

Pennsylvania Asthma Control Program

Year 2 Evaluation Report

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Introduction

In September 2020, the Pennsylvania (PA) Asthma Control Program (ACP) was awarded a four-year cooperative agreement from the Centers for Disease Control and Prevention (CDC). This agreement funds the implementation and coordination of the EXHALE technical package, which is comprised of several evidence-based asthma interventions. These interventions include **E**ducation on asthma self-management; **eX**tinguishing smoking and second-hand smoke; **H**ome visits for trigger reduction and asthma self-management education (ASME); **A**chievement of guidelines-based medical management; **L**inkages and coordination of care; and **E**nvironmental policies to reduce indoor and outdoor asthma triggers. Established in 2006, the PA ACP is the collective work and interventions of many partners at the state and community levels. The ACP funded partners are the Children’s Hospital of Philadelphia’s (CHOP) Community Asthma Prevention Program (CAPP), American Lung Association (ALA), Quality Insights (QI), Allegheny County Health Department (ACHD), Women for a Healthy Environment (WHE), and Duquesne University School of Pharmacy Center for Integrative Health (DUCIH).

Year 2 of the ACP activities occurred from September 2021 to August 2022. PA Department of Health (DOH) contracted with Public Health Management Corporation’s (PHMC) Research & Evaluation Group (R&E) to evaluate the ACP for CDC reporting purposes and internal quality improvement. Year 2 evaluation activities were designed to record formative progress, create infrastructure for summative evaluation in the future, and meet the needs and interests of program administrators.

The purpose of this report is to (a) provide an overview of the PA ACP evaluation activities completed in Year 2; (b) summarize findings from formative evaluation activities, and (c) describe the outlook for evaluation work moving into Year 3. Findings describe progress toward program objectives, implementation challenges, and recommendations for Year 3 planning and implementation. See Figure 1 for a timeline of Year 2 program milestones and evaluation activities.

Summary of Evaluation Activities

DOH program administrators and evaluators reviewed and discussed recommendations in the Year 1 Evaluation Report in November 2021. Afterwards, the Strategic Evaluation Plan (SEP) and Data Management Plan (DMP) were updated according to review of formative evaluation findings, progress to objectives, and adjustments suggested by the CDC. Evaluators made recommendations to the Evaluation Planning Team and led a discussion on multiple options for updates to the SEP and DMP. The updated SEP and DMP were submitted to the CDC in April 2022.

Figure 1. Timeline of Year 2 Program Milestones and Evaluation Activities

Sep. -Dec.	Jan.-March	April-June	July-Aug.
<i>Note: Program milestones are in white rows, and evaluation activities are in gray rows.</i>			
Evaluation activities related to ACP operations and infrastructure			
Monthly PHMC & DOH project evaluation meetings; Every other month ACP partner meetings; Participated in CDC evaluation technical assistance (TA) and Community of Practice Planning for Year 2 evaluation activities	Supported development of Strategic Plan; collected mid-year performance measures (PM); provided PM TA to partners; updated SEP	Discussion of economic evaluation options; made changes to data collection for health equity interests	Planning for economic evaluation; Data analysis and development of Year 2 Evaluation Report
School based ASME implemented (DUCIH) Kickin' Asthma (KA) facilitators trained (ALA)	KA & Open Airways for Schools (OAS) implementation began (ALA)		School ASME clinics are scheduled for SY22-23 (DUCIH)
OAS & KA data collection tools launched		OAS & KA data collection tools updated; Data use agreement (DUA) with DUCIH established	Analysis of KA data DUCIH participant data analysis
Referrals to smoking cessation programs continue (DUCIH, CAPP)			
Review of quarterly reports			
Virtual workshops and events share information about asthma, green cleaning kits distributed (WHE)	FindHelp.org referral systems	New community health worker (CHW) hired (WHE)	
	Discussed goals of home assessments, planning for data sharing and link to ASME data		

Oct. -Dec.	Jan.-March	April-June	July-Aug.
Home visit services provided (CAPP, DUCIH)			→
Evaluators attended Asthma Disparities Summit (CAPP)		DUA with DUCIH established	Review of quarterly and annual reports DUCIH participant data analysis
Stock albuterol policy education initiative	Stock albuterol policy bill in committee discussion		→
Key informant interviews about policy initiatives	Review quarterly reports		→
Recruitment of new practice in quality improvement activities	Ongoing TA and support of progress toward practices' goals		→
			Review of QI reports
Pennsylvania Asthma Partnership (PAP) quarterly meetings; workgroup meetings; development of Strategic Plan	Collect and review feedback on draft Strategic Plan		→
Observation of PAP meetings Field PAP self-assessment tool	→ Review of Strategic Plan	Evaluation Learning Session 1; analysis of self-assessment tool responses	→
	Allegheny County Asthma Task Force convened quarterly		→

Updates to the SEP included the following: increasing the frequency of performance measure (PM) reporting to DOH, adding demographic detail to PMs, and refining evaluation questions to reflect health equity goals. DOH requested that PMs be collected twice per year, so that recent data could be included in applications and communication to the CDC. The internal PM data collection tool was adjusted following changes made by the CDC and requests from ACP funded partners for simplified reporting. Evaluators scheduled technical assistance calls with funded partners as needed to answer questions and ensure data quality.

Evaluation questions for Individual Evaluation Plans (IEPs) were edited based on what evaluators learned about data availability and to demonstrate program reach to overburdened communities. IEPs with data collection underway were edited to reflect these changes.

A large amount of discussion with funded partners about updates to the SEP focused on health equity. Evaluators guided the Evaluation Planning Team through this discussion knowing that interest and commitment from the ACP funded partners would be essential to successful equitable evaluation. Evaluators presented several options of evaluation questions and data collection for discussion. The specific items prioritized by the ACP funded partners were:

- a) collect data for PMs F and G with a breakdown by race and ethnicity;
- b) examine home environment assessments collected by WHE to describe challenges in housing and air quality;
- c) develop and utilize a “why statement” to communicate why capturing data on social determinants of health (SDOH) and racial equity are important to the ACP.

The “why statement”: Racial and ethnic minority groups experience higher rates of asthma due to social and economic factors and systems of oppression. ACP, ACHD, and partners want to ensure services are getting to these groups, so they can achieve an optimal level of health and well-being. To do this, we first need to know who is and is not receiving services. By collecting race and ethnicity from our program participants, ACP, ACHD, and partners commit to identifying and addressing health care disparities, the conditions creating them, and to plan effective and high-quality services to reach those most impacted by asthma. Further details about this health equity discussion can be found in the Strategic Evaluation Plan dated March 2022.

In addition, an informal Action Plan was drafted by evaluators following completion of the Year 1 Evaluation Report to document next steps and activities in response to evaluation recommendations. The Action Plan is a living document, updated quarterly by evaluators. It outlines the efforts initiated by the ACP and action steps elucidated from group discussion in ACP partner meetings and PAP meetings.

Evaluators continued to lead evaluation planning and facilitate reflection in ACP partner meetings throughout the year. Funded partners discussed communication of program data, such as how the CDC uses PMs, and utility of evaluation findings. Evaluators provided technical assistance regarding PMs, data management, communication of epidemiological data, mapping, health equity, and equitable evaluation.

Brief Findings by Program Component

The SEP organizes the ACP's activities by type of intervention, and this evaluation report organizes findings similarly. The following sections summarize formative findings to (a) document progress made in accordance with the ACP work plan; (b) answer the evaluation questions that could be addressed with the data available at the time of reporting; and (c) outline recommendations for Year 3 planning and implementation. Program components are organized in order of priority according to ACP funded partners. All program components are included except for evaluation of the Allegheny County Asthma Taskforce because the ACP manager and evaluators agreed that evaluation of its activities would be postponed.

Evaluation findings for each program component are organized by evaluation questions, designated by section headings. A high-level summary table accompanying each component describes progress to objectives, challenges, and opportunities. Additional outcome evaluation questions described in the SEP will be discussed in future years as data become available.

School based asthma self-management education and services

Progress to objectives	Challenges	Opportunities
OAS in 1 district, 7 schools, 279 participants KA implemented in 1 district, 29 participants DUCIH clinics in 4 districts, 7 schools 75 participants in DUCIH school clinics All schools in environmental justice (EJ) areas 33% (n=13) of newly enrolled DUCIH participants had poorly controlled asthma at enrollment 48% (n=6) of DUCIH participants with poorly controlled asthma at enrollment attended at least 60% of sessions, 100% of them had improved asthma control at follow up	OAS & KA infrastructure for technical assistance Maintaining communication and engagement with families	New referral data management strategies can improve linkages to community resources Six counties (outside of Philadelphia and Allegheny) have active KA & OAS facilitators

Are school based programs a) recruiting adults from high burden areas to be program facilitators; and b) reaching students who have the highest burden of disease?

OAS, KA, and DUCIH school clinics recruited staff and served children in environmental justice (EJ) areas or regions impacted by excess air pollution. Over the course of Years 1 and 2, ALA trained 17 KA facilitators and 12 OAS facilitators in Allegheny County (AC) and Philadelphia County (PHL). One organization, Latino Connection headquartered in Dauphin County, had five health educators trained in KA. This was a unique opportunity because Latino Connection has statewide reach and Dauphin County has been identified as having a higher age-adjusted asthma hospitalization rate (32.86 per 10,000 population).¹

¹ Age-adjusted asthma hospitalization rate, 2016-2019. Pennsylvania Department of Health, Division of Environmental Health Epidemiology, (2022). Pennsylvania Environmental Health Indicators Map. <https://padoh.maps.arcgis.com/home/webmap/viewer.html?useExisting=1>

To understand the staffing of OAS & KA at any one time, it is important to remember that the number of facilitators available changes independently of number of trainings completed. Facilitators can be lost over time due to expiration of certification or changes in employment that limit facilitators from implementing classes.

To quantify the network of OAS and KA facilitators available statewide, including facilitators trained by efforts outside of the ACP, evaluators examined records from the ALA national office about facilitator training. ALA has 19 active OAS and 20 active KA facilitators on file for PA. Table 1 below displays the number of facilitators per county, the age-adjusted hospitalization rate, and prevalence of asthma among children.² KA is available in one more county than OAS. Two counties containing asthma capitals, as identified by the Allergy and Asthma Foundation,³ do not have any facilitators – Lehigh and Lackawanna.

Table 1. OAS & KA facilitators, by county, with asthma prevalence among children and total population asthma hospitalization rate

County	Number of OAS facilitators	Number of KA facilitators	% of students with asthma (SY19-20)	Age-adjusted asthma hospitalization rate, 2016-2019 (per 10,000 population)
Philadelphia	13	3	17.04	118.71
Allegheny	2	13	9.34	40.07
Montgomery	1	1	10.69	34.13
York	1	0	9.49	32.47
Lebanon	1	0	11.39	31.81
Northumberland	1	0	7.59	29.92
Chester	0	1	10.17	26.59
Cumberland	0	2	9.49	14.59

Evaluators used the DOH Environmental Health Indicators Map to confirm that all schools with KA or OAS implementation were in EJ areas.⁴ Race and ethnicity questions were added to the OAS and KA participant pre-post surveys to capture program reach to students of color, but this information was not collected due to the timing of implementation and lack of infrastructure to support dissemination of updated instruments.

To capture the health status of OAS and KA participants at enrollment, ACT scores and hospitalizations and emergency room visits due to asthma during the three months prior to participation were collected at the first ASME session. From the asthma control test (ACT) scores of 20 KA participants at School A in AC prior to participation:⁵

- the mean ACT score was 20.6 (range= 13-25; SD=4.19);

² Pennsylvania Department of Health, Division of Environmental Health Epidemiology, (2022). Pennsylvania Environmental Health Indicators Map. <https://padoh.maps.arcgis.com/home/webmap/viewer.html?useExisting=1>; Pennsylvania Department of Health, School Health, (2021). Percent of students with asthma by county, 2019-2020 school year.

³ Asthma and Allergy Foundation of America, (2021). 2021 Asthma Capitals. Retrieved from asthmacapitals.com.

⁴ Pennsylvania Department of Health, Division of Environmental Health Epidemiology, (2022). Pennsylvania Environmental Health Indicators Map. <https://padoh.maps.arcgis.com/home/webmap/viewer.html?useExisting=1>

⁵ School names were redacted to protect the privacy of participants.

- seven participants (35%) had an ACT score of 19 or lower, indicating asthma that is not well controlled;
- three participants (15%) had an ACT score below 16, indicating very poorly controlled asthma.

Two out of 21 students reported two hospitalizations in the last three months, and one student reported four emergency room visits in the last three months.

Similarly for DUCIH, all schools served were in EJ areas. Out of 74 students who enrolled in the clinics, 56.8% were male and 43.2% were female. Participants had health insurance coverage either from medical assistance (88.9%) or a health plan from a caregiver's employer (11.1%). More than two-thirds of participants identified as African American (69.4%), and the rest identified as white (13.9%), multiracial (13.9%), or another race (2.8%). Regarding asthma severity at baseline, over half of participants had intermittent asthma (58%). Mild asthma severity was the second most prevalent (27.5%), and a small proportion had severe persistent asthma (4.3%). Out of 53 participants for whom missed school days data are available, seven (13.2%) reported missing 10 or more school days, two (3.8%) reported missing 5-9 school days, 13 (24.6%) reported missing 1-4 school days. Thirty-one participants (58.5%) reported missing no school days due to asthma. Participants' controller medication compliance was assessed according to medication prescribed. At enrollment 65% (n=19) of participants assessed were taking their medication only partially or not at all as prescribed. At enrollment six participants had at least one prior ER visit, and four had at least one prior hospitalization due to asthma.

What are barriers and facilitating factors to implementation and expansion? What methods have been successful in recruiting participants?

ASME programs continued in the PHL and AC schools where implementation and relationships were built prior to ACP funding. When searching for new program locations, facilitators turned to people and organizations with whom they had a working relationship. DUCIH found that training nursing school students to implement KA was a successful new method for implementation and contributed to data entry for the evaluation. Lack of school capacity and administrative buy-in, partially residual from the COVID-19 pandemic, continued to be a reason why schools would not schedule programming. Within ALA specifically, staff indicated that the administrative infrastructure did not consistently track, communicate, and mobilize certified facilitators after completion of OAS and KA training.

Recruitment of participants in AC schools by DUCIH relied on electronic medical records and school records, and while an effective method, it was complicated by conflicting records of asthma status. Program staff accessing the two different databases containing asthma diagnosis stated that information was not consistent between them. For example, a student with an asthma diagnosis in one database would not be listed as having asthma in the schools' records. It was observed that some enrolled participants did not take their controller medications as prescribed.

Another challenge was communication with two schools who already agreed to scheduled dates, time, and meeting space for the ASME program. Both School A and School B had substitute school nurses at the beginning of the year who were overwhelmed with COVID-19. DUCIH was able to work with district administrators to identify a new contact for the asthma program. Schools were scheduled for clinics through the end of the school year, but the schools changed class schedules without notifying clinic staff. DUCIH made efforts to improve communication about scheduling conflicts.

How do programs make mid-stream adjustments to implementation and recruitment based on reach, retention, and asthma outcomes of participants?

To increase reach, ACP partners expressed interest in pursuing locations hosting out-of-school time programming, such as the Boys & Girls Club or other community-based organizations (CBOs). This was pursued in Year 2 through conversations with CBO administrators, but implementation was not scheduled. Regarding reach and implementation, DUCIH found that nursing school students could successfully implement KA, which will provide a new option moving forward to increase facilitators. The nursing students also contributed to data entry for evaluation purposes because class requirements included data collection and management. When school schedule changes impacted the DUCIH clinics, they identified CHWs who could potentially supplement lost school visits with home visiting. Increased communication with the enrolled participants' providers was also mentioned as one way DUCIH could get information about asthma status if communication with participants was not consistent.

How effective is the program at achieving intended asthma-related outcomes?

Asthma-related outcomes of KA were measured through self-report survey data, which was collected from 29 KA participants. However, analysis of pre- to post- intervention data is limited to 18 matched responses. Of the 18 KA participants with linked pre-post intervention survey data, attendance at each session was collected for nine participants. This is below DOH's minimum n size threshold, and therefore frequencies must be suppressed for number of sessions attended, and asthma knowledge and ACT outcomes disaggregated by attendance (in other words, receipt of the entire intervention).

Table 2 below summarizes the responses at pre- to post-intervention. At pre-test, no participants answered all questions correctly. More students could identify mold, smoke, and pollen as triggers at post-test. In addition, more students correctly identified the quick relief inhaler as the medication to use if having trouble breathing.

Table 2. Frequencies of responses to asthma knowledge questions, before and after participation in KA

Which of the following are asthma triggers? (Check all that apply) (n=18)	Frequency Pre %	Frequency Post %
Mold	16.7	38.9
Exercise	44.4	44.4
Smoke	33.3	50.0
Pollen	38.9	55.6
Cold weather	50.0	50.0
What asthma medication should you take right away if you have trouble breathing? (n=16)		
Quick Relief Inhaler (correct)	56.3	75.0
Controller Inhaler	43.8	0
All of the above	0	12.5
None of the above	0	12.5

Table 2 cont'd. Frequencies of responses to asthma knowledge questions, before and after participation in KA

What happens during an asthma episode? (Check all that apply) (n=18)		
Muscles around the airways get tight	72.2	61.1
Swelling in the airways	27.8	50.0
Extra mucus in the airways	27.8	55.6
None of the above	11.1	16.7

Note: Two knowledge questions instructed participants to “check all that apply” and required each response option other than “None of the above” to be checked for a correct answer. The third knowledge question was multiple-choice and asked which type of inhaler to take right away when having trouble breathing.

While there was almost no change in ACT score from pre- to post-, there are a number of factors that may have influenced this ($M= 0.1;SD=4.51;t(17)=0.11;p=0.92$). Without attendance data, the degree to which these participants received the full intervention cannot be confirmed. For example, if several participants only attended two sessions (half of the intervention), then it is not reasonable to expect change in ACT score. Asthma control assessed post-intervention may also have been influenced by air quality, exercise, or other physical and external factors. Interpretation of these results should be used for quality improvement only and considered with caution due to small sample size.

In the DUCIH ASME the mean number of visits among all participants enrolled was 4.17 ($SD=1.68$), with a range of one to nine visits. The mean number of visits is presented here because the structure of DUCIH clinics allows for participants to receive follow up visits as long as needed. There is not a set number of visits that defines the intervention, and ASME content is tailored to each student so they receive all necessary content. All participants, except for five, had at least one follow up visit. Of the five participants with only one visit, two of them enrolled in May 2022 and did not have another opportunity in the school year for a visit. The other three participants with only one visit were enrolled in Spring and Fall 2021.

Table 3 below describes the change in ACT score among DUCIH participants by various demographic characteristics and asthma status. Sixty-one participants had visit records with ACT recorded at least twice and change in ACT score was assessed by paired samples t-test. Participants with well and poorly controlled asthma at enrollment improved their asthma control at their latest follow up visit. Those with moderate asthma severity made significant improvement in asthma control. Participants identifying as Black or African American did not exhibit significant improvement in asthma control, while participants of all other race categories showed improvement. These findings should be interpreted with caution due to small sample size; this analysis will be revisited in the future once a sufficient sample size is achieved. Additionally, to understand asthma control outcomes for specific racial and ethnic groups, race must be understood as a social construct and asthma control as an outcome impacted by social determinants of health (i.e., housing, environmental pollution) and systematic racism. These contextual factors are not currently included in this analysis, but will be examined in the future as possible.

Table 3. Change in asthma control among DUCIH participants, enrollment to latest follow up

Pairs grouped by:	Mean	SD	t(df)	p-value
Well controlled	1.34	4.02	2.06(37)	0.046
Poorly controlled	2.65	4.34	2.93(22)	0.008
Intermediate severity	1.42	4.49	1.62(25)	0.119

Table 3 cont'd. Change in asthma control among DUCIH participants, enrollment to latest follow up

Pairs grouped by:	Mean	SD	t(df)	p-value
Mild severity	1.21	5.10	0.89(13)	0.389
Moderate severity	3.25	3.09	4.21(15)	0.001
Black or African American	0.98	3.98	1.59(41)	0.119
All other races	3.74	4.00	4.07(18)	0.001
Medical assistance recipient	1.57	4.05	2.72(48)	0.009

Note: Due to small sample size, these findings should be interpreted with caution and statistical tests for severe asthma, other insurance types, and individual race categories were suppressed. Demographic categories displayed in this analysis were chosen based on health equity priorities. To understand asthma control outcomes for specific racial and ethnic groups, race must be understood as a social construct and asthma control as an outcome impacted by social determinants of health (i.e., housing, environmental pollution) and systematic racism. These contextual factors are not currently included in this analysis, but will be examined in the future as possible.

Smoking cessation services and referrals

Progress to objectives	Challenges	Opportunities
35 caregivers were referred to cessation resources	Supporting caregivers who are not ready to quit	Provision of NRT in the DUCIH cessation program may increase engagement and quit attempts

How are referrals made to smoking cessation resources, and what infrastructure is set up to support referral systems? How are referral processes integrated into existing program implementation and workflow?

Smoking cessation services and referrals operated in the same way as in Year 1. CAPP primarily referred to the PA Quitline (1-800-QUIT-NOW) when a home visiting participant caregiver expressed interest in quitting. CAPP identified 32 caregivers who used tobacco, which represented 36% of the families enrolled.

The DUCIH Asthma Program Coordinator screened caregivers of newly enrolled students in school clinics for tobacco use. All who screened positive were referred to the PA Quitline as well as the DUCIH tobacco cessation program. DUCIH ran two cohorts of the cessation program throughout the year, which is open to the general public. DUCIH identified three caregivers of students with asthma who were interested in quitting tobacco. Staff commented that the caregivers’ lack of engagement was mostly a result of contemplating quitting, but not being ready to prepare or adapt to a change in behavior.

To examine the availability of nicotine replacement therapy (NRT) to AC residents, DUCIH worked with ACHD, and specifically the Tobacco Program Coordinator, to develop and field a survey at ACHD’s community-based health screening locations. Findings indicated there was not as great a need for NRT as initially thought, but nonetheless, availability and access to NRT remained important for the program

team. Currently, PA Quitline provides a month’s supply of NRT and residents need to call to have it shipped to them. DUCIH and ACHD pursued opportunities to increase availability of NRT with the goal that families identified in asthma clinics could receive NRT at the same time they are referred to cessation resources. The initial plan was to create a standing order for NRT from the ACHD director; however, when this was not possible, DUCIH successfully obtained funding from Adagio Health to provide NRT to those enrolled in their tobacco cessation program.

Community-based services

Progress to objectives	Challenges	Opportunities
WHE disseminated educational content in 23 workshops/virtual information sessions and attended 45 outreach/community events. 1,882 individuals were reached at the community events WHE distributed 160 green cleaning kits and 130 radon testing kits 55 home assessments completed 24 internal referrals between ACP partners 6 referrals to Rebuilding Together Pittsburgh (RTP) for home repairs	Limitations of referral platform (only outgoing referral detail is available) Communication with external referring organizations	Focused CHWs may increase local trust Whole Home Repairs Program Participation in the Breathe Collaborative may be a connection to residents and grassroots organizations interested in community ownership and advocacy

Are programs reaching those who have the highest burden of disease? What methods have been successful in recruiting participants?

WHE attended and participated in 45 community outreach events, which were hosted in-person in several ZIP codes of interest. For a list of the specific events and locations, see Table 3 below. WHE reached 1,882 individuals at these events, and all events were in or adjacent to ZIP codes of EJ areas as designated by DOH’s Environmental Health Indicators Map.⁶ Attendees included local residents from inside and outside of the ZIP code. Often WHE’s participation included a table or booth with educational materials or a sponsored activity, such as an information session or workshop. WHE staff shared information about the ACP ASME programs, other WHE activities, and additional community resources, as helpful to attendees. Other community and healthcare linkages that WHE currently maintains include ACHD Lead Investigation Program, AC Lead Safe Homes Program, Alliance for Infants and Toddlers, Valley Clean Air Now Air Filter Program, Footbridge to Families economic assistance services, Allegheny Alerts, housing, and federally qualified health centers. In conjunction with this work, WHE hired and established focus areas for CHWs in the Wilksburg and east suburbs, including, but not limited to Turtle Creek, Braddock, Rankin, and Penn Hills.

⁶ Pennsylvania Department of Health, Division of Environmental Health Epidemiology, (2022). Pennsylvania Environmental Health Indicators Map. <https://padoh.maps.arcgis.com/home/webmap/viewer.html?useExisting=1>

Table 4. Community events attended by WHE, by ZIP code

Event	ZIP code
Clairton Back to School Event	15025
Clairton Community Expo	15025
Clairton Family Center Re-opening event	15025
Clairton Inn Open House	15025
Clairton Library	15025
Beverly's Babies Free Community Baby Shower in Braddock	15104
Beverly's Babies Free Community Baby Shower in South Park	15129
Sustainability Event in South Park	15129
Beverly's Babies Free Community Baby Shower in McKeesport	15131
Good Neighbor Day McKeesport	15132
McKeesport Family Center Harvest Festival	15132
McKeesport Family Center Open House	15132
McKeesport Festival of Trees	15132
McKeesport Village for Kids	15132
UPMC McKeesport Behavioral Health Event	15132
Red Lantern Community Hub	15145
Turtle Creek Family Center Fall Festival	15145
Turtle Creek Multicultural Day	15145
Beverly's Babies Free Community Baby Shower in Monroeville (2 events)	15146
Beverly's Babies Free Community Baby Shower in East Liberty	15206
Sankofa Village Easter Egg Hunt	15208
Beverly's Babies Free Community Baby Shower in Carrick	15210
Beverly's Babies Free Community Baby Shower in Northside (2 events)	15212
UPMC Health Fair Heinz Field (2 Days)	15212
Black Breastfeeding Week Symposium UPMC Magee	15213
Community Baby Shower at UPMC Magee	15213
East Hills Family Center Spring Cleaning	15221
Wilkinsburg Healthy Living Fair	15221
Wilkinsburg Walking Path Launch and Halloween Celebration (2 events)	15221
Earth Day Market Square	15222
Open Streets (2 days)	15232
Duquesne Health Fair (at a football game)	15282
Duquesne Story Walk	15282
Beverly's Babies Free Community Baby Shower in Irwin (2 events)	15642
HiView Community Resource Fair	15132
UPMC Black Farmers Market*	Hill District
UPMC Latino Health Fair*	Squirrel Hill

*Note: Specific ZIP code not available.

WHE hosted or collaborated in 23 workshops focused on indoor air quality and minimizing asthma and allergy triggers in the home by implementing green cleaning practices. These workshops were primarily virtual and advertised in online websites and social media. Online workshops were hosted with the following organizations: Global Links, Life Span (three separate events), Turtle Creek Family Center, Clairton Family Center, Southwestern PA Cancer and Environment Network, Duquesne Parent Coffee, Mathilda Theis Child Development Center, Carnegie Library – McKeesport, A Second Chance Inc., McKeesport SHIP, Steel Valley Family Center, Penn Hills Library, NCNW Lunch and Learn, Cancer Bridges, Hazelwood AIU Family Center, Mon Valley Providers Council Spring Into Healthy Housing, and Turtle Creek Family Center.

WHE conducted 55 healthy home assessments and provided resources including cleaning kits, pest management supplies, dehumidifiers, HEPA vacuums, air filters and energy conservation information resources. In addition, WHE in partnership with ALA distributed 130 free radon testing kits in recognition of Radon Action Month in January. WHE worked with community members whose home radon levels were elevated to connect them with a certified radon mitigator. At the time of reporting, additional details (such as locations, asthma triggers in the home, demographics of participants, etc.) from the healthy home assessments were not available.

What are barriers and facilitating factors to implementation and expansion?

Attendance at events generally followed seasonal trends; during the winter and holiday months there tended to be fewer attendees, whereas in spring and summer it was larger. WHE intentionally maintained a balance between in-person and virtual events. Access to technology and utilizing online platforms can be challenging for families without home internet and can impact their ability to participate.

Initially, several families scheduled home assessments with a WHE CHW and then canceled. Starting the referral process to other ACP partners was challenging, and staff noted that they needed a more streamlined process for referring families across agencies. Staff are also mindful that referrals to resources need to be timely to build trust with residents. ACHD and DUCIH tried to host outreach events with the Boys & Girls Club and another after-school location, but miscommunication regarding parental permission forms and lack of interest caused these to be cancelled. They found that most of the kids walk to and from the afterschool programs, rather than parents picking them up, which indicates other modes of communication will be needed to reach parents.

How do programs make mid-stream adjustments to implementation and recruitment based on reach, retention, and asthma outcomes of participants?

WHE continued to use virtual platforms to engage individuals and community partners in new ways. As events shifted back safely in person, WHE followed suit and identified new opportunities for in-person engagement. WHE staff commented that Beverly's Birthdays community baby showers were a successful new point of contact that specifically reaches low income and homeless pregnant people and infants. These events serve families expecting or with a newborn aged 0-3 months, and are held at community centers, libraries, and churches. Additional time and resources were invested intentionally in areas where WHE would like to improve reach. By hiring CHWs for specific neighborhoods, they may

increase trust and rapport with residents because residents will interact with the same person over time.

To what extent are program participants (a) being referred to and (b) utilizing referrals to community-based services?

WHE, DUCIH, and RTP, with the oversight of ACHD, created a defined referral process through findhelp.org for families that would benefit from comprehensive asthma care services including community-based healthcare coordination and environmental remediation. Partner staff stated the ideal outcome of improving referral processes was to leverage data collection and educational programming to identify asthma and allergy resources to improve home environments via low and no-cost solutions. Referral data will also enable partners to monitor referral trends by geography, vet external organizations for reliability, and improve efficiency. Referrals to WHE were eligible for healthy home assessments and the facilitating CHW referred families to local FQHCs if their asthma status necessitated nebulizer treatment. Referrals to DUCIH were eligible for the suite of ASME and tobacco cessation services. Through additional rollover funding from the CDC, RTP was added as a referral partner in AC for one year to perform no-cost home rehabilitations and repairs for owner-occupied residences.

Referral counts and outcomes were available for internal (from the ACP partners) and external referrals that came into ACP programs from other organizations. Closed-loop referral data were not available for referrals submitted by ACP partners to outside organizations. A total of 24 unique internal referrals occurred, and of those, four received help, four were not reached, and one declined assistance. For sixteen referrals, it was not reported whether services were received. A total of six external referrals occurred; however, two came from the Bridges to Health CHW in Hazelwood, which was another DUCIH program. RTP was referred for six families identified as needing home repairs - one was referred again to the Urban Redevelopment Authority, one received relocation assistance through RTP, two were not reached, and the outcome for two families is unknown. Due to funding limitations, RTP is unable to continue as a referral partner, and the ACP is hoping WHE will be able to fill this space moving forward.

Home visit services

Progress to objectives	Challenges	Opportunities
CAPP: 597 intervention visits and 312 follow up visits delivered, 87 children enrolled in CAPP, 40 families enrolled in CAPP+ DUCIH: 7 families received visits, an additional 5 families are interested	Maintaining contact with participants and their caregivers	Referral pathway pilot with RTP Whole Home Repairs Program

Are home visit services being implemented as intended?

CAPP enrolled 87 children into the home visiting program in Year 2. CHWs completed a total of 597 intervention visits (303 virtual and 294 in-person), with each child receiving seven intervention visits. A total of 312 follow up visits were completed at 3, 6, and 12-months post enrollment (177 virtual and 135 in-person).

The DUCIH asthma program coordinator created a training module for all six CHWs in Hazelwood and Clairton. The coordinator referred nine children enrolled in school based ASME to asthma home visiting. CHWs made several home visits to discuss the program and assist with the required paperwork. CHWs delivered ASME to seven families, and at the time of reporting four home visits were completed. An additional five families were identified to participate, and CHWs engaged those families by providing information about the program and inviting them to participate.

Are programs reaching those who have the highest burden of disease? What methods have been successful in recruiting participants?

CAPP continued to offer home visits virtually and in-person for the full year. Virtual visits provided new opportunities for families to participate in CAPP's home visitor program, and during this time, approximately 53% of the visits were completed virtually and 47% were completed in-person. Of those children who were eligible for 12 month follow up in Year 2 (in other words, completing the intervention), 101 had poor asthma control at enrollment, 29 were well controlled, and in three children asthma control at enrollment was unknown. The largest age group was 5-11 years old (n=67). A majority of CAPP participants were Black, non-Hispanic (n=118), and the second largest racial group identified as another race (n=14). Very few were White non-Hispanic (n=4) or Hispanic (n=2). This race and ethnicity composition reflects that of the West Philadelphia communities broadly.

All DUCIH home visiting participants heard about the program and enrolled via DUCIH's school based ASME program. Similar to the linkage between CAPP and CHOP providers, this recruitment allowed for seamless entry into home visiting services, as DUCIH was already the primary ASME provider familiar with the participants asthma status and lung function. Demographic characteristics and asthma control of participants at enrollment to home visiting were not available at the time of reporting.

What are barriers and facilitating factors to implementation and expansion?

DUCIH staff named their largest challenge as maintaining contact with families at schools where engagement from school personnel was low and no CHW's were on site. As all home visiting participants came from the school based ASME program, the most robust and initial point of contact was in the school clinic context. School A and School B had substitute school nurses at the beginning of the year who were overwhelmed with COVID-19 protocols. They also continue to work with school personnel and primary care providers to increase communication with families.

How do programs make mid-stream adjustments to implementation and recruitment based on reach, retention, and asthma outcomes of participants?

At the end of Year 2, CAPP changed the criteria used to identify children in the EMR system for program recruitment. This change broadened the population of children with potential access to the program from 159 at mid-year to 492 at the end of the year.

DUCIH identified home visiting as an opportunity to mitigate time lost in the school based ASME program. While school personnel scheduled ASME through the end of the school year, the school

schedules changed, and the schools did not make up all the designated ASME time due to difficulties rescheduling. For students whom DUCIH did not see in school as much as anticipated, CHWs may potentially deliver supplementary home visits.

To what extent are program participants (a) being referred to and (b) utilizing referrals to community-based services?

CAPP maintained linkages with payors for reimbursement of services, community services, healthcare, and other state-level programs. CAPP has worked with Aetna Better Health and Keystone First to establish plans for implementation and reimbursement of home visiting services. In addition, they maintained linkages with community services such as contractors for home repairs, pest management, financial counseling, home inspections, clutter removal, and beds for children to sleep in at home.

Currently, the DUCIH home visiting program has similar linkages as the school based ASME – transportation, legal services, food resources, and housing. Linkages are designed to facilitate follow up to referrals and systematic information sharing. Staff noted the referral process to ACP partners as a challenge, and they continue to troubleshoot solutions to ensure families receive the services intended by referrals in a timely manner. Referral data currently exists in a separate tool than visit-level data; DUCIH expressed interest in improving this so that a more accurate picture is available of the services and referrals that individuals receive.

How effective is the program at achieving intended asthma-related outcomes?

Of those CAPP participants who were eligible for 12 month follow up in Year 2 (in other words, completing the intervention), 101 had poor asthma control at enrollment, 29 were well controlled, and in three asthma control at enrollment was unknown. Thirty-eight participants (38%) with poor asthma control at enrollment completed follow up, and 100% of them improved asthma control. Findings on asthma control for DUCIH participants were not available at the time of reporting.

Asthma friendly policy promotion

Progress to objectives	Challenges	Opportunities
<p>HB2155 regarding stock inhalers in schools was introduced by Rep. Lewis, and it was referred to the House Education Committee.</p> <p>ACHD updated air pollution alert policies</p> <p>ACHD is working to support better community transportation at a reduced cost</p>	<p>Addressing the concerns of education-focused legislators regarding HB2155</p>	<p>Whole Home Repairs Program</p> <p>Other PAP members are leaders in advocacy efforts.</p> <p>PAP members are clinicians or have relationships with clinicians attuned to environmental health advocacy</p>

To what extent have partnerships and policies been leveraged to expand the EXHALE strategies?

Thus far, ALA has taken a primary role in presenting policy updates to the ACP and PAP. ACHD connected ALA with their health policy specialist, which provided opportunities for ALA to discuss the stock albuterol bill to a public health policy coalition. Details regarding similar networking activities among other PAP members for other advocacy efforts are unknown at this time, however, as the new Asthma Strategic Plan develops momentum there will be additional policy updates intentionally communicated in the PAP. In addition, ACHD has internally made changes to air pollution alert policy and is working to support reduced cost public transportation.

Regarding progress on the stock albuterol policy, **HB2155** was introduced by Rep. Lewis and referred to the House Education Committee in December 2021, where it remained throughout the end of the 2021-2022 Legislative Session. This bill would allow schools to stock asthma medication or inhalers for children experiencing asthma attacks or respiratory distress in schools. Schools would purchase or secure donations of single inhalers containing a short-acting bronchodilator along with inexpensive disposable spacers.

In January 2022, ALA representatives met with Rep. Lewis as well as House Education Committee Chair Rep. Curt Sonney. Following the meeting an ALA Action Alert went out to ALA lung health advocates in Rep. Sonney's District (Erie County) to encourage a committee vote on HB2155. Afterwards his office communicated that "education stakeholders" had concerns regarding the bill. ALA worked with other states as well as national members of the advocacy team to develop responses to the expressed concerns. ALA gathered letters of support from several medical professionals, including CHOP and the Allergy & Asthma Network, and other advocates willing to provide testimony when requested.

To understand what other opportunities may exist within the PAP to support policy change, evaluators conducted key informant interviews with organizations expressing a direct focus on policy work. These organizations were identified by the ACP program manager and information gathered in discussions during PAP meetings. Other PAP members' focus on shale gas development, which is particularly relevant to asthma prevention efforts in rural communities. Current policy fines industry facilities for breaking emissions and pollution regulations. PAP members have observed that industry would rather pay the fines than change their practices, indicating a need for more effective policy that compels industry to reduce contamination. In furthering EJ work, there is also a need for healthcare providers to incorporate EJ into diagnostic and patient care practices. PAP members have observed physicians are sometimes reticent to speak about this, despite being presented benefits of environmental health screenings, particularly for children. Some PAP members are connected to the Coalition on Cancer and the Environment, which is a network of organizations also focused on environmental health policy.

While many PAP members focus on asthma remediation, the PAP has an opportunity to integrate more prevention efforts. One member who focuses on prevention is the Environmental Health Project (EHP), which directly impacts advocacy surrounding environmental exposures that cause asthma exacerbation (shale gas, setbacks as a partial solution), asthma prevention, distribution of air monitors and filters, and air quality education. EHP conducts health assessments for neighborhoods affected by EJ issues and

collaborates with monitor vendors to acquire discounts for those that cannot afford air quality monitoring. A goal of EHP’s health assessments is that this information be leveraged to affect zoning board decisions. The EHP’s presence in the PAP could be that of a key educator. The EHP’s origin as a grassroots organization also presents a potential connection point for community engagement with Southwestern PA in the future.

How were opportunities for expansion of asthma control services and asthma friendly policies prioritized?

In Years 1 and 2, only the stock inhaler bill has been presented in ACP and PAP meetings as a policy priority, which was a bill already receiving advocacy attention prior to the start of 1902 funding. While this bill gained several additional supporters, it is not yet clear that a sustained representation of support was established to ensure the bill would not be abandoned if key supporters ended their time in government office. The ACP and PAP will need to decide if the stock inhaler bill will continue to be at the forefront or if some attention should be diverted to other timely opportunities, perhaps at the local level.

One example of local level policy change in Year 2 is the update to the ACHD Rules and Regulations, Article XXI, with section 2106.06, Mon Valley Air Pollution Episode and relatedly, §2105.50 Open Burning policy. This change addressed pollution episodes in the area involving PM 2.5 and was submitted as part of AC’s contribution to the PA PM 2.5 State Implementation Plan. The new section 2106.06 created a defined area where an air pollution watch or warning is issued when the average ambient concentration of PM 2.5 in 24 hours exceeds a designated amount. Section 2105.50 Open Burning now bans wood burning in the municipalities identified in an air pollution watch or warning. These changes were recommended after PM content analysis and monitoring stations in the Liberty and North Braddock areas were reporting the largest number of high pollution days over 2016 to 2020. These policy changes aim to mitigate, but cannot prevent, the impact of PM 2.5 on people diagnosed with asthma and the general public. ACHD also reported efforts to improve public transportation, which may contribute to a reduction in car traffic and be a resource for low-income people with asthma.

Implementation of quality improvement processes to establish & encourage guideline-based care

Progress to objectives	Challenges	Opportunities
4 total practices/FQHCs participating, 1 new site recruited in Y2 4,825 estimated number of children with asthma who have access to the service or are impacted by the intervention	Lack of buy-in from staff Staff turnover EHR function and reporting	2 practices are patient-centered medical homes Interest in care coordination and linkages to community resources Actions taken to achieve goals include use of Asthma Control Test, Asthma Action Plans, and EHR for population health management

Is the quality improvement initiative being implemented as intended?

Four practices participated in the quality improvement (QI) activities, one of which was newly recruited this year and one of which resumed participation, returning from the 1404 funding cycle. These practices serve Philadelphia, Delaware, Lehigh, and Wayne counties. Philadelphia, Delaware, and Lehigh counties have the three highest age-adjusted asthma hospitalization rates in the state.⁷ Three of the four practices are not physically located in an EJ area but are within a short distance. Two urban/suburban practices not in an EJ area are 0.2 to 0.6 miles from at least one. The one rural practice is 8.3 miles from the closest EJ area. The practice in an EJ area is also located in an asthma capital.⁸ Across all practices, an estimated 4,825 children with asthma have access to the practices and may be impacted by the QI activities.

How many practices have completed the workflow assessment and developed practice goals?

All participating sites completed the initial workflow assessment and moved on to establishing goals and activities. The most common areas of focus were flu and COVID-19 vaccines programs; assessment and monitoring of asthma severity; use of asthma action plans with patients; and the use of EHR registry reports to identify patients with a diagnosis of asthma and information for population health management. Practices also expressed interest in accuracy of diagnoses, coordination of care, patient engagement, and linkages to community resources.

What are facilitators and barriers to implementation for both the QI staff and practices?

QI staff noted the following barriers to implementation of QI activities: COVID-19 pandemic; provider resistance to modifying and adding to workflows; staff turnover causing changes to project contact and practice workload; limitations in EHR functionality and reporting capabilities; and practices changing EHR systems during the project. QI staff made efforts to create linkages between OAS & KA programs and the QI practices; however, this was complicated by a lack of information about current locations for OAS and KA cohorts. ALA staff do not have real-time updates about current or future program implementation due to limited infrastructure for communicating with active facilitators.

⁷ Pennsylvania Department of Health, Division of Environmental Health Epidemiology, (2022). Pennsylvania Environmental Health Indicators Map. <https://padoh.maps.arcgis.com/home/webmap/viewer.html?useExisting=1>

⁸ Asthma and Allergy Foundation of America, (2021). 2021 Asthma Capitals. Retrieved from asthmacapitals.com.

Pennsylvania Asthma Partnership

Progress to objectives	Challenges	Opportunities
4 full PAP meetings 3 new member organizations Completed Asthma Strategic Plan, disseminated via DOH website with press release Communications workgroup compiles information to publish one-pager introductions of members EJ/health equity work group released glossary of common language	Starting the process of creating a sustainable team structure to move the Strategic Plan work forward	New members are a connection to underrepresented Asthma Capitals

How has the PAP promoted statewide planning, coordination, and expansion of asthma activities and resources?

Development and dissemination of the 2021-2026 Strategic Plan was the primary activity contributing to statewide efforts to address the burden of asthma. While the ACP program manager took the lead role in drafting the content of the plan, PAP members were invited to participate as described in the following section. To realign the new plan with realistic and measurable objectives, the ACP program manager reviewed all prior asthma strategic plans and gathered information from key individuals who were involved with the PAP in the past. DOH requested that evaluators examine and provide feedback on the strategic plan, contributing towards process evaluation of the plan. Evaluators conducted a literature review of instruments used to evaluate the quality of strategic plans. A strategic plan review worksheet created by Public Health Ontario⁹ was selected, and evaluators used this to provide structured feedback on the plan in January 2022. Feedback on the plan consisted of: clearly indicating parties responsible for activities, readability for the general public, use of public health promotion and health behavior theories where appropriate, writing cross-cutting objectives that build upon work in multiple goals, and balance of detail with flexibility for change.

How has the PAP engaged members, community members, and key individuals, and what are the characteristics of those groups?

As of May 2022, three new government entities from Northeastern PA formally joined the PAP – the City of Scranton, Lackawanna County, and Wilkes-Barre City Health Department. DOH was connected to these entities by ALA after expressing interest in an awareness campaign about allergies and asthma in Scranton. These are notable new members because Scranton and other locations in the northeast are designated as Asthma Capitals by the Asthma and Allergy Foundation.¹⁰

As of July 2022, the PAP membership list contained 36 individuals representing 21 unique organizations. Over the year 12 organizations attended at least three of the quarterly meetings, and three

⁹ Ontario Agency for Health Protection and Promotion (Public Health Ontario). Planning Health Promotion Programs: Introductory Workbook. 4th ed. Toronto, ON: Queen's Printer for Ontario; 2015.

¹⁰ Asthma and Allergy Foundation of America, (2021). 2021 Asthma Capitals. Retrieved from asthmacapitals.com.

organizations did not attend at all. The content of PAP meetings was primarily updates from DOH, gathering feedback on data products and documents, and small group networking. The three workgroups contained about two to five members, which remained consistent throughout the year. The workgroups played a large role in activities; however, the ACP program manager noted that workgroups were only willing to take on small amounts of work at a time to accomplish between meetings.

A strategic plan workgroup was created to focus on development of the new Asthma Strategic Plan and advise the ACP program manager on content. The development process started in October 2021 with the work group reviewing strategic plans created by other states and collecting feedback from PAP members. The ACP program manager led a large group discussion and SWOT analysis in the October 2021 PAP meeting to generate goals. Afterwards, the ACP program manager took the lead role in drafting the strategic plan and soliciting input from workgroup members. In the February 2022 PAP meeting, the ACP program manager presented an overview of the Strategic Plan and invited PAP members to review and provide comments. A follow up email was sent after the meeting to distribute the document for review.

The communications workgroup created a webpage layout for the section of the DOH website to house information about asthma resources. This resource page became active on June 6, 2022. For the communications related objectives in the strategic plan, the workgroup started to define activities and timelines to organize the work. For example, they discussed options for social media campaigns for Asthma Awareness Day/Month and promotion of the strategic plan. In addition, they compiled information from PAP members to create one-pagers to introduce the partnering organizations, which will be shared on the DOH website. The workgroup meetings' next scheduled meetings are in October 2022.

The third workgroup, EJ and health equity, identified a need for shared language to use in the PAP's health equity work. This glossary of terms was completed by March and was shared with the PAP for their use. Following the approval of the strategic plan, the workgroup also started planning of activities and timelines to address portions of the strategic plan.

The infrastructure and tools used for collaborative work were similar as in Year 1. The Microsoft Teams (Teams) workspace was operational and was mainly used by DOH to communicate out to members and host documents. No other PAP members posted comments or owned documents saved in the platform. The ACP program manager used email to request scheduling of meetings and gather feedback on data products, rather than use applications on Teams. This ensured all members had access to materials and received timely updates as some members expressed that Teams was not compatible with their workplace technology. PAP meeting minutes were distributed after DOH edited and approved, usually about one to three weeks after the meeting. Google Jamboard continued to be a helpful tool in PAP meetings to engage attendees and provide multiple modes to share ideas (verbal and written). Copies of Jamboards were saved after meetings and served as meeting artifacts alongside minutes.

How does the structure and membership of the PAP contribute to reaching program goals?

Characteristics of a healthy partnership (i.e., synergy, collaboration, receipt of benefits from participation) can be indicators of collective will to reach mutual goals. Evaluators review the published literature of partnership evaluation tools and identified several potential guides and inventories. The Partnership Self-Assessment Tool (PSAT) developed by the Center for the Advancement of Collaborative Strategies in Health was chosen for this evaluation because it measured the following domains: synergy, leadership, efficiency, administration and management, non-financial resources, financial and other capital resources, decision making, benefits of participation, drawbacks of participation, comparing benefits and drawbacks, and satisfaction with participation.¹¹ Adaptations were made to this tool to align with common language used in the PAP and add questions about the pace of the work, which was of interest to DOH. Evaluators prepared an online version of the PSAT for digital distribution to PAP members.

Distribution began November 17, 2021 and continued through May 9, 2022. This timeframe was longer than anticipated because the initial timeframe was extended to improve response rate. Most respondents participated at the end of this date range, when time was dedicated in the May 2022 PAP meeting to complete the survey. Webpage links to the online survey were distributed via email and in Teams. The chat function in PAP meeting was also used to distribute the survey link and reminders. Twenty-one members responded to the survey, and 16 of the responses were complete (i.e., the participant clicked through the entire survey). No questions were required, so n sizes vary depending on the question (ranging from 9 to 23). Three strategic plan workgroup members, five communications workgroup members, and 6 EJ/health equity workgroup members responded to the survey. There were nine respondents who did not belong to any workgroup.

Forty-one survey questions asked participants to rank a trait or competency of the partnership on a five-point Likert scale (i.e., 1-poor to 5-excellent). A high mean (4.0 or above) can be indicative of success in a competency. The only response to achieve a mean above 4.5 was “minimizing the barriers to participation in the partnership’s meetings and activities (i.e., by holding them at convenient places and times).” All but three items with this scale had means between 3.5 to 4.5. Questions about how well the partnership uses financial resources ($n=14;M=3.21;SD=0.98$) and obtains feedback from external entities ($n=21;M=3.48;SD=0.81$) had the lowest means. See Appendix B for detailed data tables.

Members largely agreed that the PAP leadership was successful at “working to develop a common language within the partnership,” and “communicating the vision of the partnership.” This was determined by a mean score above 4.0 and a standard deviation lower than 0.5. Responses to “recruiting diverse people and organizations into the partnership” and “coordinating communication with people and organizations outside the partnership” had high standard deviations (greater than one), indicating less consensus between PAP members.

¹¹ Center for the Advancement of Collaborative Strategies in Health. Partnership Self-Assessment Tool. Retrieved from <https://atrium.lib.uoguelph.ca/xmlui/handle/10214/3129?show=full>.

All respondents indicated they received these benefits from participation in the PAP:

- “development of valuable relationships;”
- “enhanced ability to meet the needs of clients;”
- “acquisition of useful knowledge about services, programs, or people in the community;” and
- “enhanced ability to address an important issue.”

Regarding drawbacks, four respondents experienced “diversion of time and resources away from other priorities or obligations” and one respondent experienced “conflict between my job and the partnership's work.”

How has the PAP demonstrated addressing health equity in their work?

Two primary activities were evidence of intention to address health equity – integration of health equity in the strategic plan and dissemination of the health equity shared language document. Equity was named as a guiding principle for the strategic plan activities. Goal 1 of the strategic plan is EXHALE strategies will be implemented intentionally in populations overburdened by asthma. This goal’s objectives aim to identify new communities at high-risk for asthma, use EJ metrics, and collaborate with the Health Equity Zones project initiated by DOH in 2020. Goal 2 centers on policy change and the EJ/health equity subcommittee will lead production and dissemination of issue briefs to support advocacy efforts. Finally, Goal 4 is to increase collaboration across all sectors – service providers, healthcare clinicians, government, and individuals impacted by asthma.

Reflections and Next Steps

The content of this report will be reviewed and discussed with DOH and ACP funded partners to facilitate a shared understanding of findings and guide an Action Plan. This will be done while also considering progress made following Year 1 evaluation findings. The ACP may choose to return to next steps in the Year 1 Evaluation Report if it is determined meaningful improvement has not been made. Evaluators would like to note the following reflections to guide Year 3 activities. Figure 2 below contains an estimated timeline of Year 3 evaluation activities.

Identify supports for OAS & KA implementation. Similar barriers and facilitators to OAS & KA implementation occurred this year as what has been observed in other OAS & KA evaluations. Finding the methods and supports to facilitate implementation will require focused staff or volunteer time and maintaining contact with facilitators after they've completed their training. CAPP has been successful in OAS & KA implementation by integrating it into school health classes, ensuring a CHW is staffed on site, and building trust with district administrators.

Integrate local priorities in implementation of school and community-based programs. Outreach to schools and after-school locations has not resulted in scheduled implementation, which may indicate a disconnect of priorities. A critical contributor to a school's acceptance of new curricula or other activities is how the new activity will support administration and teachers to reach local goals. Information from families, healthcare providers, or grassroots organizations may provide new leads on implementation locations or priorities of those overburdened by asthma.

Revisit readiness to achieve health equity goals. "The key to closing equity gaps and resolving climate vulnerability is direct participation by impacted communities in the development and implementation of solutions and policy decisions that directly impact them."¹² ACP interventions were implemented in high burden areas, but challenges for many were gathering and maintaining engagement from participants. The ACP will need the perspective from program participants to build strategies to meet equity and sustainability goals. There are signs that ACP partners listen to community members. For example, DUCIH held a community meeting, WHE participates in the Breathe Collaborative, and ACHD works with neighborhood-based organizations in other public health initiatives. There is no unified effort among partners, and individual programs having separate plans to achieve community engagement may function well, given that the different programs meet different needs. Nonetheless, the entire ACP may consider reassessing their readiness to achieve health equity goals and more clearly define goals on the continuum of community engagement to ownership in the local context.

Reprioritize evaluation activities, as needed. As the ACP approaches the mid-way point of the cooperative agreement funding, it is timely to reflect on the program components prioritized in the SEP.

¹² Gonzalez, Rosa & Facilitating Power (2019). The Spectrum of Community Engagement to Ownership. Retrieved from movementstrategy.org/resources/the-spectrum-of-community-engagement-to-ownership.

Evaluators recommend a discussion with ACP funded partners to take stock in evaluation progress to date and refine an Action Plan to guide the second half of the funding cycle. This can be done in tandem with a re-prioritization voting of program components based on data collection and methodology strengths and challenges.

Figure 2. Tentative Timeline for Year 3 Evaluation Activities

Key Evaluation Activities	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Evaluation Planning												
Update Strategic Evaluation Plan												
Monthly evaluation calls with DOH												
Refine Individual Evaluation Plans in alignment with SEP												
Provide feedback on collection of process measures												
Select topics and schedule second Evaluation Learning Session												
Evaluation Learning Session, using Year 2 findings as a teaching and learning tool												
Support activities to improve community member involvement												
Data Management and Analysis												
Revise PM spreadsheet and instructions												
Field PAP self-assessment tool, second cross-sectional timepoint												
Cost analysis data collection												
Cost analysis and discussion of findings												
Analysis of home visit, OAS & KA data												
Review monthly and quarterly reports, provide feedback												
Reporting												
ACP funded partner meetings, data or evaluation discussions												
Present Year 2 Report Summary to ACP funded partners												
Post Year 2 evaluation products to DOH website												

Note: Not all evaluation activities are reflected in this table as activities are dependent upon program implementation, changes in IEPs, and ACP priorities.

Appendix A. Data Sources, by Program Component and Evaluation Question

The following tables are organized by program component and outline data sources used to answer each evaluation question.

School based asthma self-management education and services	
Evaluation Question	Data Sources
Are school-based programs a) recruiting adults from high burden areas to be program facilitators; and b) reaching students who have the highest burden of disease?	ALA program records, quarterly reports, monthly reports, student participant pre-post surveys, DOH Environmental Health Indicator Map, DUCIH participant data, evaluation planning and technical assistance (TA) meeting notes, performance measure (PM) data
What are barriers and facilitating factors to implementation and expansion? What methods have been successful in recruiting participants?	Quarterly reports, monthly reports, TA meeting notes
How do programs make mid-stream adjustments to implementation and recruitment based on reach, retention, and asthma outcomes of participants?	Quarterly reports, monthly reports, TA meeting notes
How effective is the program at achieving intended asthma-related outcomes?	Student participant pre-post surveys, DUCIH participant data, PM data

Smoking cessation services and referrals	
Evaluation Question	Data Sources
How are referrals made to smoking cessation resources, and what infrastructure is set up to support referral systems? How are referral processes integrated into existing program implementation and workflow?	Quarterly reports, monthly reports, TA meeting notes

Community based services	
Evaluation Question	Data Sources
Are programs reaching those who have the highest burden of disease? What methods have been successful in recruiting participants?	Quarterly reports, monthly reports
What are barriers and facilitating factors to implementation and expansion?	Quarterly reports, monthly reports, TA meeting notes
How do programs make mid-stream adjustments to implementation and recruitment based on reach, retention, and asthma outcomes of participants?	Quarterly reports, monthly reports, TA meeting notes
To what extent are program participants (a) being referred to and (b) utilizing referrals to community-based services?	Findhelp.org referral records

Home visit services	
Evaluation Question	Data Sources
Are home visit services being implemented as intended?	Annual report, quarterly reports, monthly reports, TA meeting notes
Are programs reaching those who have the highest burden of disease? What methods have been successful in recruiting participants?	Quarterly reports, monthly reports, TA meeting notes, DOH Environmental Health Indicator Map, PM data
What are barriers and facilitating factors to implementation and expansion?	Quarterly reports, monthly reports, TA meeting notes
How do programs make mid-stream adjustments to implementation and recruitment based on reach, retention, and asthma outcomes of participants?	Quarterly reports, monthly reports, TA meeting notes
To what extent are program participants (a) being referred to and (b) utilizing referrals to community-based services?	Quarterly reports, monthly reports, PM data, Findhelp.org referral records
How effective is the program at achieving intended asthma-related outcomes?	PM data, DUCIH participant data

Asthma friendly policy promotion	
Evaluation Question	Data Sources
To what extent have partnerships and policies been leveraged to expand the EXHALE strategies?	Quarterly reports, monthly reports, PAP meeting notes, key informant interviews
How were opportunities for expansion of asthma control services and asthma friendly policies prioritized?	Quarterly reports, monthly reports, regulatory documentation

Implementation of quality improvement processes to establish & encourage guideline-based care	
Evaluation Question	Data Sources
Is the quality improvement initiative being implemented as intended?	Annual report, quarterly reports, PM data, DOH Environmental Health Indicator Map
How many practices have completed the workflow assessment and developed practice goals?	Annual report, quarterly reports
What are facilitators and barriers to implementation for both the QI staff and practices?	Annual report, quarterly reports

Pennsylvania Asthma Partnership	
Evaluation Question	Data Sources
How has the PAP promoted statewide planning, coordination, and expansion of asthma activities and resources?	Monthly reports, PAP meeting notes, Strategic plan documentation, TA meeting notes
How has the PAP engaged members, community members, and key individuals, and what are the characteristics of those groups?	PAP meeting notes, PAP operations documentation
How does the structure and membership of the PAP contribute to reaching program goals?	Partnership self-assessment tool
How has the PAP demonstrated addressing health equity in their work?	Monthly reports, PAP meeting notes, Strategic plan documentation, TA meeting notes

Appendix B. Pennsylvania Asthma Partnership Supplement Materials

Table B-1. Membership list as of July 6, 2022

Name	Organization
Hannah Hardy	Allegheny County Health Department
Jim Weeden	Allegheny County Health Department
Chelsey Hildebrand	American Lung Association
Michelle Naccarati-Chapkis	Women for a Healthy Environment
Hanna Beightley	Women for a Healthy Environment
Germaine Patterson	Women for a Healthy Environment
Jennifer Elliott	Duquesne University
Paige Williams	Duquesne University
Brittani Namey	Duquesne University
Tyra Bryant-Stephens	CHOP CAPP
Taquan Carey	CHOP CAPP
Colleen Tingey	CHOP CAPP
Andrea Rodi	Quality Insights
Robina Montague	Quality Insights
Sarah String	PHMC
Jaime Metzger	PHMC
Isaac Lief	Philadelphia Department of Public Health
Dave Synnamon	Allentown Health Bureau
Tori McQueen	Montgomery County Department of Health & Human Services
Sally Schoessler	Allergy & Asthma Network
Erin Sullivan	Environmental Protection Agency
Janice Bolden	Environmental Protection Agency
Debbie Larson	Environmental Health Project
Dion Lerman	PA Integrated Pest Management
Valerie Luebke	Erie County Department of Health
Katie Noss	PA Association of Community Health Centers
Rachna Saxena	City of Scranton
Sabine Charles	Lackawanna County
Henry Radulski	Wilkes-Barre City Health Department
David Kelley	PA DHS, Office of Medical Assistance Programs
Barb Fickel	PA DOH-BHPRR

Table B-1 cont'd. Membership list as of July 6, 2022

Name	Organization
Sara Thuma	PA DOH-BHPRR
Amy Flaherty	PA DOH-BHPRR
Barb Orwan	PA DOH-BHPRR
Jun Yang	PA DOH-EPI
Judelissa Rosario	PA DOH-OHE

Table B-2. Member responses to statements about characteristics and climate of collaboration

<i>By working together, how well are these partners able to...</i>	M (SD)
Identify new and creative ways to solve problems (n=21)	3.76 (0.70)
Include the views and priorities of the people affected by the partnership's work (n=20)	3.65 (0.67)
Develop goals that are widely understood and supported among partners (n=21)	4.00 (0.55)
Identify how different services and programs in the commonwealth relate to the problems the partnership is trying to address (n=21)	3.90 (0.70)
Respond to the needs and problems of the commonwealth (n=20)	3.60 (0.60)
Implement strategies that are most likely to work in the commonwealth (n=21)	3.81 (0.68)
Obtain feedback from individuals and organizations in the commonwealth that can either block the partnership's plans or help them move forward (n=21)	3.48 (0.81)
Carry out comprehensive activities that connect multiple services, programs, or systems (n=20)	3.65 (0.67)
Clearly communicate to people in the commonwealth how the partnership's actions will address problems that are important to them (n=21)	3.62 (0.87)
<i>Please rate the total effectiveness of your partnership's leadership in:</i>	
Taking responsibility for the partnership (n=18)	4.56 (0.62)
Inspiring or motivating people involved in the partnership (n=18)	4.17 (0.79)
Empowering people involved in the partnership (n=18)	4.17 (0.79)
Communicating the vision of the partnership (n=18)	4.33 (0.49)
Working to develop a common language within the partnership (n=17)	4.65 (0.49)
Fostering respect, trust, and inclusiveness, and openness in the partnership (n=17)	4.53 (0.72)
Creating an environment where differences of opinion can be voiced (n=17)	4.41 (0.62)
Resolving conflict among partners (n=9)	4.67 (0.50)
Combining the perspectives, resources, and skills of partners (n=16)	4.38 (0.72)
Helping the partnership be creative and look at things differently (n=17)	4.29 (0.77)
Recruiting diverse people and organizations into the partnership (n=16)	4.00 (1.16)

Table B-2 cont'd. Member responses to statements about characteristics and climate of collaboration

<i>Please rate the effectiveness of your partnership in carrying out:</i>	<i>M (SD)</i>
Coordinating communication among partners (n=18)	4.28 (0.83)
Coordinating communication with people and organizations outside the partnership (n=16)	3.81 (1.11)
Organizing partnership activities, including meetings and projects (n=18)	4.50 (0.51)
Preparing materials that inform partners and help them make timely decisions (n=17)	4.29 (0.77)
Performing secretarial duties (n=15)	4.27 (0.96)
Providing orientation to new partners as they join the partnership (n=15)	3.93 (0.80)
Evaluating the progress and impact of the partnership (n=15)	4.27 (0.70)
Minimizing the barriers to participation in the partnership's meetings and activities; i.e., by holding them at convenient places and times. (n=16)	4.56 (0.63)
<i>How well does the partnership use:</i>	
Financial resources (n=14)	3.21 (0.98)
In-kind resources (n=16)	3.63 (0.81)
Time (n=16)	3.63 (0.72)
<i>Please indicate how much you agree with the following statements on appropriate pace of development:</i>	
This collaborative group has tried to take on the right amount of work at the right pace. (n=16)	3.75 (0.58)
We are currently able to keep up with the work necessary to coordinate all the people, organizations, and activities related to this collaborative project. (n=16)	3.81 (0.54)
<i>For each of the following types of resources, to what extent does your partnership have what it needs to work effectively:</i>	
Money needs (n=11)	3.55 (0.82)
Time needs (n=15)	3.73 (0.80)
Equipment and goods needs (n=13)	3.54 (0.97)
Skills and expertise needs (n=16)	4.25 (0.68)
Data and information (n=16)	3.81 (0.54)
Connections to target populations (n=16)	3.81 (0.75)
Connections to political decision-makers, government agencies, other organizations/groups (n=15)	3.67 (0.82)
Legitimacy and credibility (n=16)	4.06 (0.85)
Influence and ability to bring people together for meetings and activities (n=16)	4.19 (0.54)

Table B-2 cont'd. Member responses to statements about characteristics and climate of collaboration

<i>For each of the following benefits, please indicate whether you have or have not received the benefit as a result of participating in the partnership:</i>	<i>M (SD)</i>
Enhanced ability to address an important issue (n=16)	1 (0)
Development of new skills (n=16)	0.75 (0.45)
Heightened public profile (n=15)	0.53 (0.52)
Increased utilization of my expertise or services (n=16)	0.75 (0.45)
Acquisition of useful knowledge about services, programs, or people in the community (n=16)	1 (0)
Enhanced ability to affect public policy (n=14)	0.57 (0.51)
Development of valuable relationships (n=16)	1 (0)
Enhanced ability to meet the needs of my constituency or clients (n=13)	1 (0)
Ability to have a greater impact than I could have on my own (n=16)	0.94 (0.25)
Ability to make a contribution to the community (n=16)	0.81 (0.40)
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<i>For each of the following drawbacks, please indicate whether you have or have not received the drawback as a result of participating in the partnership:</i>	
Diversion of time and resources away from other priorities or obligations (n=16)	0.25 (0.45)
Insufficient influence in partnership activities (n=16)	0 (0)
Viewed negatively due to association with other partners or the partnership (n=16)	0 (0)
Frustration or aggravation (n=16)	0 (0)
Insufficient credit given to me for contributing to the accomplishments of the partnership (n=16)	0 (0)
Conflict between my job and the partnership's work (n=16)	0.06 (0.25)
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<i>So far, how have the benefits of participating in this partnership compared to the drawbacks? (n=16)</i>	1.31 (0.60)
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<i>How comfortable are you with the way decisions are made in the partnership? (n=16)</i>	3.94 (0.68)
<hr/>	
<i>How often do you:</i>	
Support the decisions made by the partnership (n=15)	3.93 (0.59)
Feel that you have been left out of the decision-making process (n=16)	1.88 (0.96)
<hr/>	
<i>How satisfied are you with:</i>	
The way the people and the organizations in the partnership work together (n=16)	4.25 (0.68)
Your influence in the partnership (n=16)	4.06 (0.68)
Your role in the partnership (n=16)	4.25 (0.68)
The partnership's plans for achieving its goals (n=16)	3.86 (0.89)
The way the partnership is implementing its plans (n=16)	3.94 (0.85)

Source: PAP Self-Assessment Survey, adapted from the Partnership Self-Assessment Tool. Forty-one survey questions asked participants to rank a trait or competency of the partnership on a five-point Likert scale (i.e., 1-poor to 5-excellent). A high mean (4.0 or above) can be indicative of success in a competency. No questions were required, so n sizes vary depending on the question.

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For questions, please contact Pennsylvania Asthma Control Program at RA-DHPAASTHMA@pa.gov or the Research & Evaluation Group at PHMCresearch@phmc.org