Air Resources Board (CARB) and the Energy Foundation to assess community-level air pollution burdens in disadvantaged Valley communities in Kern, Fresno and Stanislaus counties and to work with the San Joaquin Valley Air Pollution Control District to design and implement a community air monitoring network and emission reduction plan in two such communities.

**Project Name:** Children's Health and Outdoor Activities Restrictions in Fresno County Schools

**Project Description:**

The Central California Asthma Collaborative provides education and resources to asthmatic children and their families in disadvantaged communities of the San Joaquin Valley. One of the focuses of our educational program involves avoidance of airborne triggers that are known to cause asthma attacks, including pollen, pet dander and air pollution. In recent years, smoke (PM2.5) from wildfires has become a major concern for families with small children, especially those with asthma. Unfortunately, many of these children attend schools in older buildings that may not adequately seal out the smoke (PM2.5) associated with wildfires or other local sources of particulate matter (e.g. residential wood burning).

CCAC recently received funding through the 2018 Community Air Grant program to install a network of low-cost PM2.5 air monitors in disadvantaged communities across the San Joaquin Valley. As part of this network, CCAC plans to install 16 PM2.5 monitors in Fresno County schools, particularly those in rural areas that are located a significant distance from the existing PM2.5 regulatory air monitors in Fresno, Tranquility and Huron. To insure the accuracy of our low-cost PM2.5 monitors, each will be calibrated against the nearest regulatory monitor in Fresno County. These school-based monitors will provide local data that can be compared to the information provided to schools by the San Joaquin Valley Air Pollution Control District's Real-time Air Advisory Network (RAAN). While RAAN assigns a real-time outdoor PM2.5 concentration to each school, these values are based on the PM2.5 level at the Fresno, Tranquility and Huron regulatory monitoring site.

To better understand the impacts that elevated outdoor PM2.5 may have on children at school, CCAC will also collect and analyze student outdoor activity and health data from schools where air monitors have been installed (all student data will be de-identified). To document student activity, CCAC staff will monitor the days/times of outdoor activity restrictions implemented by schools in response to RAAN advisories or other information (e.g. our newly installed air monitors). Student health data will be obtained from the school's health services (when and where available) and will include nurse-documented respiratory symptoms and other related symptoms reported by students. This will allow CCAC to study the relationship between PM2.5 levels, student outdoor activities and health indicators in school-age children.

**Project Location(s):** Fresno County

**Emissions Benefits:**

No direct emission benefits, however this project is focused on evaluating impacts of exposure and may create indirect benefits and certain but unknown reductions in criteria pollutants and precursors resulting from individual, family, and school district behavior and infrastructure changes resulting from access to real-time PM2.5 data in their community.

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

## Children’s Health and Outdoor Activities Restrictions in Fresno County Schools

<p><b>Goal:</b></p>	<p>Conduct student activity and health assessment in Fresno County schools where low-cost PM2.5 air monitors have been installed to 1) compare local outdoor PM2.5 levels in disadvantaged communities vs. regulatory PM2.5 monitors in Fresno County, 2) assess student outdoor activity restrictions relative to local PM2.5 levels and RAAN PM2.5-related alerts, and 3) assess student health at school relative to PM2.5 levels</p>		
<p><b>Target Population:</b> School-age children in disadvantaged communities of Fresno County</p>			
<p><b>Objective(s)</b></p>	<p><b>Activities to Reach Goal (timeline)</b></p>	<p><b>Expected Measurable Outcome(s)</b></p>	<p><b>Evaluation Method(s)</b></p>
<p>Compare school-based PM2.5 monitor data to PM2.5 regulatory values and RAAN.</p>	<ol style="list-style-type: none"> <li>1. Obtain calibrated data from school-based outdoor low-cost PM2.5 monitors (months 1-12).</li> <li>2. Obtain data from Fresno County reference PM2.5 monitors (months 1-12).</li> <li>3. Obtain data from RAAN (months 1-12).</li> <li>4. Compare three datasets (months 6-12).</li> </ol>	<ol style="list-style-type: none"> <li>1. Calibrated school-based PM2.5 monitor data will provide different (more accurate) local PM2.5 information compared to the nearest reference monitor (Fresno, Tranquility or Huron) or RAAN values.</li> </ol>	<ol style="list-style-type: none"> <li>1. Comparison of PM2.5 values from these data sources.</li> </ol>
<p>Assess potential impacts of outdoor PM2.5 levels on children’s outdoor activities and health.</p>	<ol style="list-style-type: none"> <li>1. Collect data on student outdoor activity restrictions implemented by participating schools in response to RAAN data/alerts or school-based monitors (months 1-12).</li> <li>2. Collect de-identified student health data from school health services, where available (months 1-12).</li> <li>3. Compare student outdoor activity and health data with local and remote (Fresno, Tranquility or Huron) PM2.5 data (months 6-12).</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of days or hours schools implemented student outdoor activity restrictions relative to local PM2.5 concentrations or Bakersfield RAAN.</li> <li>2. Number of students reporting respiratory or other related symptoms relative to local PM2.5 levels vs regulatory PM2.5 levels in Fresno, Tranquility or Huron.</li> </ol>	<ol style="list-style-type: none"> <li>1. Comparison of days/times of student outdoor activity restrictions with local outdoor PM2.5 levels.</li> <li>2. Comparison of reported student health outcomes with local outdoor PM2.5 levels.</li> </ol>

## CHOAR-F SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Children's Health and Outdoor Activities Restrictions in Fresno County Schools  
**Budget Contact Name & Phone:** Kevin Hamilton, (559) 272-4874

PROJECT BUDGET	TOTAL BUDGET	IN-KIND SUPPORT	REQUESTED BUDGET	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES (List title and % FTE on project)</b>				
Program Staff (field work) 0.50 FTE	\$20,000.00	\$2,000.00	\$18,000.00	Coordinate with 10 schools in Fresno County to obtain de-identified data from school health services, track outdoor activity restrictions, collect PM2.5 data from school-based PM2.5 monitor, Fresno County regulatory monitors (Fresno, Tranquility, Huron) and RAAAN
Program Staff (data analysis) 0.10 FTE	\$11,000.00	\$1,100.00	\$9,900.00	Analyze PM2.5, student outdoor activity and health data
Program Staff (supervisor) 0.05 FTE	\$5,500.00	\$550.00	\$4,950.00	Training, supervision and direction of program staff to ensure accountability and progress toward deliverables
Administrative Support, 0.05 FTE	\$3,500.00	\$350.00	\$3,150.00	Manage finances, reporting, communication with ARB.
Benefits (32% of Personnel)	\$12,800.00	\$1,280.00	\$11,520.00	Taxes, Health, Dental, Vision
Subtotal, Personnel/Staffing Expenses	\$52,800.00	\$5,280.00	\$47,520.00	
<b>NON-PERSONNEL EXPENSES</b>				
Supplies	\$1,000.00		\$1,000.00	Printing, office supplies
Travel	\$1,000.00		\$1,000.00	Travel Reimbursement will cover travel to and from schools at a current federal IRS mileage reimbursement rate.
PM 2.5 Air Monitors	\$4,800.00	\$4,800.00		CARB Community Air Grant
Subtotal, Non-Personnel Expenses	\$6,800.00	\$4,800.00	\$2,000.00	
<b>OTHER EXPENSES</b>				
INDIRECT/OVERHEAD EXPENSE 15% of Direct Expenses (Personnel + Non- Personnel)	\$8,940.00	\$1,512.00	\$7,428.00	
<b>TOTAL EXPENSES (Personnel + Non-Personnel + Other Expenses)</b>	\$68,540.00	\$11,592.00	\$56,948.00	

**CENTRAL CALIFORNIA ASTHMA**  
**COLLABORATIVE**

**Children's Health and Outdoor Activities**  
**Restrictions in Kern County Schools**  
**(CHOAR-K)**



## Supplemental Environmental Project Proposal Form

**Directions:** Use this form to submit detailed supplemental environmental project (SEP) proposals. Complete this SEP proposal form cover page, and attach the supplementary proposal documents as requested below. Questions may be directed to [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov).

Project proposal submissions shall be directed to either [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov) or mailed to:

Air Resources Board  
Enforcement Division  
ATTN: SEP Proposal  
P.O. Box 2815  
Sacramento, CA 95812-2815

### Organization Contact Information

Organization Name: Central California Asthma Collaborative  
 Contact Name: Kevin Hamilton  
 Contact Title: Executive Director  
 Address: 4991 E. McKinley Ave, suite 109  
 City: Fresno State: CA ZIP: 93727  
 Phone: 559-272-4874 Email: kevin.hamilton@centralcalasthma.org

- Organization Description:** Provide an attachment with a brief history of the organization (mission, vision, and goals). Indicate whether you are a nonprofit 501(C)(3), government or local agency, tribal government, small business, etc.
- Organization Experience:** Provide an attachment with information on the organization's ability and capacity to complete the proposed project. Describe previous project management experience, including a list of completed projects/dates and who funded the project.

### Additional Project Information – Attachment Checklist

- Project Name:** Provide the project name on the submission attachments.
- Project Description:** Provide a scope of work for the project and explain how the proposed project will benefit air quality. If applicable, explain how the project benefits disadvantaged communities.
- Project Location(s):** Provide the address(es) or GPS coordinates of where the proposed project will take place.
- Emission Benefits:** For projects with a direct emissions benefit, provide an analysis of the emissions prevention/reduction which results from the proposed SEP project.
- Project Timeline:** Include a timeline for project implementation. Provide a breakdown of the major milestones required to implement the project, including completion dates.
- Itemized Budget:** Provide a detailed list of what is needed to complete the project and the funding needed for each item. Cost breakdown should include capital, operational, and administrative costs.

**Acknowledgment.** By checking this box, you verify that all information given to ARB about your organization and your proposed project is factual.

Submitter Name: Kevin Hamilton Date: 08/06/2018  
 Submitter Title: Executive Director

**Organization Description:**

Central California Asthma Collaborative (CCAC), a 501(c)3 non-profit organization, was established in 2009 by a group of healthcare professionals to provide education and direct services, build regional capacity, and advocate for sensible policies to improve health through the prevention and management of chronic disease. This is accomplished through the development of a network of stakeholders who work in a regional capacity to improve health and the quality of life for San Joaquin Valley residents affected by air pollution, asthma and other chronic health issues. CCAC was formally incorporated and granted 501c.3 status in November of 2011.

**Organization Experience:**

CCAC recently completed a five-year project in partnership with the San Joaquin Valley Air Pollution Control District (SJVAPCD) named Healthy Air Living Schools (HALS) that included over 1,900 schools in more than 250 school districts across the eight counties of the Air District. HALS is a school-based outreach program focused on 1) education, implementation and utilization of the Air District's "Real-time Air Advisory Network" (RAAN) to ensure district staff and teachers were aware of hourly shifts in air quality, 2) school district adoption of "Real-time Outdoor Activity Risk" (ROAR) guidelines that ensure school-aged children are not unnecessarily exposed to high levels of air pollution during outside activities, and 3) the Clean Air Champions program that supported air quality-related projects implemented by student groups at select schools across the Valley.

CCAC also emphasizes the importance of healthy indoor air quality through its multi-component intervention program, the Asthma Impact Model (AIM). We completed the initial three-year pilot in April 2016 to develop the AIM program in Fresno, Kings and Madera counties with funding from The California Endowment. The program successfully assists families to reduce asthma triggers and improve their overall home and school environment. Additionally, the program improves asthma disease management and significantly reduces asthma emergencies among high-risk populations. Referrals come from collaborating clinical partners, such community health centers, health plans, physicians and other safety net providers, who provide care to the majority of low-income, uninsured and vulnerable populations in the region. Through current SEP funding, the program has been expanded to Kern, Merced and Kings counties.

CCAC is currently funded by the California Air Resources Board (CARB) and the Energy Foundation to assess community-level air pollution burdens in disadvantaged Valley communities in Kern, Fresno and Stanislaus counties and to work with the San Joaquin Valley Air Pollution Control District to design and implement a community air monitoring network and emission reduction plan in two such communities.

**Project Name:** Children's Health and Outdoor Activities Restrictions in Kern County Schools

**Project Description:**

The Central California Asthma Collaborative provides education and resources to asthmatic children and their families in disadvantaged communities of the San Joaquin Valley. One of the focuses of our educational program involves avoidance of airborne triggers that are known to cause asthma attacks, including pollen, pet dander and air pollution. In recent years, smoke (PM2.5) from wildfires has become a major concern for families with small children, especially those with asthma. Unfortunately, many of these children attend schools in older buildings that may not adequately seal out the smoke (PM2.5) associated with wildfires or other local sources of particulate matter (e.g. residential wood burning).

CCAC recently received funding through the 2018 Community Air Grant program to install a network of low-cost PM2.5 air monitors in disadvantaged communities across the San Joaquin Valley. As part of this network, CCAC plans to install 10 PM2.5 monitors in Kern County schools, particularly those in rural areas that are located a significant distance from the existing PM2.5 regulatory air monitors in Bakersfield. To insure the accuracy of our low-cost PM2.5 monitors, each will be calibrated against the regulatory monitors in Bakersfield. These school-based monitors will provide local data that can be compared to the information provided to schools by the San Joaquin Valley Air Pollution Control District's Real-time Air Advisory Network (RAAN). While RAAN assigns a real-time outdoor PM2.5 concentration to each school, these values are based on the PM2.5 level at the Bakersfield regulatory monitoring site.

To better understand the impacts that elevated outdoor PM2.5 may have on children at school, CCAC will also collect and analyze student outdoor activity and health data from schools where air monitors have been installed (all student data will be de-identified). To document student activity, CCAC staff will monitor the days/times of outdoor activity restrictions implemented by schools in response to RAAN advisories or other information (e.g. our newly installed air monitors). Student health data will be obtained from the school's health services (when and where available) and will include nurse-documented respiratory symptoms and other related symptoms reported by students. This will allow CCAC to study the relationship between PM2.5 levels, student outdoor activities and health indicators in school-age children.

**Project Location(s):** Kern county

**Emissions Benefits:**

No direct emission benefits, however this project is focused on evaluating impacts of exposure and may create indirect benefits and certain but unknown reductions in criteria pollutants and precursors resulting from individual, family, and school district behavior and infrastructure changes resulting from access to real-time PM2.5 data in their community.

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

## Children’s Health and Outdoor Activities Restrictions in Kern County Schools

<p><b>Goal:</b></p>	<p>Conduct student activity and health assessment in Kern County schools where low-cost PM2.5 air monitors have been installed to 1) compare outdoor PM2.5 levels in disadvantaged rural communities vs. urban PM2.5 monitors in Bakersfield, 2) assess student outdoor activity restrictions relative to local PM2.5 levels and RAAN PM2.5-related alerts, and 3) assess student health at school relative to PM2.5 levels</p>		
<p><b>Target Population:</b> School-age children in disadvantaged communities of Kern County</p>			
<p><b>Objective(s)</b></p>	<p><b>Activities to Reach Goal (timeline)</b></p>	<p><b>Expected Measurable Outcome(s)</b></p>	<p><b>Evaluation Method(s)</b></p>
<p>Compare school-based PM2.5 monitor data to Bakersfield PM2.5 regulatory values and RAAN.</p>	<ol style="list-style-type: none"> <li>1. Obtain calibrated data from school-based outdoor low-cost PM2.5 monitors (months 1-12).</li> <li>2. Obtain data from Bakersfield reference PM2.5 monitors (months 1-12).</li> <li>3. Obtain data from RAAN (months 1-12).</li> <li>4. Compare three datasets (months 6-12).</li> </ol>	<ol style="list-style-type: none"> <li>1. Calibrated school-based PM2.5 monitor data will provide different (more accurate) local PM2.5 information compared to the nearest reference monitor (Bakersfield) or RAAN values.</li> </ol>	<ol style="list-style-type: none"> <li>1. Comparison of PM2.5 values from these data sources.</li> </ol>
<p>Assess potential impacts of outdoor PM2.5 levels on children’s outdoor activities and health.</p>	<ol style="list-style-type: none"> <li>1. Collect data on student outdoor activity restrictions implemented by participating schools in response to RAAN data/alerts or school-based monitors (months 1-12).</li> <li>2. Collect de-identified student health data from school health services, where available (months 1-12).</li> <li>3. Compare student outdoor activity and health data with local and remote (Bakersfield) PM2.5 data (months 6-12).</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of days or hours schools implemented student outdoor activity restrictions relative to local PM2.5 concentrations or Bakersfield RAAN.</li> <li>2. Number of students reporting respiratory or other related symptoms relative to local PM2.5 levels vs Bakersfield PM2.5 levels.</li> </ol>	<ol style="list-style-type: none"> <li>1. Comparison of days/times of student outdoor activity restrictions with local outdoor PM2.5 levels.</li> <li>2. Comparison of reported student health outcomes with local outdoor PM2.5 levels.</li> </ol>

## CHOAR-K SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Children's Health and Outdoor Activities Restrictions in Kern County Schools  
**Budget Contact Name & Phone:** Kevin Hamilton, (559) 272-4874

PROJECT BUDGET	TOTAL BUDGET	IN-KIND SUPPORT	REQUESTED BUDGET	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES</b> (List title and % FTE on project)				
Program Staff (field work) 0.50 FTE	\$20,000.00	\$2,000.00	\$18,000.00	Coordinate with 10 schools in Kern County to obtain de-identified data from school health services, track outdoor activity restrictions, collect PM2.5 data from school-based PM2.5 monitor, Bakersfield regulatory monitor and RAAN
Program Staff (data analysis) 0.10 FTE	\$11,000.00	\$1,100.00	\$9,900.00	Analyze PM2.5, student outdoor activity and health data
Program Staff (supervisor) 0.05 FTE	\$5,500.00	\$550.00	\$4,950.00	Training, supervision and direction of program staff to ensure accountability and progress toward deliverables
Administrative Support, 0.05 FTE	\$3,500.00	\$350.00	\$3,150.00	Manage finances, reporting, communication with ARB.
Benefits (32% of Personnel)	\$12,800.00	\$1,280.00	\$11,520.00	Taxes, Health, Dental, Vision
Subtotal, Personnel/Staffing Expenses	\$52,800.00	\$5,280.00	\$47,520.00	
<b>NON-PERSONNEL EXPENSES</b>				
Supplies	\$1,000.00		\$1,000.00	Printing, office supplies
Travel	\$1,000.00		\$1,000.00	Travel Reimbursement will cover travel to and from schools at a current federal IRS mileage reimbursement rate.
PM 2.5 Air Monitors	\$3,000.00	\$3,000.00		CARB Community Air Grant
Subtotal, Non-Personnel Expenses	\$5,000.00	\$3,000.00	\$2,000.00	
<b>OTHER EXPENSES</b>				
INDIRECT/OVERHEAD EXPENSE 15% of Direct Expenses (Personnel + Non- Personnel)	\$8,220.00	\$1,242.00	\$7,428.00	
<b>TOTAL EXPENSES</b> (Personnel + Non-Personnel + Other Expenses)	\$66,470.00	\$9,522.00	\$56,948.00	

**CENTRAL CALIFORNIA ASTHMA**  
**COLLABORATIVE**

**Children's Health and Outdoor Activities  
Restrictions in Tulare County Schools  
(CHOAR-T)**



## Supplemental Environmental Project Proposal Form

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Project proposal submissions shall be directed to either [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov) or mailed to:

Air Resources Board  
Enforcement Division  
ATTN: SEP Proposal  
P.O. Box 2815  
Sacramento, CA 95812-2815

### Organization Contact Information

Organization Name: Central California Asthma Collaborative  
Contact Name: Kevin Hamilton  
Contact Title: Executive Director  
Address: 4991 E. McKinley Ave, suite 109  
City: Fresno State: CA ZIP: 93727  
Phone: 559-272-4874 Email: kevin.hamilton@centralcalasthma.org

- Organization Description:** Provide an attachment with a brief history of the organization (mission, vision, and goals). Indicate whether you are a nonprofit 501(C)(3), government or local agency, tribal government, small business, etc.
- Organization Experience:** Provide an attachment with information on the organization's ability and capacity to complete the proposed project. Describe previous project management experience, including a list of completed projects/dates and who funded the project.

### Additional Project Information – Attachment Checklist

- Project Name:** Provide the project name on the submission attachments.
- Project Description:** Provide a scope of work for the project and explain how the proposed project will benefit air quality. If applicable, explain how the project benefits disadvantaged communities.
- Project Location(s):** Provide the address(es) or GPS coordinates of where the proposed project will take place.
- Emission Benefits:** For projects with a direct emissions benefit, provide an analysis of the emissions prevention/reduction which results from the proposed SEP project.
- Project Timeline:** Include a timeline for project implementation. Provide a breakdown of the major milestones required to implement the project, including completion dates.
- Itemized Budget:** Provide a detailed list of what is needed to complete the project and the funding needed for each item. Cost breakdown should include capital, operational, and administrative costs.

**Acknowledgment.** By checking this box, you verify that all information given to ARB about your organization and your proposed project is factual.

Submitter Name: Kevin Hamilton Date: 08/06/2018  
Submitter Title: Executive Director

**Organization Description:**

Central California Asthma Collaborative (CCAC), a 501(c)3 non-profit organization, was established in 2009 by a group of healthcare professionals to provide education and direct services, build regional capacity, and advocate for sensible policies to improve health through the prevention and management of chronic disease. This is accomplished through the development of a network of stakeholders who work in a regional capacity to improve health and the quality of life for San Joaquin Valley residents affected by air pollution, asthma and other chronic health issues. CCAC was formally incorporated and granted 501c.3 status in November of 2011.

**Organization Experience:**

CCAC recently completed a five-year project in partnership with the San Joaquin Valley Air Pollution Control District (SJVAPCD) named Healthy Air Living Schools (HALS) that included over 1,900 schools in more than 250 school districts across the eight counties of the Air District. HALS is a school-based outreach program focused on 1) education, implementation and utilization of the Air District's "Real-time Air Advisory Network" (RAAN) to ensure district staff and teachers were aware of hourly shifts in air quality, 2) school district adoption of "Real-time Outdoor Activity Risk" (ROAR) guidelines that ensure school-aged children are not unnecessarily exposed to high levels of air pollution during outside activities, and 3) the Clean Air Champions program that supported air quality-related projects implemented by student groups at select schools across the Valley.

CCAC also emphasizes the importance of healthy indoor air quality through its multi-component intervention program, the Asthma Impact Model (AIM). We completed the initial three-year pilot in April 2016 to develop the AIM program in Fresno, Kings and Madera counties with funding from The California Endowment. The program successfully assists families to reduce asthma triggers and improve their overall home and school environment. Additionally, the program improves asthma disease management and significantly reduces asthma emergencies among high-risk populations. Referrals come from collaborating clinical partners, such community health centers, health plans, physicians and other safety net providers, who provide care to the majority of low-income, uninsured and vulnerable populations in the region. Through current SEP funding, the program has been expanded to Kern, Merced and Kings counties.

CCAC is currently funded by the California Air Resources Board (CARB) and the Energy Foundation to assess community-level air pollution burdens in disadvantaged Valley communities in Kern, Fresno and Stanislaus counties and to work with the San Joaquin Valley Air Pollution Control District to design and implement a community air monitoring network and emission reduction plan in two such communities.

**Project Name:** Children's Health and Outdoor Activities Restrictions in Tulare County Schools

**Project Description:**

The Central California Asthma Collaborative provides education and resources to asthmatic children and their families in disadvantaged communities of the San Joaquin Valley. One of the focuses of our educational program involves avoidance of airborne triggers that are known to cause asthma attacks, including pollen, pet dander and air pollution. In recent years, smoke (PM2.5) from wildfires has become a major concern for families with small children, especially those with asthma. Unfortunately, many of these children attend schools in older buildings that may not adequately seal out the smoke (PM2.5) associated with wildfires or other local sources of particulate matter (e.g. residential wood burning).

CCAC recently received funding through the 2018 Community Air Grant program to install a network of low-cost PM2.5 air monitors in disadvantaged communities across the San Joaquin Valley. As part of this network, CCAC plans to install 12 PM2.5 monitors in Tulare County schools, particularly those in rural areas that are located a significant distance from the existing PM2.5 regulatory air monitors in Visalia or Porterville. To insure the accuracy of our low-cost PM2.5 monitors, each will be calibrated against the nearest regulatory monitor in Visalia or Porterville. These school-based monitors will provide local data that can be compared to the information provided to schools by the San Joaquin Valley Air Pollution Control District's Real-time Air Advisory Network (RAAN). While RAAN assigns a real-time outdoor PM2.5 concentration to each school, these values are based on the PM2.5 level at the Visalia or Porterville regulatory monitoring site.

To better understand the impacts that elevated outdoor PM2.5 may have on children at school, CCAC will also collect and analyze student outdoor activity and health data from schools where air monitors have been installed (all student data will be de-identified). To document student activity, CCAC staff will monitor the days/times of outdoor activity restrictions implemented by schools in response to RAAN advisories or other information (e.g. our newly installed air monitors). Student health data will be obtained from the school's health services (when and where available) and will include nurse-documented respiratory symptoms and other related symptoms reported by students. This will allow CCAC to study the relationship between PM2.5 levels, student outdoor activities and health indicators in school-age children.

**Project Location(s):** Tulare county

**Emissions Benefits:**

No direct emission benefits, however this project is focused on evaluating impacts of exposure and may create indirect benefits and certain but unknown reductions in criteria pollutants and precursors resulting from individual and family behavior changes resulting from access to real-time PM2.5 data in their community.

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

## Children’s Health and Outdoor Activities Restrictions in Tulare County Schools

<p><b>Goal:</b></p>	<p>Conduct student activity and health assessment in Tulare County schools where low-cost PM2.5 air monitors have been installed to 1) compare outdoor PM2.5 levels in disadvantaged rural communities vs. urban PM2.5 monitors in Visalia and Porterville, 2) assess student outdoor activity restrictions relative to local PM2.5 levels and RAAN PM2.5-related alerts, and 3) assess student health at school relative to PM2.5 levels</p>		
<p><b>Target Population:</b> School-age children in disadvantaged communities of Tulare County</p>			
<p><b>Objective(s)</b></p>	<p><b>Activities to Reach Goal (timeline)</b></p>	<p><b>Expected Measurable Outcome(s)</b></p>	<p><b>Evaluation Method(s)</b></p>
<p>Compare school-based PM2.5 monitor data to Visalia and Porterville PM2.5 regulatory values and RAAN.</p>	<ol style="list-style-type: none"> <li>1. Obtain calibrated data from school-based outdoor low-cost PM2.5 monitors (months 1-12).</li> <li>2. Obtain data from Visalia and Porterville reference PM2.5 monitors (months 1-12).</li> <li>3. Obtain data from RAAN (months 1-12).</li> <li>4. Compare three datasets (months 6-12).</li> </ol>	<ol style="list-style-type: none"> <li>1. Calibrated school-based PM2.5 monitor data will provide different (more accurate) local PM2.5 information compared to the nearest reference monitor (Visalia or Porterville) or RAAN values.</li> </ol>	<ol style="list-style-type: none"> <li>1. Comparison of PM2.5 values from these data sources.</li> </ol>
<p>Assess potential impacts of outdoor PM2.5 levels on children’s outdoor activities and health.</p>	<ol style="list-style-type: none"> <li>1. Collect data on student outdoor activity restrictions implemented by participating schools in response to RAAN data/alerts or school-based monitors (months 1-12).</li> <li>2. Collect de-identified student health data from school health services, where available (months 1-12).</li> <li>3. Compare student outdoor activity and health data with local and remote (Visalia or Porterville) PM2.5 data (months 6-12).</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of days or hours schools implemented student outdoor activity restrictions relative to local PM2.5 concentrations or Visalia/Porterville RAAN.</li> <li>2. Number of students reporting respiratory or other related symptoms relative to local PM2.5 levels vs Bakersfield PM2.5 levels.</li> </ol>	<ol style="list-style-type: none"> <li>1. Comparison of days/times of student outdoor activity restrictions with local outdoor PM2.5 levels.</li> <li>2. Comparison of reported student health outcomes with local outdoor PM2.5 levels.</li> </ol>

## CHOAR-T SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Children's Health and Outdoor Activities Restrictions in Tulare County Schools  
**Budget Contact Name & Phone:** Kevin Hamilton, (559) 272-4874

PROJECT BUDGET	TOTAL BUDGET	IN-KIND SUPPORT	REQUESTED BUDGET	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES</b> (List title and % FTE on project)				
Program Staff (field work) 0.50 FTE	\$20,000.00	\$2,000.00	\$18,000.00	Coordinate with 12 schools in Tulare County to obtain de-identified data from school health services, track outdoor activity restrictions, collect PM2.5 data from school-based PM2.5 monitor, Visalia and Porterville regulatory monitor and RAAAN
Program Staff (data analysis) 0.10 FTE	\$11,000.00	\$1,100.00	\$9,900.00	Analyze PM2.5, student outdoor activity and health data
Program Staff (supervisor) 0.05 FTE	\$5,500.00	\$550.00	\$4,950.00	Training, supervision and direction of program staff to ensure accountability and progress toward deliverables
Administrative Support, 0.05 FTE	\$3,500.00	\$350.00	\$3,150.00	Manage finances, reporting, communication with ARB.
Benefits (32% of Personnel)	\$12,800.00	\$1,280.00	\$11,520.00	Taxes, Health, Dental, Vision
Subtotal, Personnel/Staffing Expenses	\$52,800.00	\$5,280.00	\$47,520.00	
<b>NON-PERSONNEL EXPENSES</b>				
Supplies	\$1,000.00		\$1,000.00	Printing, office supplies
Travel	\$1,000.00		\$1,000.00	Travel Reimbursement will cover travel to and from schools at a current federal IRS mileage reimbursement rate.
PM 2.5 Air Monitors	\$3,600.00	\$3,600.00		CARB Community Air Grant
Subtotal, Non-Personnel Expenses	\$5,600.00	\$3,600.00	\$2,000.00	
<b>OTHER EXPENSES</b>				
INDIRECT/OVERHEAD EXPENSE 15% of Direct Expenses (Personnel + Non- Personnel)	\$8,760.00	\$1,332.00	\$7,428.00	
<b>TOTAL EXPENSES</b> (Personnel + Non-Personnel + Other Expenses)	\$67,160.00	\$10,212.00	\$56,948.00	

**CENTRAL CALIFORNIA ASTHMA**  
**COLLABORATIVE**

**Filtration Of Wildfire Smoke in Elementary  
Schools (FOWSES)**



## Supplemental Environmental Project Proposal Form

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Project proposal submissions shall be directed to either [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov) or mailed to:

Air Resources Board  
Enforcement Division  
ATTN: SEP Proposal  
P.O. Box 2815  
Sacramento, CA 95812-2815

### Organization Contact Information

Organization Name: Central California Asthma Collaborative  
Contact Name: Kevin Hamilton  
Contact Title: Executive Director  
Address: 4991 E. McKinley Ave, suite 109  
City: Fresno State: CA ZIP: 93727  
Phone: 559-272-4874 Email: kevin.hamilton@centralcalasthma.org

- Organization Description:** Provide an attachment with a brief history of the organization (mission, vision, and goals). Indicate whether you are a nonprofit 501(C)(3), government or local agency, tribal government, small business, etc.
- Organization Experience:** Provide an attachment with information on the organization's ability and capacity to complete the proposed project. Describe previous project management experience, including a list of completed projects/dates and who funded the project.

### Additional Project Information – Attachment Checklist

- Project Name:** Provide the project name on the submission attachments.
- Project Description:** Provide a scope of work for the project and explain how the proposed project will benefit air quality. If applicable, explain how the project benefits disadvantaged communities.
- Project Location(s):** Provide the address(es) or GPS coordinates of where the proposed project will take place.
- Emission Benefits:** For projects with a direct emissions benefit, provide an analysis of the emissions prevention/reduction which results from the proposed SEP project.
- Project Timeline:** Include a timeline for project implementation. Provide a breakdown of the major milestones required to implement the project, including completion dates.
- Itemized Budget:** Provide a detailed list of what is needed to complete the project and the funding needed for each item. Cost breakdown should include capital, operational, and administrative costs.

**Acknowledgment.** By checking this box, you verify that all information given to ARB about your organization and your proposed project is factual.

Submitter Name: Kevin Hamilton Date: 05/01/2019  
Submitter Title: Executive Director

### Organization Description:

Central California Asthma Collaborative (CCAC), a 501(c)3 non-profit organization, was established in 2009 by a group of healthcare professionals to provide education and direct services, build regional capacity, and advocate for sensible policies to improve health through the prevention and management of chronic disease. This is accomplished through the development of a network of stakeholders who work in a regional capacity to improve health and the quality of life for San Joaquin Valley residents affected by air pollution, asthma and other chronic health issues. CCAC was formally incorporated and granted 501c.3 status in November of 2011.

### Organization Experience:

CCAC emphasizes the importance of healthy indoor air quality through its multi-component intervention program, the Asthma Impact Model (AIM). We completed the initial three-year pilot in April 2016 to develop and evaluate AIM in Fresno and Madera counties with funding from The California Endowment. The results demonstrate AIM successfully assists families to reduce asthma triggers and improve their overall home environment. Additionally, the program improves asthma disease management and significantly reduces asthma emergencies among high-risk populations. Referrals come from collaborating clinical partners, such as community health centers, health plans, physicians and other safety net providers, who provide care to the majority of low-income, uninsured and vulnerable populations in the region. Through recent SEP funding, the program has been expanded to include patients in Kern, Merced and Kings counties.

CCAC also recently completed a five-year project in partnership with the San Joaquin Valley Air Pollution Control District (SJVAPCD) named Healthy Air Living Schools (HALS) that included over 1,900 schools in more than 250 school districts across the eight counties of the San Joaquin Valley (SJV). HALS is a school-based outreach program focused on; 1) education, implementation, utilization and district policy adoption of the Air District's "Real-time Air Advisory Network" (RAAN) to ensure district staff and teachers are aware of hourly variations in air quality; 2) school district adoption of "Real-time Outdoor Activity Risk" (ROAR) guidelines that ensure school-aged children are not unnecessarily exposed to high levels of air pollution during outdoor activities, and; 3) the Clean Air Champions program that supported air quality-related projects implemented by student groups at select schools across the Valley.

CCAC is currently funded by the California Air Resources Board (CARB) and the Energy Foundation to assess community-level air pollution burdens in disadvantaged Valley communities across the eight counties of the SJV, including the development of a community-based air monitoring network, and to work in collaboration with the San Joaquin Valley Air Pollution Control District to design and implement community air monitoring and emission reduction plans in the AB617-designated communities of south Fresno and Shafter.

CCAC is also in the process of assessing residential fireplace use in three, lower-income communities in the SJV and community awareness of the SVJAPCD's Burn Cleaner incentive program. This information will help to better identify the contribution of residential woodsmoke to neighborhood-level air pollution during winter months and the potential barriers to reducing residential wood burning in low-income neighborhoods.

Lastly, CCAC is partnering with the Center for Sustainable Energy to conduct outreach in disadvantaged communities (DAC) across the eight counties of the SJV to educate residents about state and local (SJV) electric vehicle incentives available to low-income residents living in designated DACs. The goal of this outreach is to inform residents of special incentives available to them and to better understand the barriers that currently prevent adoption of battery or plug-in hybrid electric vehicles in low-income communities.

**Project Name:** Filtration Of Wildfire Smoke in Elementary Schools (FOWSES)

**Project Description:**

The Central California Asthma Collaborative (CCAC) provides education and resources to asthmatic children and their families in disadvantaged communities of the San Joaquin Valley. A primary focus of our educational program involves avoidance of airborne triggers that are known to cause asthma attacks, including pollen, pet dander and air pollution. In recent years, smoke from wildfires has become a major concern for families with small children, especially those with asthma. Unfortunately, many of these children attend schools in older buildings that may not effectively seal out fine particle pollution during wildfire events.

CCAC is requesting funds to conduct a pilot project to assess the need, effectiveness and cost of upgrading classroom air filters to more efficiently remove fine particles (PM<sub>2.5</sub>) related to wildfire smoke and other sources. This study will compare the effectiveness of moderate (MERV 8 most commonly used in older HVAC systems) and high (MERV 14) efficiency air filters in different school environments (described below). Ambient air quality (real-time PM<sub>2.5</sub> concentrations) will be measured inside and outside the classrooms to track the relative levels of air pollution in the different school settings.

The project will be conducted in six elementary schools in Sanger Unified School District. Sanger Unified includes 14 elementary school sites covering 180 square miles of urban and rural landscape, including two schools located in residential areas of southeast Fresno. The five schools selected for this project include a mix of rural and urban in Sanger and Fresno, older and newer buildings, with some portable classrooms, and are located in census tracts identified as Disadvantaged Communities (as defined by SB535).

All elementary schools in SUSD utilize a similar HVAC system that includes an independent unit ventilator for each classroom. This provides a straight forward method for testing the efficacy of MERV 8 vs MERV 14 filters in individual classrooms. Three of the classrooms at each of the five schools will be randomly selected to receive the higher efficiency filters (all unit ventilators in SUSD currently use the MERV 8 filters). The three classrooms selected for the intervention, along with three classrooms in the same building that are not receiving the high efficiency filters, will have an indoor air quality (PM<sub>2.5</sub>) monitors installed. An outdoor air pollution (PM<sub>2.5</sub>) monitor will also be installed at each school.

We will compare indoor PM<sub>2.5</sub> levels in intervention and non-intervention classrooms in the same school/building, particularly when outdoor PM<sub>2.5</sub> concentrations are high due to wildfire smoke or other factors. Comparisons will also be made between intervention classrooms at different schools with varying building and local environmental conditions.

**Project Location(s):** Sanger, CA

**Emissions Benefits:**

There are no direct emissions reductions, however this project seeks to mitigate exposure of school-age children to fine particulate matter in schools and evaluate the potential impact of outdoor air pollution on classroom air quality. Depending on the findings, this project may result in policy changes that reduce sources of particulate air pollution at or near schools as-well-as community resident behavior changes that reduce both ozone and particulate air pollution.

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

<b>Goal:</b>	The FOWSES pilot project will assess indoor air quality benefits of upgrading classroom HVAC filters to MERV 14, especially during wildfire smoke-related increases in outdoor PM2.5, in different types of elementary school buildings and different environmental settings.		
<b>Target Population: Elementary school age children in a disadvantaged community of the San Joaquin Valley.</b>			
<b>Objective</b>	<b>Activities to Reach Goal</b>	<b>Expected Measurable Outcome(s)</b>	<b>Evaluation Method(s)</b>
Assess concentration of air pollution (fine particles) inside classrooms relative to outdoor air.	<ol style="list-style-type: none"> <li>1. Develop MOU with Sanger Unified School District</li> <li>2. Concomitantly measure indoor and outdoor PM2.5 concentrations at schools (3 classrooms per school).</li> <li>3. Compare indoor-outdoor PM2.5 ratio to age of building or other factors that could contribute to higher indoor-outdoor air pollution ratios.</li> </ol>	<ol style="list-style-type: none"> <li>1. MOU executed between CcAC and Sanger Unified School District.</li> <li>2. Differences in contribution of outdoor air pollution to indoor air quality in different types of school settings, will be quantified, especially during wildfire smoke events.</li> </ol>	<ol style="list-style-type: none"> <li>1. Indoor-outdoor PM2.5 concentrations will be measured continuously to compare relative concentrations (ratios) of indoor-outdoor air quality in different school settings.</li> </ol>
Assess the impacts of higher efficiency air filters on the concentration of air pollution (fine particles) inside classrooms relative to outdoor air.	<ol style="list-style-type: none"> <li>1. Classrooms with higher relative indoor-outdoor PM2.5 ratios will receive more efficient (MERV 14) HVAC air filters.</li> <li>2. Other potential sources of indoor PM2.5 will be mitigated through engagement with teachers and school administrators.</li> </ol>	<ol style="list-style-type: none"> <li>1. Upgraded air filters and other intervention will improve indoor air quality.</li> <li>2. Children with asthma will experience fewer respiratory symptoms associated with airborne triggers in the classroom.</li> <li>3. Children with asthma will miss fewer days of school.</li> </ol>	<ol style="list-style-type: none"> <li>1. Indoor-outdoor PM2.5 concentrations will be measured continuously to assess impacts of upgraded air filter and other interventions on indoor air quality.</li> </ol>

## FOWSES SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Filtration Of Wildfire Smoke in Elementary Schools  
**Budget Contact Name & Phone:** Kevin Hamilton (559) 272-4874

PROJECT BUDGET	TOTAL BUDGET	In-Kind (if applicable)	Request from funder	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES</b> (List title and % FTE on project)				
Project Coordinator 0.5 FTE	\$19,000.00	\$1,900.00	\$17,100.00	Project coordinator will work with school district staff to insure high efficiency filters are procured and installed in select schools and classrooms, as well as indoor and outdoor PM2.5 monitors.
Program Direction and Supervision 0.10 FTE	\$15,000.00	\$1,500.00	\$13,500.00	Training, supervision and direction of program coordinator to ensure accountability and progress toward deliverables
Benefits (32% of Personnel)	\$10,880.00	\$1,088.00	\$9,792.00	Taxes, Health, Dental, Vision
<b>Subtotal, Personnel/Staffing Expenses</b>	<b>\$44,880.00</b>	<b>\$4,488.00</b>	<b>\$40,392.00</b>	
<b>NON-PERSONNEL EXPENSES</b>				
Office Supplies	\$500.00		\$500.00	
Travel	\$500.00		\$500.00	Travel Reimbursement will cover travel to and from client's homes at a current federal IRS mileage reimbursement rate.
High Efficiency Air Filters	\$3,000.00		\$3,000.00	Assist schools with purchase of upgraded air filters for classrooms (supplement increased cost)
Air monitors	\$4,500.00	\$1,500.00	\$3,000.00	Purchase low-cost indoor and outdoor PM2.5 monitors (outdoor monitors provided in-kind)
<b>Subtotal Program Direct Expense</b>	<b>\$8,500.00</b>	<b>\$1,500.00</b>	<b>\$7,000.00</b>	
<b>OTHER EXPENSES</b>				
<b>INDIRECT/OVERHEAD EXPENSE</b>				
15% of Direct Expenses	\$8,007.00	\$898.20	\$7,108.80	
<b>TOTAL EXPENSES</b> (Personnel + Non-Personnel + Other Costs)	<b>\$61,387.00</b>	<b>\$6,886.20</b>	<b>\$54,500.80</b>	

**CENTRAL CALIFORNIA ASTHMA**  
**COLLABORATIVE**

**Minimizing Asthma Triggers in the Home  
and School (MATHS)**



## Supplemental Environmental Project Proposal Form

**Directions:** Use this form to submit detailed supplemental environmental project (SEP) proposals. Complete this SEP proposal form cover page, and attach the supplementary proposal documents as requested below. Questions may be directed to [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov).

Project proposal submissions shall be directed to either [SEP@arb.ca.gov](mailto:SEP@arb.ca.gov) or mailed to:

Air Resources Board  
Enforcement Division  
ATTN: SEP Proposal  
P.O. Box 2815  
Sacramento, CA 95812-2815

### Organization Contact Information

Organization Name: Central California Asthma Collaborative  
 Contact Name: Kevin Hamilton  
 Contact Title: Executive Director  
 Address: 4991 E. McKinley Ave, suite 109  
 City: Fresno State: CA ZIP: 93727  
 Phone: 559-272-4874 Email: kevin.hamilton@centralcalasthma.org

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**Acknowledgment.** By checking this box, you verify that all information given to ARB about your organization and your proposed project is factual.

Submitter Name: Kevin Hamilton Date: 04/26/2019  
 Submitter Title: Executive Director

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### Organization Experience:

CCAC emphasizes the importance of healthy indoor air quality through its multi-component intervention program, the Asthma Impact Model (AIM). We completed the initial three-year pilot in April 2016 to develop and evaluate the AIM program in Fresno and Madera counties with funding from The California Endowment. The program successfully assists families to reduce asthma triggers and improve their overall home environment. Additionally, the program improves asthma disease management and significantly reduces asthma emergencies among high-risk populations. Referrals come from collaborating clinical partners, such as community health centers, health plans, physicians and other safety net providers, who provide care to the majority of low-income, uninsured and vulnerable populations in the region. Through recent SEP funding, the program has been expanded to include patients in Kern, Merced and Kings counties.

CCAC also recently completed a five-year project in partnership with the San Joaquin Valley Air Pollution Control District (SJVAPCD) named Healthy Air Living Schools (HALS) that included over 1,900 schools in more than 250 school districts across the eight counties of the San Joaquin Valley (SJV). HALS is a school-based outreach program focused on 1) education, implementation and utilization of the Air District's "Real-time Air Advisory Network" (RAAN) to ensure district staff and teachers are aware of hourly variations in air quality, 2) school district adoption of "Real-time Outdoor Activity Risk" (ROAR) guidelines that ensure school-aged children are not unnecessarily exposed to high levels of air pollution during outdoor activities, and 3) the Clean Air Champions program that supported air quality-related projects implemented by student groups at select schools across the Valley.

CCAC is currently funded by the California Air Resources Board (CARB) and the Energy Foundation to assess community-level air pollution burdens in disadvantaged Valley communities across the eight counties of the SJV, including the development of a community-based air monitoring network, and to work in collaboration with the San Joaquin Valley Air Pollution Control District to design and implement community air monitoring and emission reduction plans in the AB617-designated communities of south Fresno and Shafter.

CCAC is also in the process of assessing residential fireplace use in three, lower-income communities in the SJV and community awareness of the SJVAPCD's Burn Cleaner incentive program. This information will help to better identify the contribution of residential woodsmoke to neighborhood-level air pollution during winter months and the potential barriers to reducing residential wood burning in low-income neighborhoods.

Lastly, CCAC is partnering with the Center for Sustainable Energy to conduct outreach in disadvantaged communities (DAC) across the eight counties of the SJV to educate residents about state and local (SJV) electric vehicle incentives available to low-income residents living in designated DACs. The goal of this outreach is to inform residents of special incentives available to them and to better understand the barriers that currently prevent adoption of battery or plug-in hybrid electric vehicles in low-income communities.

**Project Name:** Minimizing Asthma Triggers in the Home and School (MATHS)

**Project Description:**

The Central California Asthma Collaborative (CCAC) provides education and resources to asthmatic children and their families in disadvantaged communities of the San Joaquin Valley. One of the focuses of our educational program involves avoidance of airborne triggers that are known to cause asthma attacks, including pollen, pet dander and air pollution. In recent years, smoke from wildfires has become a major concern for families with small children, especially those with asthma. Unfortunately, many of these children attend schools in older buildings that may not adequately prevent infiltration of wildfire smoke in classrooms.

CCAC is requesting funds to provide the Asthma Impact Model (AIM) program to asthmatic children living in disadvantaged communities with the highest rates of pediatric asthma ER visits (98th percentile, based on 2017 zip code-level ER data) and where AIM is not currently enrolling patients. This includes the cities of Parlier, Selma, Easton, Riverdale, Dos Palos and parts of Fresno. As described previously, the AIM program provides children and their families with the tools to better control their disease and prevent asthma episodes that may result in an ER visit, including the reduction of airborne asthma triggers in the indoor home environment and teaching patients/caregivers how to better manage their child's asthma through proper medical care and use of asthma medications.

As children spend half of their day at school, this project also seeks funding to provide select elementary schools (primarily older buildings) in these communities with higher efficiency HVAC filters to reduce the levels of potential asthma triggers in the classroom, especially during periods of elevated outdoor air pollution, like smoke from wildfires. CCAC will work with school district facilities managers to determine the most cost/energy efficient option of filtering fine particles in classrooms. For example, schools with individual unit ventilators for each classroom may simply involve changing the main filter inside the ventilator from MERV 8 to MERV 13, while schools with classrooms on central HVAC systems may require a two step approach that involves adding lower efficiency (1", MERV 4) filters to each classroom return air (RA) vents in addition to a higher efficiency filter (4", pleated MERV 13) at the HVAC RA intake. To monitor the impact of enhanced classroom air filtration, CCAC will install low-cost PM2.5 monitors inside and outside of classrooms to track and compare indoor air quality (IAQ).

As mentioned, only select schools in these communities will receive the air filter intervention (due to budget constraints and based on anticipated need). However, all schools will be invited to participate in the indoor-outdoor air monitoring component, which will allow us to evaluate the efficacy of the enhanced air filtration by comparing intervention and non-intervention schools. This may also identify other (newer) schools that would similarly benefit from this intervention. As the AIM program collects health and quality of life (QOL) indicators on participants before, during and after the home environmental assessment, potential health impacts related to the school IAQ intervention may also be assessed by comparing changes in health and QOL indicators of AIM participants attending intervention and non-intervention schools.

**Project Location(s):** Parlier, Selma, Easton, Riverdale, Dos Palos, Fresno

**Emissions Benefits:**

**Project Timeline:**

See attached Workplan

**Itemized Budget:**

See attached Budget

<b>Goal:</b>	The MATHS Program will reduce asthma-related missed school days by improving children's asthma self-management practices and reducing asthma triggers in the home and school.			
<b>Target Population: Underserved children with asthma in disadvantaged community of the San Joaquin Valley.</b>				
<b>Objective</b>	<b>Activities to Reach Goal</b>	<b>Expected Measurable Outcome(s)</b>	<b>Evaluation Method(s)</b>	
Determine the presence of asthma triggers in and outside the home	<ol style="list-style-type: none"> <li>Utilize a modified EPA Home Environmental Checklist to assess asthma triggers in and outside the home.</li> <li>Conduct asthma and trigger education with patient and caregiver throughout the home assessment.</li> </ol>	<ol style="list-style-type: none"> <li>Families will receive a home environmental assessment.</li> <li>Clients will receive a home visit every 3 months for 1 year.</li> <li>Obtain three commitments from the caregiver of changes that they will make in their home and/or outdoor activities to reduce air pollution.</li> <li>Increased client asthma trigger knowledge will result in trigger reduction in the home.</li> </ol>	<ol style="list-style-type: none"> <li>Home will be evaluated for triggers every 3 months for 1 year.</li> <li>If client relocates, the new location will be assessed.</li> </ol>	
Determine present asthma disease management status in order to formulate appropriate intervention recommendations.	<ol style="list-style-type: none"> <li>Conduct Childhood Asthma Control Test.</li> <li>Conduct Mini Pediatric Asthma Quality of Life Test.</li> <li>Assess disease knowledge with Patient/Caregiver needs assessment.</li> <li>Assess medication compliance.</li> <li>Assess client's medical home.</li> </ol>	<ol style="list-style-type: none"> <li>Approximately 70% reduction in asthma symptoms due to medication compliance.</li> <li>100% increase caregiver/client confidence in asthma symptom management.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial home visit and re-evaluated every 3 months for 1 year.</li> </ol>	
Reduce the impact of home and outdoor environmental triggers on patient's asthma and improve patient's asthma disease management.	<ol style="list-style-type: none"> <li>Reduce exposure to in-home and outdoor triggers</li> <li>Ensure Medication Compliance</li> <li>Educate clients re: Air Pollution and Health 101, asthma management and medication use.</li> <li>Educate clients and caregivers to utilize low cost incentives to decrease asthma symptoms.</li> </ol>	<ol style="list-style-type: none"> <li>At least 98% of Clients/Caregivers will be more confident in asthma management.</li> <li>At least 70% of Clients will see an improvement in asthma symptoms.</li> <li>At least 80% of Clients will see an increase in medication compliance.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> <li>If the need is determined, clients may require additional home visits.</li> </ol>	
Determine past and present asthma impact to evaluate program effectiveness.	<ol style="list-style-type: none"> <li>Determine past healthcare utilization due to asthma.</li> <li>Determine missed school/work days due to asthma.</li> </ol>	<ol style="list-style-type: none"> <li>At least 50% decrease in hospitalizations and emergency department visits due to asthma.</li> <li>At least 70% decrease in missed school/work days due to asthma.</li> <li>At least 80% of clients/caregivers will have working knowledge of the relationship between air pollution and health.</li> <li>100% of clients will have a medical home.</li> </ol>	<ol style="list-style-type: none"> <li>Clients will be evaluated at initial visit and re-evaluated every 3 months for 1 year.</li> </ol>	

<p>Assess concentration of air pollution (fine particles) inside classrooms relative to outdoor air.</p>	<ol style="list-style-type: none"> <li>1. Concomitantly measure indoor and outdoor PM2.5 concentrations at schools.</li> <li>2. Compare indoor-outdoor PM2.5 ratio to age of building or other factors that could contribute to higher indoor-outdoor air pollution ratios.</li> </ol>	<ol style="list-style-type: none"> <li>1. Differences in contribution of outdoor air pollution to indoor air quality in different types of school settings, will be quantified, especially during wildfire smoke events.</li> </ol>	<ol style="list-style-type: none"> <li>1. Indoor-outdoor PM2.5 concentrations will be measured continuously to compare relative concentrations (ratios) of indoor-outdoor air quality in different school settings.</li> </ol>
<p>Assess concentration of air pollution (fine particles) inside classrooms relative to outdoor air.</p>	<ol style="list-style-type: none"> <li>1. Classrooms with higher relative indoor-outdoor PM2.5 ratios will receive more efficient (MERV 11-13) HVAC air filters.</li> <li>2. Other potential sources of indoor PM2.5 will be mitigated through engagement with teachers and school administrators.</li> </ol>	<ol style="list-style-type: none"> <li>1. Upgraded air filters and other intervention will improve indoor air quality.</li> <li>2. Children with asthma will experience fewer respiratory symptoms associated with airborne triggers in the classroom.</li> <li>3. Children with asthma will miss fewer days of school.</li> </ol>	<ol style="list-style-type: none"> <li>1. Indoor-outdoor PM2.5 concentrations will be measured continuously to assess impacts of upgraded air filter and other interventions on indoor air quality.</li> </ol>

# MATHS SEP Program

**Organization Name:** Central California Asthma Collaborative  
**Project Title:** Minimizing Asthma Triggers in the Home and School  
**Budget Contact Name & Phone:** Kevin Hamilton (559) 272-4874

PROJECT BUDGET	TOTAL BUDGET	In-Kind (if applicable)	Request from funder	Budget Justification (Narrative)
<b>PERSONNEL/STAFFING EXPENSES</b> (List title and % FTE on project)				
Community Health Worker 1.0 FTE	\$35,300.00	\$3,530.00	\$31,770.00	Community health worker will conduct home assessments, ensure proper medication usage, identify barriers to compliance, track outcomes, collect and report data.
School Outreach Staff 0.5 FTE	\$17,650.00	\$1,765.00	\$15,885.00	Coordinates with schools to improve indoor air quality, such as upgrading classroom HVAC air filters, reducing sources of dust, mold and animal dander, tracking indoor vs outdoor PM
Program Direction and Supervision 0.10 FTE	\$15,000.00	\$1,500.00	\$13,500.00	Training, supervision and direction of program staff to ensure accountability and progress toward deliverables
Benefits (32) % of Personnel	\$21,744.00	\$2,174.00	\$19,570.00	Taxes, Health, Dental, Vision
Subtotal, Personnel/Staffing Expenses	\$89,694.00	\$8,969.00	\$80,725.00	
<b>NON-PERSONNEL EXPENSES</b>				
Office Supplies	\$1,000.00		\$1,000.00	
Staff Travel	\$2,000.00		\$2,000.00	Travel Reimbursement will cover travel to and from client's homes at a current federal IRS mileage reimbursement rate.
High-efficiency HVAC Filters	\$10,000.00		\$10,000.00	Assist schools with purchase of upgraded air filters for classrooms (supplement increased cost)
Air Monitors	\$5,000.00	\$2,400.00	\$2,600.00	Purchase low-cost indoor and outdoor PM2.5 monitors for schools participating in air filtration intervention (outdoor monitors provided in-kind)
Home Remediation Incentives	\$2,000.00		\$2,000.00	Home Remediation supplies will be allocated on a case by case basis (includes HEPA vacuum cleaner, asthma friendly cleaning supplies, pest baits/traps, HVAC filters, inhaler spacers, etc)
Subtotal Program Direct Expense	\$20,000.00	\$2,400.00	\$17,600.00	
<b>OTHER EXPENSES</b>				
INDIRECT/OVERHEAD EXPENSE				
15% of Direct Expenses	\$16,454.10	\$1,705.35	\$14,748.75	
Direct Expenses = Personnel + Non-Personnel				
<b>TOTAL EXPENSES</b> (Personnel + Non-Personnel + Other Costs)	\$126,148.10	\$10,674.35	\$113,073.75	