DEPARTAMENTO DE

SALUD

GOBIERNO DE PUERTO RICO

PUERTO RICO ASTHMA PROGRAM STRATEGIC EVALUATION PLAN

For 2024-2028

Puerto Rico Asthma Management and Control Unit
Auxiliary Secretariat of Health Integrated Services

January 2025

Puerto Rico Asthma Program
Strategic Evaluation Plan for 2024-2028

Prepared by:
Wilmarie De Jesús Vera, MS
Keila E. Narváez Sánchez, MS
Estefanía I. Ayala Alvarado, MSc.
Paola Casal Nazario, MPH

Suggested citing: De Jesús-Vera, W., Narváez-Sánchez, K. E., Ayala-Alvarado, E. I. & Casal-Nazario, P. (2025). *Puerto Rico Asthma Program: Strategic Evaluation Plan 2024 -2028*. Puerto Rico Department of Health

The Puerto Rico Asthma Management and Control Unit would like to acknowledge the following individuals who contributed to the development of the Strategic Evaluation Plan:

- Manuel A. Mangual Martínez, MS, Evaluator – Suicide and Prevention Commission, PRDoH
- Rose Díaz García MS, CGG, Evaluator – Programmatic Management Unit, PRDoH
- Wilmarian Rodríguez Lebrón, MS, Evaluator – Programmatic Management Unit, PRDoH
- Ruth Ríos Motta, PhD, Coordinator – DrPH Health Service Administration Program UPR – RCM
- Arelis Baerga Martínez, MS, Statistician – PRHIA
- Wanda Rodríguez Donham, DrHSc, RRT-NPS, AE-C, Nationwide Manager, Asthma Programs – American Lung Association

This publication was subsidized under the proposal NUE1EH001524-01 provided by the Centers for Disease Control and Prevention (CDC). However, the content of this document is the author's responsibility and does not necessarily represent the official position or endorsement of the CDC.

Table of Content

List of tables

Program Background

Worldwide, asthma is the most common chronic disease among children[1]. Approximately 262 million people were affected by asthma in 2019 and 455,000 deaths were attributed to this condition[1]. In the United States (US), approximately 26,799,588 individuals had asthma in 2022, 4,529,232 children and 22,270,356 adults. The asthma prevalence was higher in adults (8.7%) than children (6.2%)[2]. The most recent National Asthma Data from 2021 suggests that the prevalence of asthma in adults is higher among women (10.8%) than in men (6.5%). Meanwhile, in children, a higher prevalence of asthma was reported among boys (7.0%) than in girls (5.4%)[2]. Moreover, Puerto Ricans are among the groups with the highest asthma prevalence in the U.S.[3]

The Puerto Rico Asthma Management and Control Unit (PRAMCU), formerly known as the PR Asthma Program was funded in 2003 under a cooperative agreement between the Puerto Rico Department of Health (PRDoH) and the Centers for Disease Control and Prevention (CDC). The program was created because asthma was recognized as a major public health problem in PR. In 2023, the prevalence of asthma was marked, reaching 16% in children and adolescents and escalating to 14.1% in adults. A comparative analysis with U.S. states unequivocally places Puerto Rico among the states with higher prevalence rates for adults, and it claims the undesirable top position for the highest prevalence in children. Additionally, according to the Office of Minority Health, Puerto Ricans had twice the asthma rate as compared to the overall Hispanic population in 2018, and Puerto Rican children are three times as likely to have asthma than non-Hispanic white children[4].

Delving deeper into the demographics, the prevalence of current asthma in adults aged 18 or older highlights a significant burden, with those between 25 to 34 years

displaying the highest prevalence in 2023. Additionally, females (17.5%) and individuals from the Arecibo health region (19.7%) stand out with notably high prevalence rates[5].

For children and adolescents aged 0 to 17 years, the prevalence rates during the 2021-2023 period reveal that those aged 5 to 9 years faced the highest burden, at 15.0%. Boys (13.9%) and individuals from the Bayamón health region (15.2%) also exhibited high prevalence rates, aligning with existing literature indicating higher asthma prevalence in pre-pubertal boys[6].

The gravity of the asthma problem extends beyond mere prevalence, with substantial rates of uncontrolled asthma reaching alarming levels — 59.6% in adults and 40.9% in children during the 2018-2020 period. Over half of adults and more than a third of children with asthma grapple with uncontrolled conditions, underscoring the urgent need for targeted interventions.[7]

Further compounding the issue, data from the Puerto Rico Asthma Surveillance System exposes the strain on healthcare resources. The crude rate of emergency department visits stands at 106.9 per 10,000 persons, with females and children aged 0 to 4 years experiencing higher rates. The Caguas region emerges as a hotspot, reporting the highest rate of emergency department visits at 148 per 10,000 persons[8].

Hospitalizations further amplify the severity of the problem, with a crude rate of 23 per 10,000 persons. Females and individuals under 5 years bear higher hospitalization rates, with the Arecibo health region recording the highest rate at 33 per 10,000 persons[9].

In summary, asthma in Puerto Rico is not only pervasive but also profoundly impacts diverse demographic groups, leading to uncontrolled conditions and straining

healthcare resources. Urgent and targeted interventions are imperative to mitigate the extensive health, social, and economic implications of this burgeoning public health crisis.

The purpose of PRAMCU is to improve the quality of life of people living with asthma in PR by maximizing the reach, impact, efficiency, and sustainability of comprehensive asthma control services, prioritizing social determinants of health and EXHALE strategies among communities with high asthma prevalence.

PRAMCU'S MISSION AND VISION

Our mission:

Provide educational resources based on the EXHALE strategies for managing and controlling asthma to improve the quality of life of people who suffer from this condition.

Our vision:

Train people with asthma, family members, school personnel, and health professionals from each of the health regions of Puerto Rico to improve the management of this condition.

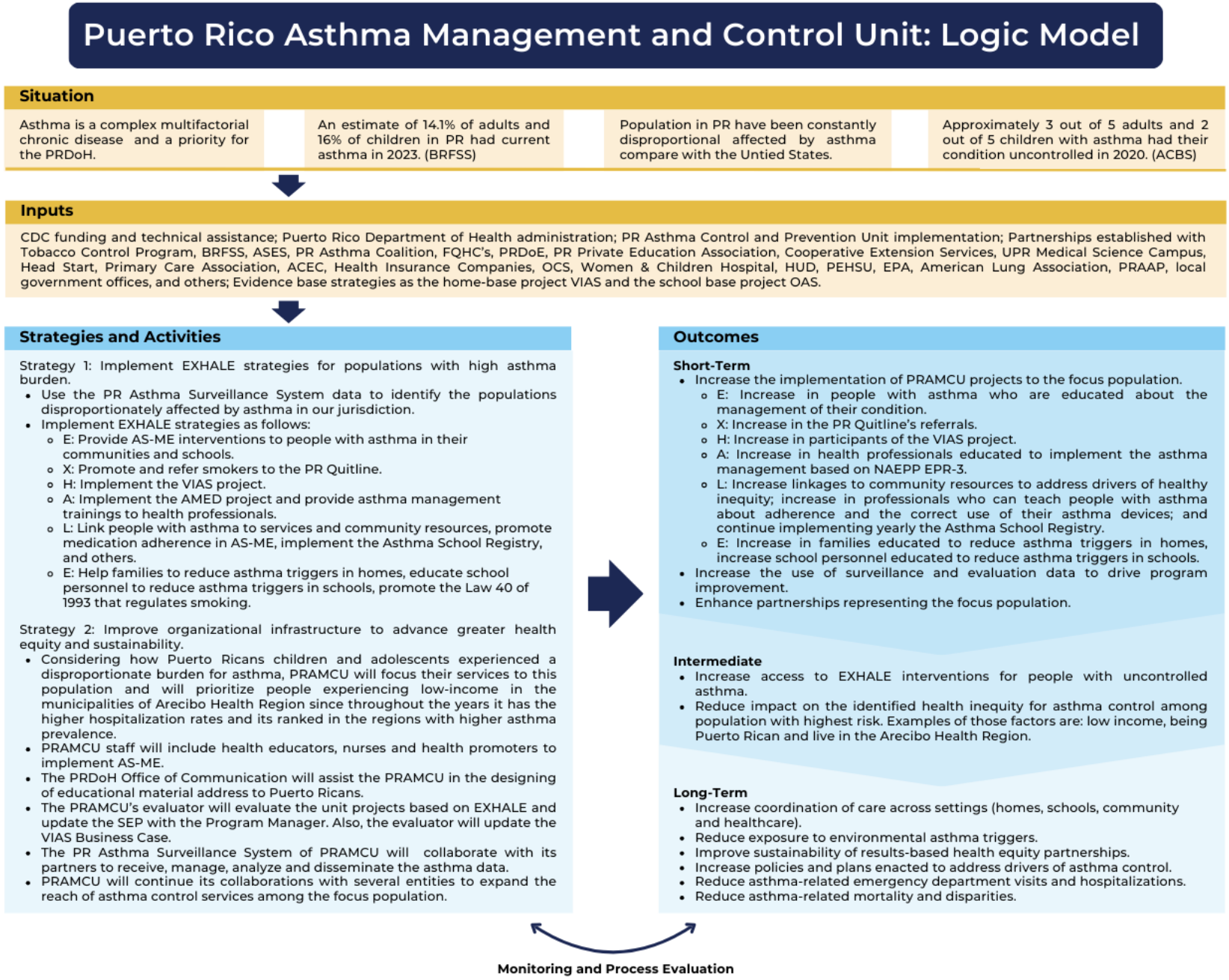
Primary goals

The goals of the Puerto Rico Asthma Management and Control Unit for the next four (4) years are the following:

- Improve health and quality of life for people living with asthma in Puerto Rico.
- Impact the Puerto Rican population with EXHALE strategies, working with community members to expand the reach and sustainability of asthma control services.
- Strengthen existing organizational infrastructure in areas such as leadership, program management, strategic partnerships, surveillance, communication, and evaluation.
- Enhance collaboration with organizations sharing common interests and objectives in asthma-related initiatives.

Logic Model

Figure 1: Puerto Rico Asthma Management and Control Unit's Logic



The PRAMCU's logic model, presented in Figure 1, is a graphic representation that describes the relationship between program activities and the intended goals to be accomplished in the four-year grant period. The logic model was developed to provide detailed information regarding its components. The first part of the model is the Puerto Rico asthma epidemiology profile, titled as Situation, which includes summary points of the burden of asthma in PR. The situation is connected to the inputs box, which contains the internal and external collaborators strategically established to attain the goals of PRAMCU.

PRAMCU brings extensive experience in implementing EXHALE strategies in Puerto Rico through collaboration with strategic partners. The proposed projects aim to implement these strategies across various settings, including homes, schools, communities, offices, virtual scenarios, hospitals, primary care centers, FQHCs, and others. To execute asthma-related activities in these environments, PRAMCU collaborates with entities such as the Tobacco Control Program, Behavioral Risk Factor Surveillance System (BRFSS), PR Health Insurance Administration (PRHIA), Puerto Rico Coalition for Asthma & Other Chronic Respiratory Conditions, Federally Qualified Health Centers (FQHCs), Puerto Rico Department of Education (PRDoE), PR Private Education Association, UPR - Cooperative Extension Services, University of Puerto Rico - Medical Science Campus, Office of Head Start, Primary Care Association, Puerto Rico Alliance for Chronic Disease Control (ACEC, by its acronym in Spanish), Health Insurance Companies, Office of the Insurance Commissioner (OCS), Women & Children Hospital, United States Department of Housing and Urban Development (HUD), Pediatric Environmental Health Specialty Units (PEHSU), Environmental Protection Agency (EPA), American Lung Association, Puerto Rico Chapter - American Academy of Pediatrics (PRAAP), local government offices, and others. These entities

support PRAMCU by providing data, facilitating activity coordination, offering funding for specific components, making referrals to VIAS project, and playing other roles.

To comply with the implementation of EXHALE strategies for populations with high asthma burden, PRAMCU propose the following approaches:

The first letter "E" from EXHALE will be implemented within schools and communities in collaboration with the Puerto Rico Department of Education (PRDoE) and the PR Private Education Association. These entities facilitate activity coordination in public and private schools, where PRAMCU staff can impact children with asthma in scholar ages from K to 12. Health educators, health promoters, and nurses will provide Asthma Self-Management Education through workshops. Additionally, elementary schools will receive the Open Airways for Schools (OAS) project, addressing asthma management for children aged 8 to 11, as requested. Workshops are tailored for different audiences, including Kindergarten, grades 1st to 3rd, grades 4th to 8th, and grades 9th to 12th. The presentations, prepared in culturally appropriate Spanish, aim to resonate with children. PRAMCU staff uses the American Lung Association curriculum for the OAS project. Through this initiative, participants are expected to learn about asthma triggers and symptoms at school, managing and controlling their asthma. Lessons are provided at school in coordination with the principal and school nurse.

With collaboration from the PRDoH Tobacco Control Program, PRAMCU expects that smokers participating in asthma-related projects could receive the PR Quitline service for smoking cessation. To address strategy X, PRAMCU promotes smoke cessation and makes referrals to the PR Quitline for caregivers of children with asthma and adults with this condition.

Letter "H" is implemented with the VIAS project, a home visiting program to control exposure to allergens and irritants that can exacerbate asthma. VIAS provides educational interventions to improve indoor air quality and reduce asthma triggers in homes. It includes a home evaluation for asthma trigger identification and culturally appropriate recommendations for reducing them. The primary audience for this project is children with asthma aged 4 to 17 and their low-income caregivers. Interventions are provided at home in coordination with the caregiver. VIAS is based on the educational curriculum "A Breath is life: Asthma Control for My Child", created by the National Heart, Lung and Blood Institute. Collaborators, such as PRDoE, FQHCs, Primary Care Association, Women & Children Hospital, PRAAP, and health professionals, collaborate by identifying children with uncontrolled asthma and making referrals to the project.

Strategy "A" is applied in the AMED project and the asthma management training for health professionals. The AMED project provides asthma devices' use training with the provision of demonstration devices kits to teach health professionals how to educate asthma patients on the correct use of devices. After training, PRAMCU staff continues communication with trainees to assess the impact of educational interventions. The primary audience for this training project includes nurses, health promoters, health educators, and professionals in direct contact with a high number of people with asthma. Collaborators in FQHCs, the School Nursing Program of the PRDoE, Primary Care Association, PRAAP, and health insurance companies are crucial for project expansion. Partnerships with PRAAP and some health insurance companies help implement asthma management training to encourage adherence to National Asthma Education and Prevention Program (NAEPP), Expert Panel Report-3 (EPR-3) guidelines and its 2020 updates. The setting for the AMED project is in the workspace, and for asthma management training, it is in virtual conferences.

The "L" strategy will be employed by linking people with asthma to services and community resources, promoting medication adherence in AS-ME, implementing the Asthma School Registry, capacitating health professionals to make referrals for the VIAS project, and others. With the VIAS project, PRAMCU staff links participants to some local governmental offices that sometimes assist in home remediation and relocation when necessary. In all projects that include AS-ME, medication adherence is promoted. Additionally, the PRDoH and PRDoE collaborate to implement the Asthma School Registry, a tool aligned with Law 56 of 2006 and Regulation 9224 that promotes completing the Asthma Action Plan for every student with asthma in Puerto Rico. Law 56 allows students with asthma to self-administer their asthma medications in schools, and Regulation 9224 specifies the documents parents need to bring to schools to allow medication administration. One of the required documents is the Asthma Action Plan. To ensure parents visit pediatric or other medical doctors for the most updated treatment and the written plan, schools request document delivery and report to PRAMCU. On the other hand, referrals for implementing the VIAS project are crucial to providing services to those in need.

Strategy "E" will be implemented by helping families reduce asthma triggers in homes with the VIAS project, educating school personnel to reduce asthma triggers in schools with the Asthma Control in Schools' virtual course, and promoting Law 40 of 1993 that regulates smoking in every educational intervention. Additionally, PRAMCU plans to propose an environmental policy to reduce diesel emissions in collaboration with the University of Puerto Rico – Medical Science Campus.

Regarding the improvement of organizational infrastructure to advance greater health equity and sustainability, PRAMCU will update its strategic plan for asthma control to incorporate components for health equity and sustainability within the first

six months following the receipt of the award. As outlined in Strategy 2 of the Logic Model, the target population identified for Puerto Rico comprises Puerto Rican children and adolescents with asthma experiencing low income, residing in the municipalities of the Arecibo Health Region. Consequently, PRAMCU will emphasize its services for this demographic and prioritize individuals with low income in the municipalities of the Arecibo Health Region. The plan to emphasize EXHALE activities for this population includes collaborating with the Arecibo Regional Director of the PRDoE School Nursing Program to facilitate activity coordination in schools within this region. Regarding the VIAS project, PRAMCU visitors will prioritize referrals from the Arecibo Health Region over other regions. However, given that all Puerto Ricans are disproportionately affected by asthma, the service will not be limited to the Arecibo Health Region. Additionally, PRAMCU will utilize data from the Asthma School Registry to identify public schools with a higher number of students with asthma in Puerto Rico and provide them with the OAS project, Asthma Self-Management Education workshops, and the Asthma Control in Schools' virtual course.

As stipulated in State Act No. 81 of March 14, 1912, and in accordance with Article 4, Section 6 of the Constitution of Puerto Rico, the PRDoH plays a pivotal role as a Cabinet-level agency with a mandate to protect, promote, and enhance the health of all residents in Puerto Rico. This mandate is further underscored by our status as the Island's single state agency responsible for public health and the administration of health services funding from various federal agencies. Within the organizational structure of PRDoH, the Auxiliary Secretariat of Health Integrated Services houses the Division of Diseases Prevention and Control. Specifically, the Section of Chronic Diseases Prevention and Control accommodates the PR Asthma Management and Control Unit, formerly known as the PR Asthma Program. The PRDoH recognized

asthma as a public health issue in Puerto Rico and specified it as a priority topic within the PRDoH work plan, including it in the Puerto Rico Chronic Disease Action Plan.

The PRAMCU staff will comprise the following professionals: Principal Investigator, Program Manager, Evaluator, Epidemiologist, Health Educator, two Health Promoters, and two Nurses to cover all program components. The Principal Investigator and the Program Manager will oversee all program administration details in collaboration with select PRDoH offices. One of these offices is the Communication Office, which assists PRAMCU in designing educational materials tailored to Puerto Ricans. Additionally, the Program Manager will participate in various activities, supervise staff, and provide support across all program components. The Evaluator will coordinate all evaluation-related activities and reports, including evaluating unit projects based on EXHALE and updating the Strategic Evaluation Plan (SEP) and the VIAS Business Case with the Program Manager. The Epidemiologist will manage the PR Asthma Surveillance System (PRASS) and provide data collection, analysis, and management assistance to other program areas. Leading the PRASS involves collaborating with strategic partners to receive, manage, analyze, and disseminate asthma data. The Health Educator, Health Promoters, and Nurses will collaborate to implement EXHALE activities statewide.

The expansion of PRAMCU projects relies on strategic partnerships to plan, implement, evaluate, and sustain strategies, particularly among the target audience. One strategic partnership established for the focus population involves the PRDoE School Nursing Program. This program is grounded in Law 85 of March 29, 2018, known as the "Puerto Rico Educational Reform Law." Law 85 mandates the Secretary of Education to ensure the physical and psycho-emotional well-being of students. This includes

integrating health professionals, promoting healthy lifestyles, and conducting campaigns to prevent the spread of diseases and suicide.

PRAMCU is committed to refining its evaluation techniques to ensure high-quality assessments of EXHALE services and the effectiveness and efficiency of program strategies. This includes enhancing evaluation processes for initiatives such as the Asthma School Registry and the AMED project. Also, the evaluator will develop a Surveillance Evaluation Plan, based on the "Learning and Growing through Evaluation: State Asthma Program Evaluation Guide module 4".

Moreover, outcome evaluations will be conducted for the OAS project, VIAS project, and the Asthma Control in Schools online course. These evaluations will enable PRAMCU to pinpoint areas for improvement and inform adjustments to performance measures. In addition, PRAMCU will provide ongoing capacity-building opportunities for program staff in evaluation techniques. This will ensure the collection of precise data to meet CDC Performance Measures requirements effectively. To enhance data accuracy and streamline collection processes, PRAMCU will implement a digitalized and secure program for on-site data collection. Regular review and refinement of data collection materials will further optimize performance and results. By implementing these measures, PRAMCU aims to leverage evaluation findings effectively to promote health equity and sustainability in its asthma control efforts.

Regarding the business case, PRAMCU plans to update the existing one for the VIAS project with the latest data to reinforce support for asthma services and medication coverage. Looking ahead, PRAMCU will initiate the development of the PRAP Strategic Evaluation Plan for 2024-2028, outlining objectives and strategies for program evaluation in the upcoming years.

In terms of the Asthma Surveillance System, PRAMCU will maintain and enhance it by annually obtaining, analyzing, interpreting, and reporting core datasets and related measures for both children (under age 18 years) and adults (18 years and older) from our collaborators as outlined below:

Core datasets include:

- Hospitalizations and Emergency Department Visits data from the public and private health insurers in Puerto Rico
    - Core measures: Hospital Discharge Rates (1st- listed diagnosis) and Emergency Department Visits Rates (first-listed diagnosis)
- Behavioral Risk Factor Surveillance System (BRFSS) Core, BRFSS Random Child Selection Module, BRFSS Child Prevalence Module from BRFSS Office of the PRDoH
    - Core measures: Adult Lifetime Prevalence, Child Lifetime Prevalence, Adult Current Prevalence & Child Current Prevalence
- Vital Statistics from the Puerto Rico Demographic Registry
    - Core measures: Mortality Rates (underlying cause)

The PRAMCU's epidemiologist is responsible for ensuring the maintenance and enhancement of the PRASS, which describes asthma prevalence (lifetime and current), hospitalizations, Emergency Department visits, mortality, and trends in Puerto Rico over time. This includes monitoring and annually reporting these measures to CDC. Additionally, the epidemiologist obtains, analyzes, and interprets additional datasets and measures needed to support effective planning, implementation, and evaluation of asthma control programs.

Additional datasets include:

- Youth Risk Behavior Survey YRBS from the CDC YRBS Explorer
- Worker's compensation claims from the State Insurance Fund Corporation
- Medical Claims from the public and private health insurers in Puerto Rico
- Asthma prevalence in PR Head Start from the Office of Head Start
- Home-based VIAS Project Data from PRAMCU
- Public Schools Student's Health Conditions from the PRDoE
- Asthma health services and drug costs from the public and private health insurers in Puerto Rico
- School Asthma Registry from PRAMCU with the collaboration of the School Nursing Program of PRDoE

With these datasets, PRASS has the information needed to describe the burden of asthma in Puerto Rico and identify specific sub-populations that are disproportionately affected by asthma compared with the general population, considering factors such as age, race, ethnicity, gender, economic status, education, disability status, and geographic area. Part of the current PRASS work is to create maps, tables, or educational material about the asthma burden.

PRAMCU publishes (using electronic and paper formats) and disseminates asthma-specific reports and fact sheets, as well as other materials that promote and support program activities. To see the latest reports, tables and educational material about asthma data, please visit our webpage https://www.salud.pr.gov/programa_asma and at the end of the page in the Digital File section select the "Epidemiología" category.

Purpose of Plan

The role of evaluation in achieving the program's purpose is to provide indicators on how the program activities will be conducted. This requires constant monitoring to update the plan. Through this evaluation, PRAMCU can adapt initiatives to accomplish objectives and identify the needs required to provide the appropriate activities and strategies to the Puerto Rican population. The main aim of the evaluation plan is to ensure time-framed and goal-oriented planning, improve program effectiveness, demonstrate impact, and establish evidence for best practices.

Evaluation will help tell the program's story by using the Puerto Rico Asthma Surveillance System (PRASS) analysis to update and disseminate asthma data, and to identify high burden areas using PRDoH Health Regions, among others. The SEP (Strategic Evaluation Plan) is used to track and measure the compliance of the program's main goals, outline evaluation strategies for the next four years, and provide a detailed description of how the evaluation will be performed. The collected data will allow for mid-course decisions to ensure successful results and critically examine interventions and other program activities, informing program decisions and demonstrating the program's impact.

It is anticipated that PRAMCU staff and stakeholders will use this plan as a roadmap to structure evaluation efforts over the next four years. This plan can be aligned to comply with the strategies and activities described in the work plan, serving as a framework to gather information as outlined in the data management plan. Additionally, the SEP will help monitor the strategies and modify them as necessary to accomplish the established outcomes, ensuring the program's goals and objectives are met.

The main evaluation questions and a detailed evaluation plan for each of the program components are answered as follows:

1. **To what extent PRAMCU strengthened and expanded programmatic infrastructure to support optimizing services and health systems?**

   Since its inception in 2003, PRAMCU has forged partnerships with governmental agencies, healthcare providers, academia, NGOs, coalitions, alliances, patients, colleagues, and community members. These collaborations are vital for achieving PRAMCU's goals outlined in the CDC grant CDC-RFA-EH-24-0016, with plans to expand them across the Puerto Rican archipelago. Our infrastructure initiatives include providing technical assistance and training for implementing EXHALE strategies and incorporating them into the monitoring process to track outcomes. We also employ Continuous Quality Improvement (CQI) processes in collaboration with key stakeholders to optimize the Puerto Rican health system for the benefit of those living with asthma.

2. **To what extent has PRAMCU leveraged partnerships and policies to expand the EXHALE strategies to ensure availability, efficiency, effectiveness, and health equity?**

   PRAMCU has leveraged partnerships and policies extensively to expand the implementation of EXHALE strategies, as outlined in the Logic Model. These efforts include offering workshops, advocating for health policies like Law 40 of 1993 to regulate smoking in public places and Law 53 of 2006 allowing students to self-administer asthma medications in schools, initiating home visiting projects, providing training for healthcare professionals in asthma management, linking individuals with asthma to services and community resources, promoting medication adherence through AS-ME, establishing

the Asthma School Registry, assisting families in reducing asthma triggers at home, and educating school personnel on reducing asthma triggers in schools. The evaluation conducted by PRAMCU's evaluator will assess the expansion of EXHALE strategies to reach a wider population with asthma across broader geographic areas, with particular attention to addressing disparities among the focus population.

3. **To what extent has PRAMCU successfully engaged with health plans or health care practices in efforts to improve quality of care?**

   By updating the Puerto Rico Asthma Guidelines based on the National Asthma Education and Prevention Program (NAEPP) Expert Panel Report-3 (EPR-3) guidelines and its 2020 updates, PRAMCU aims to provide valuable resources for health professionals managing asthma in Puerto Rico. This initiative aligns healthcare practices with evidence-based guidelines, potentially improving the quality of care. Moreover, PRAMCU's continued collaboration with PRHIA (estimated in the Puerto Rico Community Survey to cover 62% of the insured population from 2019 to 2023) demonstrates a proactive approach to engaging with health plans. Additionally, partnering with the Primary Care Association to extend engagement with Federally Qualified Health Centers (FQHCs) in high burden areas highlights efforts to address healthcare disparities and enhance care quality across communities.

4. **To what extent has PRAMCU made progress toward achieving the long-term outcomes associated with asthma control, including the reduction of asthma disparities?**

   PRAMCU has made significant strides in advancing toward the long-term objectives associated with asthma control, as well as the reduction of

asthma-related disparities. Fundamental to this progress has been the identification of strategic partners, the enhancement of infrastructure, and the development of tailored activities designed to implement the EXHALE technical package effectively. Furthermore, PRAMCU has conducted a comprehensive assessment to ascertain the burden of asthma within Puerto Rico, laying a solid foundation for achieving its long-term goals. Moreover, the recognition of disparities in healthcare access and services in Vieques and Culebra underscores PRAMCU's commitment to addressing localized challenges. Taking these disparities into account, PRAMCU is poised to deliver asthma management services that cater to the unique needs of these communities. As part of its ongoing efforts, PRAMCU plans to conduct a thorough evaluation of the EXHALE strategies to assess progress accurately. Overall, these initiatives reflect PRAMCU's dedication to advancing asthma control measures and promoting health equity across diverse populations.

Methods for Developing and Updating the Strategic Evaluation Plan

The Strategic Evaluation Plan (SEP) for PRAMCU integrates contributions from a diverse group of stakeholders, each playing a critical role in both planning and implementation. This group is led by the program evaluator, who is responsible for overseeing the development, execution, and continuous improvement of the SEP. Also, the evaluation lead ensures that evaluation activities align with PRAMCU’s public health goals, and that the data collected supports evidence-based decision-making.

A variety of stakeholders are actively involved in shaping the SEP, ensuring a well-rounded perspective that considers technical expertise, public health priorities, and community needs. The Strategic Evaluation Planning Team is described in table 1.

Table 1: Strategic Evaluation Planning Team- Contributions, Roles, and Future Involvement

Stakeholder Name: Keila E. Narváez Sánchez, MS	**Title and Affiliation:** Program Manager – PRAMCU
Contribution to Evaluation Planning • Assist in the process of writing and reviewing the SEP. • Participate in CDC conference calls and evaluation webinars. • Promote the participation of stakeholders in the development of the SEP. • Oversee evaluation interventions • Promote the dissemination and use of evaluation reports • Support the evaluation activities • Implement and make necessary adjustments to the SEP • Assist in the development of evaluation reports • Assist in the process of writing the Individual Evaluation Plans • Conduct community mobilization efforts • Promote the engagement of stakeholders in evaluation activities • Monitor the implementation of the SEP • Supervise PRAMCU staff in evaluation interventions	**Roles in Implementing Evaluations** • SEP Writer and Reviewer • CDC Liaison • Stakeholder Engagement Facilitator • Evaluation Supporter • SEP Implementation Coordinator • Supervisor
Stakeholder Name: Wilmarie De Jesús Vera, MS	**Title and Affiliation:** Evaluator – PRAMCU
Contribution to Evaluation Planning • Lead prioritization activities with stakeholders • Provide technical assistance on evaluation	**Roles in Implementing Evaluations** • Prioritization activities leader • Evaluation advisor • Evaluation team leader • Evaluation reports developer

• Participate in CDC conference calls and evaluation webinars. • Assist in the process of writing and • reviewing the SEP and the reports on the prioritization activities. • Lead the evaluation team. • Assist in the process of writing the Individual Evaluation Plans. • Lead meetings of the evaluation planning team. • Support the evaluation activities. • Develop evaluation reports. • Develop CQI process. • Develop data collection instruments. • Data analysis, interpretation of evaluation data, and report writing	• CQI developer • Data collection instrument developer • Report writer
Stakeholder Name: Estefanía I. Ayala Alvarado, MSc	**Title and Affiliation:** Epidemiologist – PRAMCU
Contribution to Evaluation Planning • Provide surveillance data and technical assistance. • Aid the evaluator in conducting the prioritization activities • Assist in the process of writing the SEP • Assist in the process of writing the Individual Evaluation Plans • Assist in the monitoring of the implementation of the SEP • Assist in the development of data collection instruments • Assist in the data analysis, interpretation of evaluation data, and report writing • Participate in meetings of the evaluation planning team • Support the evaluation activities	**Roles in Implementing Evaluations** • Surveillance Data Provider • Prioritization Supporter • SEP Contributor • Data collection instrument assistant • Data analyst • Report writer • Evaluation supporter
Stakeholder Name: Manuel Mangual Martinez, MS	**Title and Affiliation:** Evaluator – Suicide and Prevention Commission, PRDoH
Contribution to Evaluation Planning • Provide technical assistance on the validation of questionnaires and data collection tools	**Roles in Implementing Evaluations** • Questionnaire and data collection validator • SEP and Prioritization report reviewer • Dissemination supporter

• Assist in the process of reviewing the SEP and the reports on the prioritization activities. • Participate in the annual review of the • plan • Assist in the dissemination of evaluation findings • Providing technical assistance in evaluation plan • Participate in meetings of the evaluation planning team.	• Evaluation advisor
Stakeholder Name: Rose M. Díaz García, MS, CGG	**Title and Affiliation:** Evaluator – Programmatic Management Unit, PRDoH
Contribution to Evaluation Planning • Assist in the process of reviewing the SEP and the reports on the prioritization activities. • Participate in the annual review of the plan • Assist in the dissemination of evaluation findings • Participate in meetings of the evaluation planning team	**Roles in Implementing Evaluations** • SEP and Prioritization report reviewer • Dissemination supporter
Stakeholder Name: Wilmarian Rodríguez Lebrón, MS	**Title and Affiliation:** Evaluator – Programmatic Management Unit, PRDoH
Contribution to Evaluation Planning • Assist in the process of reviewing the SEP and the reports on the prioritization activities. • Participate in the annual review of the plan • Assist in the dissemination of evaluation findings • Participate in meetings of the evaluation planning team	**Roles in Implementing Evaluations** • SEP and Prioritization report reviewer • Dissemination supporter
Stakeholder Name: Ruth Ríos Motta, PhD	**Title and Affiliation:** Coordinator – DrPH Health Service Administration Program UPR - RCM
Contribution to Evaluation Planning • Assist in the process of reviewing and editing the SEP • Participate in the annual review of the plan	**Roles in Implementing Evaluations** • SEP reviewer • Dissemination supporter

• Assist in the dissemination of evaluation findings • Participate in meetings of the evaluation planning team	
Stakeholder Name: Arelis Baerga	**Title and Affiliation**: Statistician – PRHIA
Contribution to Evaluation Planning • Assist in the process of reviewing the SEP • Participate in the annual review of the plan • Assist in the dissemination of evaluation findings • Provide data of ER visits and Hospitalizations • Participate in meetings of the evaluation planning team	**Roles in Implementing Evaluations** • SEP reviewer • Dissemination supporter • Data provider
Stakeholder Name: Wanda Rodríguez Donham, DrHSc, RRT-NPS, AE-C	**Title and Affiliation**: Nationwide Manager, Asthma Programs – American Lung Association
Contribution to Evaluation Planning • Assist in the process of reviewing the SEP • Participate in the annual review of the plan • Assist in the dissemination of evaluation findings • Participate in meetings of the evaluation planning team	**Roles in Implementing Evaluations** • SEP reviewer • Dissemination supporter

Methods Used to Develop the Strategic Evaluation Plan

The development of the Strategic Evaluation Plan (SEP) was guided by the Centers for Disease Control and Prevention's (CDC) Framework for Program Evaluation in Public Health and the "Learning and Growing through Evaluation" modules provided by the National Asthma Control Program (NACP). The methods used to develop the Strategic Evaluation Plan included the following:

- **Identification of Evaluation Candidates:** The Puerto Rico Asthma Management and Control Unit (PRAMCU) employed the Simplex Method and Nominal Group Planning techniques to identify priority activities for strategic and systematic

evaluation. These approaches incorporated both quantitative and qualitative data collection and analysis methods, ensuring a comprehensive assessment of potential evaluation candidates.

- **Representation of Diverse Stakeholder Perspectives:** The evaluation process was designed to be inclusive, engaging a wide range of stakeholders—including patients, caregivers, healthcare providers, community leaders, and public health officials—throughout all stages of the evaluation. This inclusive approach ensured that the evaluation criteria and priorities reflected the diverse needs and perspectives of those involved.
- **Application of Criteria to Establish Priority Evaluation Candidates:** PRAMCU applied systematic techniques, such as the Simplex Method and Nominal Group Planning, to assess and prioritize evaluation candidates. These methods facilitated structured decision-making processes, allowing for the identification of activities that aligned with strategic goals and stakeholder needs.
- **Information Sources Used to Support Assessment of Criteria:** The assessment process was informed by a variety of data sources, including program performance metrics, stakeholder feedback, epidemiological data, and resource availability. This comprehensive data collection ensured that the evaluation was grounded in evidence and addressed the most pertinent aspects of the program.

By integrating these methods and frameworks, PRAMCU developed a Strategic Evaluation Plan that is rigorous, relevant, and reflective of stakeholder priorities, thereby enhancing the effectiveness and accountability of the asthma management and control program.

Table 2 - Prioritization Criteria

Criteria Used	How Criteria Were Applied	Information Supporting Criteria Determination
Cost	Higher-cost activities that were supported by existing funds or showed a high cost-benefit ratio were prioritized.	Program budget and Economic Evaluation Analyses
Impact on Respiratory Health	Interventions that demonstrated documented improvements in indicators such as reduced hospitalizations, emergency visits, and school absenteeism were prioritized.	Public health data and program-specific metrics (e.g., asthma hospitalization rates)
Equity	Activities targeting underserved communities or those with disproportionately high asthma prevalence were prioritized.	Demographic data, asthma heatmaps, and community feedback
Training and Education	Interventions that included training for primary care providers and education for patients and caregivers were prioritized.	Training needs assessments and post-training survey results
Community Engagement	Activities involving active participation from community members and local organizations were considered higher impact.	Community surveys
Sustainability	Programs or activities with clear strategies for long-term sustainability without ongoing external funding were prioritized.	Agreements with strategic partners
Stakeholders	Activities that reflected the priorities, feedback, and active participation of stakeholders, including patients, caregivers, healthcare providers, and community leaders, were prioritized.	Meeting minutes, stakeholder feedback, and recommendations from advisory boards or coalitions

Proposed Methods for Updating the Strategic Evaluation Plan

PRAMCU has established a comprehensive approach to reviewing and updating its Strategic Evaluation Plan (SEP) to ensure continuous improvement and alignment with program goals.

- **Team Reflection and Assessment:** To effectively reflect on and assess its work, PRAMCU will implement regular team retrospectives. These sessions will provide an opportunity for team members to discuss what worked well, identify areas for improvement, and develop action plans for future activities. By fostering an environment of open communication and continuous learning, PRAMCU aims to enhance team performance and program outcomes.
- **Frequency of Review and Update:** The SEP will be reviewed and updated during each cooperative agreement cycle. This periodic assessment allows PRAMCU to evaluate the current situation, monitor program progress, and identify opportunities for enhancing collaborations. In addition to these schedule reviews, PRAMCU will evaluate and adjust the SEP when significant changes occur in the operational environment, such as technological advancements, updates to national asthma management guidelines, emergence of new asthma-related policies or shifts in asthma prevalence and demographics.
- **Review and Update Process:** PRAMCU staff (including the Program Manager, Evaluator, and Epidemiologist) will collaborate with key stakeholders to assess the SEP. This collaborative approach ensures that diverse perspectives are considered, and that the plan reflects the collective expertise of those involved. The process will involve:
    - Evaluating the effectiveness of current strategies and activities.
    - Adjusting and prioritizing strategies based on the latest data and stakeholder feedback.
    - Selecting appropriate evaluation methods to systematically collect precise data that aligns with performance measures.

  This structured process ensures that the SEP is continuously refined to meet program objectives effectively.

- **Role of Performance Measurement Data:** Performance measurement data will play a crucial role in updating the SEP. By systematically collecting and analyzing data related to program activities, PRAMCU can:
    - Assess the effectiveness of implemented activities.
    - Identify achievements and areas needing improvement.
    - Make data-driven decisions to enhance the quality of proposed activities.

  Incorporating performance measurement data ensures that updates to the SEP are evidence-based and focused on achieving measurable outcomes.

- **Involvement in Review and Updates:** The review and updating of the SEP will involve:
    - PRAMCU staff: Program Manager, Evaluator, and Epidemiologist.
    - Key stakeholders: Including representatives from healthcare and medical institutions, educational institutions and programs, government agencies, NGO's, health programs, health insurance entities, and community services.

  Engaging a broad range of participants ensures that the SEP benefits from diverse insights and fosters a sense of shared ownership and commitment to the program's success.

- **Documentation of Revisions:** Revisions to the SEP will be thoroughly documented and disseminated among PRAMCU members. Additionally, the updated SEP will be shared and discussed with CDC and key partners. To promote transparency and accessibility, the SEP will also be published on the Puerto Rico Department of Health's official webpage. This approach ensures

that all interested parties are informed of the latest strategies and can contribute to ongoing discussions about the program's direction.

By implementing this systematic and collaborative approach, PRAMCU aims to maintain a dynamic and effective Strategic Evaluation Plan that continuously evolves to meet the needs of the asthma program and its stakeholders.

Proposed Priority Evaluations

Table 3 - List of Priority Evaluation Candidates

Infrastructure	Expanding EXHALE – Expanding Services	Expanding EXHALE – Optimizing Systems
VIAS Project: The VIAS (Visitas Interactivas acerca del Asma en el hogar) Project is a home visiting program aimed at reducing asthma triggers and providing education on asthma self-management for children aged 4 to 17 with uncontrolled asthma.	"Home Visits for Trigger Reduction and Asthma Self-Management Education"	Evaluation Instruments: • Pre and Post Test • Satisfaction Survey • Asthma Control Test (ACT) • Participant Feedback All key variables or indicators are collected in REDCap database, which is used for data entry, data management, and storage of data from each PRAMCU project. With this data, the project's compliance is evaluated, areas for improvement are identified, and the findings are reported in the EXHALE strategies report.
Open Airways for Schools (OAS): OAS is a program that educates and empowers children ages 8 to 11 through a fun and interactive	"Education on Asthma Self-Management (AS-ME)"	Evaluation Instruments: • Pre and Post Test • Satisfaction Survey • Asthma Control Test (ACT)

approach to asthma self-management. The program teaches children with asthma how to detect the warnings signs of asthma, avoid their triggers and make decisions about their health. PRAMCU staff uses the American Lung Association curriculum for the OAS project. Lessons are provided at school in coordination with the principal and school nurse.		All key variables or indicators are collected in REDCap database, which is used for data entry, data management, and storage of data from each PRAMCU project. With this data, the project's compliance is evaluated, areas for improvement are identified, and the findings are reported in the EXHALE strategies report.
Asthma School Registry: The purpose of the Asthma School Registry is to ensure that every pediatric patient with asthma has an up-to-date action plan for the treatment of their condition. Since school is one of the places where children spend most of their time, it is required that this plan be handed out in schools. The school personnel are responsible for confidentially reporting the delivery of each student's action plan to the PRAMCU.	"Education on Asthma Self-Management (AS-ME)" and "Achievement of Guidelines-based Medical Management"	At the end of each school term, a satisfaction survey is shared to evaluate the platform and identify challenges or barriers to the delivery of the action plan. The results are disseminated through the report 'Evaluation of the Asthma School Registry. All key variables or indicators are collected in REDCap database, which is used for data entry, data management, and storage of data from each PRAMCU project.
Puerto Rico Asthma Surveillance System (PRASS): The Puerto Rico Asthma Surveillance System (PRASS) is a public health initiative designed to monitor and assess asthma-related trends and health outcomes in Puerto Rico. This system collects and analyzes data	Surveillance	The asthma surveillance system requests data in a timely manner, conducts data analysis, compares data, generates statistical reports, and engages in strategic planning. The surveillance system will be evaluated based on the Module 4 "Evaluating

on asthma prevalence, emergency department visits, hospitalizations, and mortality rates, among other key indicators.		Asthma Surveillance" from "Learning and Growing through Evaluation" guide.
Workshops on asthma control and Self-management: The purpose of these workshops is to educate participants on how to manage and control asthma. These workshops take approximately 1 hour. As a result, participants are expected to know how to recognize the symptoms of asthma when they first occur and carry out appropriate management steps.	"Education on Asthma Self-Management (AS-ME)"	Evaluation Instruments: • Pre and Post Test • Satisfaction Survey • Asthma Control Test (ACT) All key variables or indicators are collected in REDCap database, which is used for data entry, data management, and storage of data from PRAMCU projects. With this data, the project's compliance is evaluated, areas for improvement are identified, and the findings are reported in the EXHALE strategies report.
Community Outreach Interventions: Community Outreach Interventions are targeted activities designed to engage with the public in accessible, community-based settings to promote health awareness and education. The goal is to increase community knowledge about asthma	"Education on Asthma Self-Management (AS-ME)" and "X-tinguishing Smoking and exposure to secondhand smoke among people with asthma".	All key variables or indicators are collected in "PRAMCU's Activities Log Sheet". These include date, place, municipality, number of participants, number of referrals to the PR Quitline, and number of ACT completed. The evaluation findings are presented in PRAMCU's

prevention, management, and treatment, encourage healthier behaviors, and connect individuals to local health services.		Annual Stakeholders Meeting.
"Asthma Control in Schools" Online Course: The "Asthma Control in Schools" online course consists of six comprehensive modules that address critical topics such as understanding asthma, current asthma-related regulations in schools, best practices for supervising students using asthma medications, and identifying asthma triggers within school environments.	"Education on Asthma Self-Management (AS-ME)" and "Environmental policies or best practices to reduce asthma triggers from indoor, outdoor, and occupational sources"	Evaluation Instruments: • Pre and Post Test • Satisfaction Survey All key variables or indicators are collected REDCap database, which is used for data entry, data management, and storage of data from each PRAMCU project. With this data, the project's compliance is evaluated, areas for improvement are identified, and the findings are reported in the EXHALE strategies report.
Training activities for health professionals about asthma: This asthma management training for health professionals is based on the National Asthma Education and Prevention Program (NAEPP) Asthma Guidelines. Health professionals are trained to recognize and manage asthma symptoms, develop individualized asthma action plans, and provide comprehensive care to patients.	"Achievement of Guidelines-based Medical Management"	Evaluation Instruments: • Pre and Post Test • Satisfaction Survey All key variables or indicators are collected REDCap database, which is used for data entry, data management, and storage of data from each PRAMCU project. With this data, the project's compliance is evaluated, areas for improvement are identified, and the findings are reported in the EXHALE strategies report.

Referral System: This system aims to promote referrals for the VIAS Project encourage referrals to the PR Quitline "Déjalo Ya," and provide external referrals to ensure comprehensive support for those in need.	Linkages and Coordination of Care across Setting	All key variables or indicators are collected in "PRAMCU's Activities Log Sheet". These include at least participants name, reason to be referred, and referral date. The evaluation findings are presented in PRAMCU's Annual Stakeholders Meeting.

Overarching Timeline:

Over the four-year cooperative agreement cycle, evaluations will be conducted at key program milestones to ensure the effective implementation and impact of PRAMCU. In Year 1, the focus will be on developing the Strategic Evaluation Plan (SEP) and creating evaluation instruments for each PRAMCU project. Initial data analysis and stakeholder involvement will be prioritized, alongside assessing current capacities and developing training activities. Moving into Year 2, the SEP will be implemented, evaluation data collected, and recommendations incorporated into projects. Core activities include reviewing the VIAS Individual Evaluation Plan (IEP) and expanding training programs while strengthening partnerships.

Year 3 will emphasize reviewing the SEP, generating the EXHALE Strategies Report, and disseminating results with key collaborators. This year will also include developing an economic evaluation of the program. Capacity-building efforts will be evaluated, and data management systems enhanced. Finally, in Year 4, the close-out report for the four-year cooperative agreement will be generated, and evaluation results presented. Continuous learning and the sustainability of capacity-building efforts will be promoted by incorporating them into routine activities.

Stakeholder participation will be leveraged throughout the process to ensure relevance.

Table 4 - Proposed Timeline of Evaluation Activities

	Year 1	Year 2	Year 3	Year 4
Program Milestones	Develop the Strategic Evaluation Plan (SEP)	Implement the SEP	Review the SEP	Generate the Close-out Report (4-year Cooperative Agreement)
Evaluations	Develop evaluation instruments for each PRAMCU project	Collect evaluation data	Generate the EXHALE Strategies Report	Re-evaluation and conclusion of the Cooperative Agreement
		Data Analysis and interpretation	Incorporate recommendations in each project	Disseminate the results with key collaborators
	Involve stakeholders in all evaluation processes	Review the VIAS Individual Evaluation Plan (IEP)	Develop an Economic Evaluation of the program	Present the evaluation results
Capacity Building	Assess Current Capacities	Expand Training Programs	Evaluate Capacity Building Efforts:	Sustain and Institutionalize Capacity
	Develop Training Activities	Strengthen Partnerships	Enhance Data Management Systems	Promote Continuous Learning

Prioritized Activity and Proposed Evaluation

This section provides information on the prioritized evaluation activities and describes how PRAMCU will collect the data (key indicators or performance measures) to ensure their adequacy. Additionally, it outlines the established evaluation questions and methods.

VIAS PROJECT

The primary purpose of the VIAS Project ("Visitas Interactivas al Hogar") evaluation is to assess its implementation, effectiveness, and sustainability in reducing asthma-

related hospitalizations and emergency room visits in high-burden areas of Puerto Rico. This evaluation seeks to answer critical questions about the program's success in educating participants on asthma management, reducing exposure to environmental triggers, and achieving measurable health outcomes. The findings will justify the program's continuation, guide improvements, and establish it as an evidence-based intervention (EBI) to expand its reach to other underserved areas.

This evaluation is a priority due to its alignment with the Environmental Protection Agency's recommendations for home-based, multi-trigger, and multi-component interventions. Since its launch in 2017, the VIAS Project has shown positive outcomes. A comprehensive evaluation will provide data to further validate its effectiveness, address challenges, and ensure long-term sustainability. It will also contribute to building a stronger evidence base for scaling the program in areas with high asthma prevalence, especially considering Puerto Rico's socioeconomic challenges and health disparities.

A mixed-methods evaluation design will be used, combining both quantitative and qualitative data. The quantitative component includes pre- and post-tests, statistical analyses, and tracking performance metrics such as changes in asthma control, ER visits, and hospitalizations. The qualitative component will involve Satisfaction Surveys administered to participants to capture contextual insights and challenges. This non-experimental design allows for a robust evaluation while maintaining feasibility within the program's scope.

Data will be gathered using structured instruments, such as pre- and post-tests, satisfaction surveys, and structured interviews conducted during various stages of the home visits. Health promoters from PRAMCU will collect and enter the data into a REDCap database, following PRDoH protocols. Key data collected will include

demographics, asthma symptoms, triggers, and healthcare utilization, ensuring comprehensive coverage and detailed insights.

The evaluation will account for Puerto Rico's unique socioeconomic and cultural context. Given the predominantly Hispanic or Latino population, materials and protocols will be culturally and linguistically adapted to meet the needs of participants. The evaluation will also consider challenges such as disparities in asthma triggers, the impact of hurricanes, and the ongoing economic crisis, all of which may influence program implementation and outcomes. PRAMCU will adhere to National CLAS Standards to provide equitable, culturally competent services and ensure staff is trained to enhance cultural awareness.

The evaluation findings will benefit children with uncontrolled asthma, their caregivers, healthcare providers, policymakers, and funding agencies. These stakeholders will use the data to assess the program’s value, advocate for its expansion, and secure resources for long-term sustainability.

The evaluation will be conducted from September 2024 to August 2025, providing enough time for data collection and analysis to capture meaningful trends and outcomes.

The findings will be used to strengthen the VIAS Project as an evidence-based practice, improve its design and implementation, and justify its expansion to underserved areas. Stakeholders can leverage the results to develop business cases, secure funding, and promote the program as a replicable model for home-based asthma education.

The evaluation is estimated to cost $80,000, covering personnel (30% Evaluator, 5% Program Manager, and 10% Epidemiologist), REDCap database access and

maintenance, data collection tools, Satisfaction Surveys, an annual stakeholder meeting, data analysis software, Microsoft 365 licenses, computer equipment, training, materials for trigger reduction, and administrative expenses.

OAS PROJECT:

The evaluation of the "Open Airways for Schools" (OAS) program aims to determine its effectiveness in improving asthma knowledge and self-management skills among students aged 8 to 11 in Puerto Rico. Specifically, the evaluation will assess the program's impact on asthma control, identify areas for improvement in its interventions, and provide evidence of its effectiveness to guide potential expansion. Evaluation questions include:

1. To what extent has the OAS Project been implemented as planned?
2. Has the program improved asthma knowledge and self-management among students?
3. What are the perspectives of participants on the program's effectiveness?
4. What challenges or barriers affect its implementation?

This evaluation is a priority because it addresses critical needs in asthma education for children, aligns with public health goals to improve asthma management, and ensures culturally relevant approaches for underserved communities. Furthermore, it will support stakeholders in making evidence-based decisions regarding the program's scalability and sustainability.

A mixed-methods evaluation design will be utilized, incorporating quantitative and qualitative data. The quantitative component will include pre- and post-tests to measure changes in students' asthma knowledge and self-management skills. Performance metrics such as asthma control status and follow-up improvements

among participants will be tracked using the REDCap database. The Asthma School Registry will be used to identify the schools where the project will be implemented. The qualitative component will include Satisfaction Surveys to gather participants' perspectives and identify contextual challenges in implementation.

Cultural and contextual factors will be carefully considered, such as addressing language barriers and ensuring program materials are culturally relevant and accessible for the target age group. These adaptations will help foster engagement and improve program effectiveness.

The evaluation's primary audiences include parents, caregivers, and participating students. Findings will also be shared with key stakeholders, such as school administrators and public health officials, to inform future decision-making.

The evaluation will be conducted from August 2025 to August 2027, allowing sufficient time to collect and analyze data. Findings will be used to refine program materials and delivery, provide evidence of the program's impact to stakeholders, and explore opportunities for replication in other schools.

The evaluation is estimated to cost approximately $30,000, covering personnel (Evaluator, Program Manager, and Program Facilitators), data collection tools, REDCap database maintenance, Satisfaction Surveys, data analysis software, and administrative expenses.

ASTHMA SCHOOL REGISTRY:

The evaluation of the Asthma School Registry aims to assess the effectiveness of the system in improving asthma action plan collection and prioritizing asthma-related services for schools with high asthma prevalence. The evaluation will focus on the registry's ability to streamline the submission process for asthma action plans,

evaluate how well it helps identify students with asthma, and determine its impact on the prioritization and delivery of services. Key evaluation questions include:

- To what extent has the Asthma School Registry been implemented as planned?
- How effective is the registry in collecting and managing asthma action plans?
- What proportion of schools successfully submit asthma action plans through the registry?
- How has the registry influenced the prioritization and delivery of asthma-related services in schools?
- What challenges have been encountered in the implementation of the registry?
- What improvements can be made to enhance the registry's usability and overall effectiveness?

This evaluation is a priority because it addresses the growing need for efficient asthma management in schools, helping ensure that students with asthma receive the appropriate care and services. By assessing the effectiveness of the Asthma School Registry, the evaluation will inform decisions regarding system improvements, guide resource allocation, and support public health initiatives aimed at improving asthma outcomes in school-aged children.

A mixed-methods evaluation design will be employed, combining both quantitative and qualitative data. The quantitative component will include the analysis of registry data from the REDCap database, tracking key metrics such as the number and percentage of schools submitting asthma action plans, the number of students identified with asthma, and the system's efficiency. The qualitative component will incorporate Satisfaction Surveys from school personnel to assess the usability of the registry, identify challenges, and gather suggestions for improvements.

Cultural and contextual factors will be carefully considered throughout the evaluation. Special attention will be given to addressing potential language barriers and ensuring that the system and outreach materials are culturally relevant and accessible for diverse communities. Understanding the capacity of different schools to implement asthma action plan collection will also be important for interpreting the results and making appropriate recommendations.

The primary audiences for the evaluation findings include school personnel, parents and caregivers, and public health officials. Additionally, the findings will be shared with community health organizations and healthcare providers who are involved in asthma management, so they can use the results to improve asthma care and services in schools.

The evaluation will be conducted annually, with data collection taking place at the end of each school year. Findings will be used to refine the registry system, inform decision-making related to school-based asthma interventions, and explore opportunities for scaling and improving asthma action plan collection across more schools.

The estimated evaluation cost per year is approximately $25,000, which will cover personnel (Evaluator, Program Manager, Data Analysts), data collection tools, REDCap database maintenance, Satisfaction Surveys, data analysis software, and other administrative expenses.

PUERTO RICO ASTHMA SURVEILLANCE SYSTEM

The evaluation of the Puerto Rico Asthma Surveillance System (PRASS) aims to assess its effectiveness and efficiency in monitoring asthma-related trends and health outcomes across the island. This evaluation will focus on the system's ability to collect,

analyze, and report asthma data accurately and in a timely manner, ensuring that findings support strategic planning and resource allocation for asthma prevention and management programs.

By examining data sources such as the Behavioral Risk Factor Surveillance System (BRFSS), the Puerto Rico Demographic Registry database, the Puerto Rico Health Insurance Administration (PRHIA) database, and health insurance company records, the evaluation will provide insight into asthma prevalence, emergency department visits, hospitalizations, and mortality rates. Key evaluation questions will address the timeliness and accuracy of data collection, the utility of statistical reports, and challenges faced in data analysis.

The evaluation will utilize a quantitative analysis approach to assess performance measures, including the number of asthma-related emergency visits, hospitalizations, and mortality rates, as well as asthma prevalence. Cultural and socioeconomic factors, such as beliefs and stigmas surrounding asthma and disparities in healthcare access, will also be considered to ensure the system effectively captures data reflective of Puerto Rico's population.

Findings from the evaluation will be shared with public health officials, healthcare providers, policymakers, research institutions, and community health organizations to inform public health strategies, guide policy decisions, enhance resource allocation, and improve asthma prevention and management programs. The evaluation will take place from September 2025 to August 2026, with an estimated cost of $65,000, covering data analysis, system assessments, and stakeholder engagement efforts.

WORKSHOPS ON ASTHMA CONTROL AND SELF-MANAGEMENT

The evaluation of the Workshops on Asthma Control and Self-Management aims to determine their effectiveness in increasing asthma knowledge among participants. It will assess the impact of the workshops on asthma management, identify areas for improvement in content and delivery, and provide evidence of their effectiveness to guide future asthma education initiatives. This evaluation is a priority because it addresses the need for structured asthma education, aligns with public health goals for improving asthma management, and ensures culturally relevant approaches for diverse communities. Additionally, it will support stakeholders in making evidence-based decisions about program enhancements and sustainability.

A mixed-methods evaluation design will be utilized, incorporating both quantitative and qualitative data. The quantitative component will include pre- and post-tests to measure changes in participants' asthma knowledge. The qualitative component will include Satisfaction Surveys to gather participant feedback and identify contextual challenges in implementation.

The evaluation will consider cultural and contextual factors, such as language barriers and cultural attitudes toward asthma education. Program materials will be adapted to ensure they are culturally relevant, accessible, and engaging for participants, enhancing their effectiveness in asthma education.

The primary audiences for this evaluation include people with asthma, parents, caregivers, school personnel, and community health workers. Findings will be used to refine workshop content and delivery, enhance educational materials, and inform future asthma education initiatives to maximize program effectiveness.

The evaluation will be conducted from September 2025 to August 2026, allowing sufficient time for data collection and analysis. The estimated cost is approximately $50,000, covering personnel (Evaluator, Program Manager, and the Educational Team), data collection tools, survey administration, data analysis software, and administrative expenses. This investment will ensure a comprehensive evaluation that strengthens the program's impact and scalability.

COMMUNITY OUTREACH INTERVENTIONS

Community Outreach Interventions aim to increase asthma awareness and promote self-management by engaging community members in accessible settings. Evaluating these interventions is essential to understanding their effectiveness in reaching target populations and connecting individuals to health services.

This evaluation will assess the reach and impact of outreach activities, providing insights into community engagement and informing future strategies for resource allocation. Data collection methods include observational assessments, Asthma Control Test (ACT) results, and referral data recorded in the Activities Log Sheet.

Key evaluation questions include determining the proportion of participants with controlled (ACT score ≥20) and uncontrolled asthma (ACT score ≤19), assessing the percentage of smokers who accept referrals to the PR Quitline, and identifying challenges faced during implementation. Performance measures will track the number of individuals reached, referrals made, and asthma control status among participants.

Cultural and contextual factors, such as language barriers, literacy levels, socioeconomic disparities, and cultural perceptions of asthma, will be considered to ensure interventions are appropriately tailored to the community’s needs. The

primary audiences for this evaluation include community members, school personnel, public health agencies and community health organizations, who can benefit directly from improved outreach efforts.

The evaluation will be conducted annually using a mixed-methods approach, integrating quantitative data analysis of participation, ACT scores, and referral records with qualitative observational assessments. Findings will be used to refine outreach strategies, enhance educational materials, and strengthen collaborations with local health services.

The estimated evaluation cost is $40,000, covering personnel, data collection tools, analysis, and dissemination of results.

"ASTHMA CONTROL IN SCHOOLS" ONLINE COURSE

The evaluation of the "Asthma Control in Schools" online course aims to assess its effectiveness in improving school personnel's knowledge and confidence in managing asthma within school settings. This evaluation will determine whether participants gain a better understanding of asthma management, school regulations, and best practices for assisting students with asthma. The findings will be used to refine course content and instructional methods to enhance its impact and accessibility.

A pre- and post-assessment design, combined with participant satisfaction surveys, will be used to evaluate the program. The quantitative component will measure participants' knowledge improvements and confidence in applying asthma management practices. The qualitative component will collect feedback on course content, delivery, and recommendations for improvement. Data will be stored and analyzed using the REDCap database and protocols.

Cultural and contextual factors such as language accessibility, literacy levels, participants' prior asthma knowledge, and school-specific regulations will be carefully considered to ensure the course is relevant and accessible to a diverse audience. Adaptations may include simplified language and interactive learning elements.

The primary audiences for this evaluation include school nurses, teachers, school administrators, policymakers, and public health officials. Findings will be used to enhance course materials and delivery, inform school-based asthma policies, strengthen professional development opportunities for school personnel, and advocate widespread implementation of the course.

The evaluation will be conducted annually, allowing continuous improvement of the course based on participant feedback and data analysis. The estimated cost is $10,000, covering data collection tools, survey administration, database management, and administrative expenses. This investment will ensure that the online course remains an effective resource for supporting asthma management in schools.

ASTHMA TRAININGS FOR HEALTH PROFESSIONALS

The Asthma Trainings for Health Professionals are designed to enhance the knowledge and skills of healthcare providers in managing asthma effectively. These training sessions are based on the National Asthma Education and Prevention Program (NAEPP) Asthma Guidelines, ensuring that participants are well-equipped to recognize and manage asthma symptoms, develop individualized asthma action plans, and provide comprehensive care to patients.

The evaluation of these training activities is essential to assess their effectiveness in improving knowledge and ultimately enhance adherence to guidelines. The purpose of this evaluation is to measure the impact of the training on participants' asthma management skills and identify areas for improvement. Findings will inform adjustments to the training content and methodology to enhance its effectiveness.

A combination of pre- and post-training assessments, satisfaction surveys, and data analysis from the REDCap database will be used to evaluate the training. Key performance indicators include pre- and post-test score improvements and participant satisfaction levels.

Several factors may influence training outcomes, such as health professionals' familiarity with asthma guidelines, institutional support for guideline implementation, and access to necessary asthma management resources. The findings will be used to improve future training sessions, identify areas requiring additional support, and ultimately enhance adherence to guidelines and patient outcomes.

The evaluation is scheduled to take place between September 2024 and August 2026, with findings documented in the EXHALE strategies report. The estimated cost for the evaluation is approximately $30,000.

REFERRAL SYSTEM

The Referral System is a key component of optimizing services by ensuring that individuals in need of asthma-related support and smoking cessation programs are successfully connected to appropriate resources. This system promotes referrals for the VIAS Project, encourages linkages to the PR Quitline "Déjalo Ya," and facilitates external referrals to promote comprehensive care and support.

The evaluation aims to determine how effectively the referral system facilitates access to necessary services. By analyzing data from PRAMCU's Activities Log Sheet, the evaluation will assess the number of referrals completed, the percentage of participants who accessed services, and any barriers that may hinder the referral process. Specific questions will focus on the volume of referrals made, the success rate of service access, and challenges in the referral process.

Performance measures include the number of completed referrals, the proportion of participants who follow through with recommended services, and the distribution of referrals across different programs. Also, cultural and contextual factors such as language and literacy barriers, stigma associated with seeking support, and accessibility of services will be considered to promote equitable service delivery.

The evaluation findings will be of particular interest to program administrators, healthcare providers, community organizations, and public health officials. These insights will be used to enhance the efficiency of the referral system, improve coordination among service providers, and strengthen partnerships to ensure better access to care.

The evaluation will take place from September 2024 to August 2026, using a quantitative analysis of referral data alongside qualitative assessments through internal feedback. The estimated cost of the evaluation is $5,000, covering data collection, analysis, and reporting.

Table 5 - Evaluation Profile for VIAS Project

Activity Name	VIAS Project - "Visitas Interactivas al Hogar"
Program Component	Expanding Services
Evaluation Justification	The VIAS program, implemented since 2017 and proven effective, is being evaluated by PRAP and stakeholders to assess its content,

	implementation, and impact on reducing asthma-related hospitalizations and ER visits, aligning with EPA-recommended interventions.
Purpose of the Evaluation	Assess implementation, effectiveness, and sustainability to justify expansion to high-burden asthma areas in Puerto Rico.
Data Collection Methods and Sources	Structured interviews, Satisfaction Surveys, pre-/post-tests, and program documentation.
Possible Evaluation Questions	1. To what extent has the VIAS Project been implemented as planned? 2. Has the referral system successfully identified and referred participants? 3. Is the program effective in increasing asthma self-management knowledge among participants? 4. To what extent have the recommendations for reducing asthma triggers been implemented by participants in the VIAS Project? 5. Has it decreased asthma-related ER visits and hospitalizations? 6. Has it decreased asthma-related ER visits and hospitalizations costs? 7. Is it a viable and replicable model considering cultural context? 8. What challenges or barriers affect its implementation?
Relevant Performance Measures (Indicators)	1. Number of children with asthma who have access to the service or are impacted by the intervention 2. Number and demographics of participants initiating and attending at least 60% of sessions of guidelines-based intensive asthma self-management education. 3. Number of participants attending at least 60% of intensive asthma self-management education sessions who successfully complete a return demonstration of basic asthma self-management knowledge and skills. 4. Number of participants completing the program who are without a regular primary care provider at the time of enrollment and are referred to care for asthma. 5. The number of participants with poorly controlled asthma on enrollment who report their asthma is “well-controlled” one month or more after attending at least 60% of intensive asthma self-management education sessions.

	6. Number of participants who: had poorly controlled asthma and were not using a long-term control medication regularly upon enrollment; who reported better adherence to long-term control medication a month or more after completing intensive asthma self-management education. 7. Number and percent of participants completing the program who report a decrease in the frequency of hospitalizations and ED visits during the 12 months post training. 8. Number and percent of participants in intensive asthma self-management education sessions who were referred by a Health Care Organization. 9. Emergency room visits and hospitalization costs per participant one year before the first intervention 10. Emergency room visits and hospitalization costs per participant one year after the last intervention
Cultural or Contextual Factors	• Population: 98.8% Hispanic/Latino, 95% Spanish speakers. • Regional disparities in asthma triggers and social determinants of health. • Economic challenges and public health impacts (e.g., Hurricanes). • Adaptation of materials to culturally appropriate formats, and diverse communication needs, including health literacy, cultural competencies, and preferred languages.
Potential Audiences	Children with uncontrolled asthma, caregivers, healthcare providers, policymakers, and funders.
Potential Data Source	REDCap database and Protocols, PR Asthma Surveillance System, Health Insurers database
Timing of Evaluation	September 2024 to August 2026
Evaluation Design	Mixed-methods evaluation combining quantitative (pre- and post-tests), economic evaluation, and qualitative (Satisfaction Surveys) approaches to assess outcomes and challenges.
Use of Evaluation Findings	Strengthen evidence-based practices, guide program improvements, support expansion, and secure funding.
Estimated Evaluation Cost per year	Approximately $80,000

Table 6 - Evaluation Profile for OAS Project

Activity Name	OAS Project - "Open Airways for Schools"
Program Component	Expanding Services

Evaluation Justification	To assess the program's effectiveness in improving asthma knowledge and management among children in school.
Purpose of the Evaluation	To determine the impact of the OAS program on students' increasing asthma knowledge and self-management skills. To identify areas for improvement in program interventions.
Data Collection Methods and Sources	Satisfaction Surveys, pre-/post-tests, and program documentation.
Possible Evaluation Questions	1. To what extent has the OAS Project been implemented as planned? 2. Has a change or increase in knowledge about asthma been observed in students after participating in the OAS program? 3. What are the perspectives of participants on the program's effectiveness? 4. What challenges or barriers affect its implementation?
Relevant Performance Measures (Indicators)	1. Number of participants at enrollment whose asthma is well-controlled 2. Number of participants at enrollment whose asthma is poorly-controlled 3. Number of participants at enrollment with unknown asthma control status Of participants attending at least 60% of sessions: 4. Number of participants at enrollment whose asthma is well-controlled 5. Number of participants at enrollment whose asthma is poorly-controlled 6. Number of participants at enrollment with no information on asthma control 7. Of participants attending at least 60% of sessions who has poorly controlled asthma at enrollment, how many reported follow-up data 8. Of participants attending at least 60% of sessions who has poorly controlled asthma at enrollment, how many reported improved asthma control at some point after the final session
Cultural or Contextual Factors	• Consideration of language barriers and cultural attitudes towards asthma and health education. • Adaptations to program materials to be culturally relevant and accessible to students between 8 to 11 years old in Puerto Rico.
Potential Audiences	Parents or caregivers, and students between 8 to 11 years old with asthma

Potential Data Source	REDCap database and the Asthma School Registry
Timing of Evaluation	September 2025 to August 2027
Evaluation Design	A mixed-methods approach combining quantitative and qualitative data to provide a comprehensive evaluation of the program's impact.
Use of Evaluation Findings	To improve program delivery and materials, provide evidence of program effectiveness to stakeholders, and inform decisions about program expansion or replication in other schools.
Estimated Evaluation Cost per year	Approximately $30,000

Table 7 - Evaluation Profile for Asthma School Registry

Activity Name	Asthma School Registry
Program Component	Optimizing Services
Evaluation Justification	To improve the system of collecting asthma action plans in schools and determine which schools have the highest number of students with asthma to prioritize them for services.
Purpose of the Evaluation	To assess the effectiveness of the Asthma School Registry and the utility of the system. Findings will inform improvements in data collection, system efficiency, and prioritization of school-based asthma interventions.
Data Collection Methods and Sources	Satisfaction Surveys and Asthma School Registry REDCap database
Possible Evaluation Questions	1. To what extent has the Asthma School Registry been implemented as planned? 2. How effective is the Asthma School Registry in collecting and managing asthma action plans? 3. What proportion of schools successfully submit asthma action plans through the registry? 4. How has the registry impacted the prioritization and delivery of asthma-related services in schools? 5. What challenges or barriers exist in implementing the Asthma School Registry? 6. What improvements can be made to enhance the system's usability and effectiveness?

Relevant Performance Measures (Indicators)	1. Number and percentage of schools submitting asthma action plans 2. Number of students with asthma identified through the registry 3. User satisfaction with the Asthma School Registry system
Cultural or Contextual Factors	• Consideration of language barriers and cultural attitudes toward asthma management • Need for culturally appropriate training and outreach materials for school personnel and parents • Differences in school resources and capacity to implement asthma action plan collection
Potential Audiences	School Personnel, parents and caregivers, healthcare providers, public health agencies and community health organizations
Potential Data Source	Asthma School Registry REDCap database
Timing of Evaluation	Annually, at the end of the school year
Evaluation Design	Mixed-methods design combining quantitative (REDCap data analysis: submission rates, student identification, system efficiency) and qualitative (Satisfaction Surveys: usability, challenges, suggestions for improvement).
Use of Evaluation Findings	To enhance the functionality and efficiency of the Asthma School Registry, guide policy and program decisions related to school-based asthma interventions, identify gaps and areas for improvement in asthma action plan collection, and support resource allocation for schools with high asthma prevalence.
Estimated Evaluation Cost per year	Approximately $25,000

Table 8 - Evaluation Profile for the Puerto Rico Asthma Surveillance System

Activity Name	Puerto Rico Asthma Surveillance System (PRASS)
Program Component	Infrastructure
Evaluation Justification	To assess the effectiveness and efficiency of the asthma surveillance system in monitoring trends and health outcomes in Puerto Rico.
Purpose of the Evaluation	To evaluate the system's ability to collect, analyze, and report asthma data accurately and efficiently. Findings will inform improvements in data collection and planning.
Data Collection Methods and Sources	BRFSS PR, Demographic Registry database, PRHIA database and Health Insurance Companies data

Possible Evaluation Questions	1. To what extent is the PRASS effective in monitoring asthma-related trends and health outcomes? 2. How timely and accurate is the data collection process? 3. How useful are the statistical reports generated? 4. What challenges are faced in data collection and analysis?
Relevant Performance Measures (Indicators)	1. Number of asthma-related emergency visits, hospitalizations, and mortality rates 2. Number of asthma prevalence
Cultural or Contextual Factors	• Cultural beliefs and stigmas associated with asthma. • Socioeconomic factors influencing healthcare access and asthma management.
Potential Audiences	Public health officials, Healthcare providers, Policymakers, Research institutions and Community health organizations
Potential Data Source	Reports from the PRASS system and REDCap database and Protocols
Timing of Evaluation	September 2025 to August 2026
Evaluation Design	Quantitative analysis of asthma-related data
Use of Evaluation Findings	Improve asthma management and prevention programs, enhance resource allocation, guide policy decisions, and inform public health strategies
Estimated Evaluation Cost	Approximately $65,000

Table 9 - Evaluation Profile for workshops on asthma control and self-management

Activity Name	Workshops on asthma control and self-management
Program Component	Expanding Services
Evaluation Justification	To assess the effectiveness of the workshops in improving participants' knowledge on asthma management.
Purpose of the Evaluation	To determine the impact of the workshops on students' increasing asthma knowledge. Findings will guide improvements in workshop content and delivery.
Data Collection Methods and Sources	Satisfaction Surveys and pre-/post-tests

Possible Evaluation Questions	1. To what extent has the workshops been implemented as planned? 2. Has a change or increase in knowledge about asthma been observed after participating in the workshops? 3. What are the perspectives of participants on the program's effectiveness? 4. What challenges or barriers affect its implementation?
Relevant Performance Measures (Indicators)	1. Percentage of participants demonstrating increased asthma knowledge 2. Participant satisfaction with the workshop
Cultural or Contextual Factors	• Consideration of language barriers and cultural attitudes towards asthma and health education. • Adaptations to program materials to be culturally relevant and accessible.
Potential Audiences	People with asthma, parents and caregivers, school personnel, and community health workers
Potential Data Source	Workshop attendance records, pre- and post-workshop assessment scores and participant feedback surveys
Timing of Evaluation	September 2025 to August 2026
Evaluation Design	A mixed-methods approach combining quantitative and qualitative data to provide a comprehensive evaluation of the program's impact.
Use of Evaluation Findings	Improve workshop content and delivery, enhance educational materials and inform future asthma education initiatives
Estimated Evaluation Cost	Approximately $50,000

Table 10 - Evaluation Profile for Community Outreach Interventions

Activity Name	Community Outreach Interventions
Program Component	Optimizing Services
Evaluation Justification	To assess the effectiveness of outreach interventions in increasing asthma awareness and promoting self-management.
Purpose of the Evaluation	To determine the reach of the interventions. Findings will help assess the scope of community engagement and inform future outreach strategies and resource allocation.

Data Collection Methods and Sources	Observational assessments, Asthma Control Test results, Referrals data in the Activities Log Sheet.
Possible Evaluation Questions	1. What percentage of participants who took the Asthma Control Test were identified as having uncontrolled asthma (ACT score ≤19)? 2. What percentage of participants who took the Asthma Control Test were identified as having controlled asthma (ACT score ≥20)? 3. What percentage of participants who self-identified as smokers accepted a referral to the PR Quitline? 4. What challenges were faced during the implementation?
Relevant Performance Measures (Indicators)	1. Number of individuals reached through outreach events 2. Number of referrals made to the PR Quitline 3. Number of participants whose asthma is well-controlled 4. Number of participants whose asthma is poorly controlled
Cultural or Contextual Factors	• Language barriers and literacy levels • Mistrust of healthcare systems • Socioeconomic factors affecting healthcare access • Cultural beliefs about asthma and treatment
Potential Audiences	Community members, school personnel, public health agencies and community health organizations
Potential Data Source	Attendance sheet, referral tracking systems
Timing of Evaluation	Annually
Evaluation Design	Mixed-methods design combining quantitative (analysis of participation, ACT's and referral data) and qualitative (Observation Assessments)
Use of Evaluation Findings	Improve outreach strategies and educational materials, enhance engagement approaches, and strengthen partnerships with local health services
Estimated Evaluation Cost	$40,000

Table 11 - Evaluation Profile for "Asthma Control in Schools" online course

Activity Name	"Asthma Control in Schools" online course

Program Component	Expanding Services
Evaluation Justification	To assess the effectiveness of the course in improving school personnel's knowledge to manage asthma in school settings.
Purpose of the Evaluation	To determine whether participants gain knowledge on asthma management, understand school regulations, and apply best practices in assisting students with asthma. Findings will be used to improve course content and instructional methods.
Data Collection Methods and Sources	Satisfaction Surveys and pre-/post-tests
Possible Evaluation Questions	1. How confident are participants in their ability to apply asthma management practices in school settings after completing the course? 2. How satisfied are participants with the course overall? 3. What changes do participants recommend for improving the course?
Relevant Performance Measures (Indicators)	1. Number of participants completing the course 2. Number of participants who report increased confidence in managing asthma at school 3. Satisfaction ratings of course content and delivery
Cultural or Contextual Factors	• Language accessibility • Literacy levels • Varying levels of prior asthma knowledge • School-specific regulations
Potential Audiences	School nurses, teachers, school administrators, policymakers, and public health officials
Potential Data Source	REDCap database and protocols
Timing of Evaluation	Annually
Evaluation Design	Pre- and post-assessment design combined with participant satisfaction surveys
Use of Evaluation Findings	Enhance course materials and delivery methods, inform school-based asthma policies, strengthen professional development opportunities for school staff and advocate for widespread course implementation
Estimated Evaluation Cost	$10,000

Table 12 - Evaluation Profile for Asthma Training for health professionals:

Activity Name	Asthma training activities for health professionals
Program Component	Expanding Services
Evaluation Justification	To assess the effectiveness of training in improving health professionals' knowledge and ultimately enhance adherence to NAEPP Asthma guidelines and patient outcomes.
Purpose of the Evaluation	To assess the effectiveness of the training in improving participants' knowledge on asthma management. Findings will inform program improvements.
Data Collection Methods and Sources	Satisfaction Surveys and pre-/post-tests
Possible Evaluation Questions	1. How much did participants' knowledge improve after the training? 2. How satisfied are participants with the training content and delivery?
Relevant Performance Measures (Indicators)	1. Pre- and post-test score improvements 2. Participant satisfaction levels
Cultural or Contextual Factors	• Health professionals' familiarity with asthma guidelines • Adaptations to program materials to be culturally relevant and accessible. • Institutional support for guidelines implementation
Potential Audiences	Health professionals, public health organizations and healthcare administrators
Potential Data Source	REDCap database, pre-and post test results and Satisfaction survey responses
Timing of Evaluation	September 2024 to August 2026
Evaluation Design	A mixed-methods approach combining quantitative and qualitative data to provide a comprehensive evaluation of the program's impact.
Use of Evaluation Findings	Improve future training content and delivery methods
Estimated Evaluation Cost	$30,000

Table 13 - Evaluation Profile for Referral System

Activity Name	Referral System
Program Component	Optimizing services
Evaluation Justification	To assess the effectiveness of the referral system in connecting participants with appropriate asthma-related services and smoking cessation programs.
Purpose of the Evaluation	To determine how well the referral system facilitates access to necessary services. Findings will inform improvements in coordination and service delivery.
Data Collection Methods and Sources	PRAMCU's Activities Log Sheet
Possible Evaluation Questions	1. How many referrals were made to the VIAS Project, PR Quitline "Déjalo Ya," and other external services? 2. What percentage of referred participants successfully accessed the recommended services? 3. What barriers exist in the referral process?
Relevant Performance Measures (Indicators)	1. Number of referrals completed 2. Number of external referrals 3. Number of PRDoH referrals 4. Percentage of participants who access the services
Cultural or Contextual Factors	• Language and literacy barriers, • Stigma related to seeking asthma or smoking cessation support • Accessibility of referred services
Potential Audiences	Program administrators, healthcare providers, community organizations and public health officials
Potential Data Source	PRAMCU's Activities Log Sheet
Timing of Evaluation	September 2024 to August 2026
Evaluation Design	Quantitative analysis of referral data and qualitative assessments through internal feedback
Use of Evaluation Findings	Improve the efficiency of the referral system and strengthen partnerships with service providers
Estimated Evaluation Cost	$5,000

Evaluation Capacity Building Activities

As part of PRAMCU's strategies, we are committed to strengthening the evaluation skills and capabilities of not only the PRAMCU evaluator but also the entire PRAMCU staff. Therefore, we identify and address the training needs of our team members to ensure they have a comprehensive understanding of the evaluation process and can effectively use data in program evaluation for informed decision-making. This approach allows us to achieve our established objectives.

Table 14 - Capacity Building Activities to Support Evaluation

Required Evaluation Capacity	Methods	Audience	Timeframe
Data Collection Methods	Webinars Workshops	PRAMCU Staff	By July every two years
	Workshops	Stakeholders	By August of each year
Data Management & Analysis	Webinars Workshops	PRAMCU Staff	By June of the second year
Data Interpretation	Workshops	PRAMCU Staff	By July every two years
Data Quality Improvement	Webinars Workshops	PRAMCU Staff	By December of the second year
Health Literacy	Workshops	PRAMCU Staff	By June of the second year
Puerto Rico Public Policies about Asthma	Workshops	Stakeholders	By August of each year

Evaluation Activities Timeline

The following table outlines the key evaluation activities and their corresponding timelines, ensuring a structured approach to data collection, analysis, and utilization for continuous program improvement.

Table 15 - Evaluation Timetable 2024-2028

Activities	Year 1				Year 2				Year 3				Year 4			
	Quater				Quater				Quater				Quater			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Prioritized Evaluation Activities																
"Visitas Interactivas al Hogar" VIAS																

Activities	Year 1				Year 2				Year 3				Year 4			
	Quater				Quater				Quater				Quater			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Open Airways in Schools (OAS)																
Asthma School Registry																
Puerto Rico Asthma Surveillance System (PRASS)																
Workshops on asthma control and self-management																
Community Outreach Interventions																
Asthma Control in Schools																
Asthma Training for Health Professionals																
Referral System																
Proposed Evaluation Activities																
Develop the Strategic Evaluation Plan (SEP)																
Develop Evaluation Instruments																
Involve all the Stakeholders in the evaluation process																
Assess the current capacities																
Collect Evaluation Data																
Data Analysis and Interpretation																
Review the VIAS Individual Evaluation Plan																
Review SEP																
EXHALE Strategies Report																
Incorporate the EXHALE Report recommendations																
Develop an Economic Evaluation																
Evaluate Capacity Building Efforts																
Enhance Data Management Systems																
Generate the Close Out Report																
Reevaluation and conclusion																
Disseminate the Evaluation Results																
Present the Evaluation Results																
Sustain and Institutionalize Capacity																
Promote Continuous Learning																

Activities	Year 1				Year 2				Year 3				Year 4			
	Quater				Quater				Quater				Quater			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Capacity Building Activities to Support Evaluation																
Data Collection Methods																
Data Management & Analysis																
Data Interpretation																
Data Quality Improvement																
Health Literacy																
Puerto Rico Public Policies about Asthma																

Communication Plan

The evaluation findings will be shared to ensure transparency, justify conclusions, and promote the use of data for program improvement. Information about the strategic evaluation planning process, including key activities, progress, and findings, will be shared annually with PRAMCU staff and key stakeholders. The purpose is to inform decision-making, enhance program implementation, and guide future strategies.

Evaluation updates will be disseminated through multiple formats, including evaluation reports, professional conferences, in-person meetings, fact sheets, infographics, and the PRAMCU website/webpage. The PRAMCU Communication Plan will outline strategies for effectively communicating findings to different audiences.

PRAMCU staff will be responsible for sharing information, ensuring accuracy and accessibility. The results of the overall evaluation process will be summarized through annual reports, publicly accessible documents on the PRDoH website, and targeted stakeholder meetings to discuss key insights and recommendations. Table 16 presents a brief description of potential ways to disseminate evaluation findings.

Table 16 - Communication Plan Summary Matrix

Information and Purpose	Audiences	Possible Formats	Timing	Person responsible
Strategic evaluation planning process updates – To keep stakeholders informed about the evaluation process and ensure alignment with program goals	PRAMCU staff, key stakeholders	Reports, in-person meetings, emails, PRDoH website	Bi-annually	PRAMCU Evaluator
Evaluation findings and data accuracy – To justify conclusions, enhance data reliability, and support program improvement.	PRAMCU staff, key stakeholders	Reports, fact sheets, infographics	Annually	PRAMCU Evaluator
Implementation progress and challenges – To identify barriers, make necessary adjustments, and optimize program delivery.	PRAMCU staff, stakeholders, school personnel	Meetings, progress report, PRAMCU website, newsletters	Biannually	PRAMCU Manager
Key findings and recommendations – To inform decision-makers and support policy and program development.	Policymakers, stakeholders, public health agencies	Meetings, reports, fact sheets	August 2027	PRAMCU Manager and Evaluator
Public access to evaluation reports (SEP & IEPs) – To ensure transparency and allow public engagement with evaluation outcomes.	General public	PRDoH website	Ongoing, as updates occur	PRDoH Communication Office

Information and Purpose	Audiences	Possible Formats	Timing	Person responsible
Program impact and success stories – To highlight achievements, increase stakeholder engagement, and promote program sustainability.	PRAMCU staff, stakeholders, General public	Fact sheets, infographics, PRDoH website, social media	Annually	PRAMCU Staff
Training and capacity-building outcomes – To strengthen evaluation skills, enhance program performance, and support data-driven decision-making.	PRAMCU staff, partners	Webinars, workshops, training materials	Annually	PRAMCU Staff and key collaborators

Reflection and Wrapping Up

The SEP is a document that guides the evaluation efforts of PRAMCU and the prioritization of evaluation strategies. It enables the measurement and assessment of the effectiveness and efficacy of evaluation priorities while maintaining the sustainability of these strategies. Additionally, this ensures the utility of evaluation findings.

At the end of the cooperative agreement, PRAMCU will acknowledge the contributions of the Strategic Evaluation Planning (SEP) team members and other key collaborators through Annual Stakeholders Meetings, where their efforts and contributions will be formally recognized. Additionally, their work will be highlighted in the final published evaluation reports, which will include acknowledgments for their role in shaping and implementing the evaluation strategies. Contributors may also be recognized in newsletters, PRAMCU website publications, and other dissemination materials.

Evaluation lessons learned during the implementation of the SEP will be documented in a final evaluation report, summarizing key insights, challenges encountered, and best practices identified. This report will be made available to stakeholders and the public through the PRAMCU website. Additionally, the lessons learned will be integrated into stakeholder meetings, professional conferences, or continuous quality improvement (CQI) training sessions to ensure that the insights gained inform future evaluation strategies and program improvements.

References

1. World Health Organization. Asthma [Internet]. Geneva: World Health Organization; 2024 [cited 2025 Feb 25]. Available from: https://www.who.int/news-room/fact-sheets/detail/asthma
2. Centers for Disease Control and Prevention. Most Recent National Asthma Data [Internet]. Atlanta: Centers for Disease Control and Prevention; [cited 2025 Feb 25]. Available from: https://www.cdc.gov/asthma/most_recent_national_asthma_data.htm
3. Nazario S, González-Sepúlveda L, Telón-Sosa B, Suárez-Pérez EL. Inequalities in asthma mortality by ethnicity and race in the United States and Puerto Rico. J Allergy Clin Immunol Pract. 2022;10(8):2178–80. https://doi.org/10.1016/j.jaip.2022.04.023
4. Office of Minority Health. Asthma and Hispanic Americans [Internet]. U.S. Department of Health & Human Services; 2025 [cited 2025 Feb 25]. Available from: https://minorityhealth.hhs.gov/asthma-and-hispanic-americans
5. Ayala-Alvarado EI, Narváez-Sánchez KE. Adultos con asma Puerto Rico, 2023. Unidad de Manejo y Control del Asma, Departamento de Salud de Puerto Rico; 2024.
6. Ayala-Alvarado EI, Narváez-Sánchez KE. Niños y adolescentes con asma Puerto Rico, 2022-2023. Unidad de Manejo y Control del Asma, Departamento de Salud de Puerto Rico; 2024.
7. Mercado-Ortíz FJ. Puerto Rico Asthma Surveillance System Report 2018-2021 [Internet]. Unidad de Manejo y Control del Asma, Departamento de Salud de Puerto Rico; 2023 [cited 2025 Feb 25]. Available from: https://www.salud.pr.gov/menuInst/download/1561
8. Ayala-Alvarado EI, Narváez-Sánchez KE. Visitas a sala de emergencia por asma Puerto Rico, 2023. Unidad de Manejo y Control del Asma, Departamento de Salud de Puerto Rico; 2024.
9. Ayala-Alvarado EI, Narváez-Sánchez KE. Hospitalizaciones por asma Puerto Rico, 2023. Unidad de Manejo y Control del Asma, Departamento de Salud de Puerto Rico; 2024.

Appendix 1: List of Acronyms

ACEC	Alliance for Chronic Disease Control
ACT	Asthma Control Test
AS-ME	Asthma Self-Management Education
ALA	American Lung Association
CDC	Centers for Disease Control and Prevention
CQI	Continuous Quality Improvement
IEP	Individual Evaluation Plan
EBI	Evidence Based Intervention
EPA	Environmental Protection Agency
EPR-3	Expert Panel Report-3
ER	Emergency Room
ET	Evaluation Team
FQHC	Federally Qualified Health Center
HIC	Health Insurance Company
HUD	Department of Housing and Urban Development
IEP	Individual Evaluation Plans
MSC	Medical Sciences Campus
NACP	National Asthma Control Program
NAEPP	National Asthma Education and Prevention Program
NGO	Non-governmental organizations
OCS	Office of the Insurance Commissioner
PEHSU	Pediatric Environmental Health Specialty Units
PRAAP	American Academy of Pediatrics
PI	Principal Investigator

PM	Performance Measures
PR	Puerto Rico
PRAMCU	Puerto Rico Asthma Management and Control Unit
PRASS	Puerto Rico Asthma Surveillance System
PR-BRFSS	Puerto Rico Behavioral Risk Factor Surveillance System
PRDoE	Puerto Rico Department of Education
PRDoH	Puerto Rico Department of Health
PRHIA	Puerto Rico Health Insurance Administration
OAS	Open Airways for Schools
SEP	Strategic Evaluation Plan
TCP	Tobacco Control Program
UPR	University of Puerto Rico
US	United States of America
VIAS	Asthma Interactive home-based visits project

Form Approved

OMB NO: 0920-0853

Exp. Date: 06/30/2026

Puerto Rico Asthma Program - Data Management Plan

As part of our comprehensive data management plan, each of the following projects employed a structured and methodical approach to guarantee the integrity and utility of the collected data. Information was gathered through standardized questionnaires, tests, and observations, and securely stored on the REDCap platform and encrypted hard drives. The collected data will not only evaluate the effectiveness of these programs but also guide future interventions and public policies, all while ensuring confidentiality and the proper use of sensitive information.

Project Information
Project Title
VIAS project (Interactive Asthma Home Visits by its acronym in Spanish)
Description
The VIAS Project provides free home visits for children aged 4 to 17 with uncontrolled asthma. It educates children and caregivers on managing asthma and reducing exposure to triggers at home. The project gathers data on participants' asthma knowledge, control test responses, population characteristics, and identified home triggers.
Goals/Purpose
Empower children with uncontrolled asthma and their caregivers through education and personalized interventions to improve asthma management and reduce exposure to triggers, ultimately decreasing emergency room visits and hospitalizations.
Objective
To assess changes in asthma control and knowledge before and after the intervention, identify asthma triggers in participants' homes, and collect and analyze data to evaluate the program's effectiveness.
Methods
The project will use questionnaires, tests, and observation to meet its objectives. The target population will be recruited, screened, and enrolled based on specific criteria. The data is collected on an ongoing basis.
Collection of Info, Data, or Bio specimens

Information and data will be collected using standardized questionnaires, tests, and observation methods. Personally identifiable information (PII) will be protected through data de-identification.

Will PII be Captured?

Yes

Expected Use of Findings/Results and their impact

The findings will be used to evaluate and inform future interventions. The results will be disseminated through evaluation reports and presented in our annual stakeholder meeting.

Anticipated Project Begin and Completion Dates:

Project begin date: 09/2024 - Project completion date: 08/2028

Spatiality

The data will be collected in Puerto Rico, involving participants from various regions.

Keywords

Asthma, healthy home, interventions, control, triggers

Data Information

Anticipated Data Collection Start and End Dates:

data collection start date: 09/2024 - *data collection end date:* 08/2028

Data Access Level(s) – Check all apply

<The degree to which the data collected as part of this project could be shared or made publicly available. Projects can have multiple datasets or different data elements within a single dataset that adopt different levels of data access.>

☐ **Public release – individual data**
(De-identified individual level data will be made publicly available without restrictions; data steward no longer controls data. This should be the default selection unless justified otherwise.)

☐ **Public release – aggregate data**
(De-identified aggregate/summary data will be made available to public without restrictions.)

☒ **Restricted data sharing**
(Data is available upon request and approval. Data sharing is restricted by use restrictions or data use agreement; Provide the data use restrictions or the data use agreement template.)

☐ **Restricted data access**
(Data is available via CDC Research Data Center and will remain under CDC custody.)

☐ **No data release/sharing**
(check all applicable reasons below)

☐ CIO conducting this project does not fund or own the data and is not responsible for making it available
☐ Country/Jurisdiction owns the data with protections under their laws and regulations
☐ Not sharable due to dual use research or dual use research of concern
☐ Not sharable due to protection of intellectual property or trade secrets
☐ Removal of identifiers renders the remaining data of no value
☐ Other (specify)

Data Access Level Justification

Data contains PII and sensitive health information. Participants did not consent to public sharing.

Access Rights/Restrictions

Access is restricted based on privacy and security policies. Researchers must submit a formal request and sign a data use agreement. De-identified data can be provided upon approved request.

Archiving and Long-term Preservation of Data

The data will be securely stored on an encrypted hard drive and digital data on the REDCap platform for a maximum of five years. Access is restricted to authorized personnel (Program Manager, Evaluator and Epidemiologist). Individuals handling confidential, identifiable information will do so in a secure and locked area. This practice adheres to all relevant laws, regulations and ethical standards.

Project Information

Project Title

Open Airways for Schools (OAS) Project

Description

This project collects observational data from the Open Airways for Schools (OAS) program, designed by the American Lung Association. The program impacts children with asthma, aged 8 to 11 years, providing the skills and confidence to manage and control their disease through six 40-minute lessons.

Goals/Purpose

To evaluate the effectiveness of the OAS program in improving asthma knowledge, asthma control, and overall health outcomes in children.

Objective

To assess changes in asthma knowledge and control among participants before and after the intervention, and to gather information about population characteristics.

Methods

Data will be collected using questionnaires, tests, and observations. The target population includes children aged 8 to 11 years with a diagnosis of asthma living in Puerto Rico. Parental consent and school principal's approval are required for participation. Data will be collected as OAS sessions are performed.

Collection of Info, Data, or Bio specimens

Information and data will be collected through paper-based questionnaires and tests. These will then be uploaded to the REDCap platform to facilitate evaluation and data analysis, and to ensure the protection of personally identifiable information (PII).

Will PII be Captured?

Yes

Expected Use of Findings/Results and their impact

The findings will be used to evaluate the OAS project and improve asthma management programs. Results will be disseminated through evaluation reports.

Anticipated Project Begin and Completion Dates:

Project begin date: 09/2024 - Project completion date: 08/2028

Spatiality

The data will be collected in Puerto Rico.

Keywords

Asthma, Children, Health Education, Puerto Rico

Data Information

Anticipated Data Collection Start and End Dates:

data collection start date: 09/2024 - *data collection end date:* 08/2028

Data Access Level(s) – Check all apply

<The degree to which the data collected as part of this project could be shared or made publicly available. Projects can have multiple datasets or different data elements within a single dataset that adopt different levels of data access.>

☐ **Public release – individual data**
(De-identified individual level data will be made publicly available without restrictions; data steward no longer controls data. This should be the default selection unless justified otherwise.)

☐ **Public release – aggregate data**
(De-identified aggregate/summary data will be made available to public without restrictions.)

☒ **Restricted data sharing**
(Data is available upon request and approval. Data sharing is restricted by use restrictions or data use agreement; Provide the data use restrictions or the data use agreement template.)

☐ **Restricted data access**
(Data is available via CDC Research Data Center, and will remain under CDC custody.)

☐ **No data release/sharing**
(check all applicable reasons below)

☐ CIO conducting this project does not fund or own the data and is not responsible for making it available
☐ Country/Jurisdiction owns the data with protections under their laws and regulations
☐ Not sharable due to dual use research or dual use research of concern
☐ Not sharable due to protection of intellectual property or trade secrets
☐ Removal of identifiers renders the remaining data of no value
☐ Other (specify)

Data Access Level Justification

Data contains PII and sensitive health information. Participants did not consent to public sharing.

Access Rights/Restrictions

Access is restricted based on privacy and security policies. Researchers must submit a formal request and sign a data use agreement. De-identified data can be provided upon approved request.

Archiving and Long-term Preservation of Data

The data will be uploaded to the REDCap platform for a maximum of five years. Access is restricted to authorized personnel (program manager, evaluator, and epidemiologist). Individuals handling confidential, identifiable information will do so in a secure and locked area. Paper-based questionnaires and tests will be stored in a locked storage facility. This practice adheres to all relevant laws, regulations, and ethical standards.

Project Information

Project Title

Asthma School Registry

Description

The Asthma School Registry collects information about students with asthma in schools and their asthma action plans.

Goals/Purpose

To create a registry that ensures pediatric asthma patients in Puerto Rico receive their asthma action plans, which are essential for their treatment.

Objective

Collect and maintain comprehensive data on students with asthma, including their written action plans, to improve asthma management and control.

Methods

Data is collected annually through digital forms using the REDCap platform. School nurses or designated staff, trained by the Puerto Rico Asthma Management and Control Unit, follow a protocol to ensure accurate reporting. The registry is based on Law 56 and Regulation 9224, ensuring students can self-administer medications and schools report relevant information.

Collection of Info, Data, or Bio specimens

This project will use digital forms with validation and branching functionality to ensure accurate reporting. Data will be maintained on the REDCap platform and an encrypted hard drive.

Will PII be Captured?

Yes

Expected Use of Findings/Results and their impact

The data will be used to evaluate asthma management in schools. Findings will be made publicly accessible two years after data collection, allowing time for data cleaning. Data will be de-identified before public release. Reports will be disseminated through surveillance reports and data dictionaries.

Anticipated Project Begin and Completion Dates:

Project begin date: 09/2024 - Project completion date: 08/2028

Spatiality

The data will be collected in Puerto Rico.

Keywords

Asthma, School Health, Pediatric, Asthma Action Plan, Puerto Rico, Public Policy

Data Information

Anticipated Data Collection Start and End Dates:

data collection start date: 09/2024 - *data collection end date:* 08/2028

Data Access Level(s) – Check all apply

<The degree to which the data collected as part of this project could be shared or made publicly available. Projects can have multiple datasets or different data elements within a single dataset that adopt different levels of data access.>

☐ **Public release – individual data**
(De-identified individual level data will be made publicly available without restrictions; data steward no longer controls data. This should be the default selection unless justified otherwise.)

☐ **Public release – aggregate data**
(De-identified aggregate/summary data will be made available to public without restrictions.)

☒ **Restricted data sharing**
(Data is available upon request and approval. Data sharing is restricted by use restrictions or data use agreement; Provide the data use restrictions or the data use agreement template.)

☐ **Restricted data access**
(Data is available via CDC Research Data Center, and will remain under CDC custody.)

☐ **No data release/sharing**
(check all applicable reasons below)

☐ CIO conducting this project does not fund or own the data and is not responsible for making it available
☐ Country/Jurisdiction owns the data with protections under their laws and regulations
☐ Not sharable due to dual use research or dual use research of concern
☐ Not sharable due to protection of intellectual property or trade secrets
☐ Removal of identifiers renders the remaining data of no value
☐ Other (specify)

Data Access Level Justification

Data contains PII and sensitive health information. Participants did not consent to public sharing.

Access Rights/Restrictions

Access is restricted based on privacy and security policies. Researchers must submit a formal request and sign a data use agreement. De-identified data can be provided upon approved request.

Archiving and Long-term Preservation of Data

The data will be uploaded to the REDCap platform for a maximum of five years. Access is restricted to authorized personnel (program manager, evaluator, and epidemiologist). Individuals handling confidential, identifiable information will do so in a secure and locked area. This practice adheres to all relevant laws, regulations, and ethical standards.

Project Information

Project Title

AMED Project

Description

AMED focuses on training healthcare professionals to expand education on the proper use of asthma medications for managing and controlling the disease. The program includes workshops on asthma management, teaching proper medication use, distribution of demonstration kits, role-playing exercises, and certification.

Goals/Purpose

To enhance the education and skills of healthcare professionals in the management and control of asthma through proper medication use.

Objective

To train healthcare professionals on asthma management and control, ensuring they can effectively educate and support asthma patients.

Methods

The project includes workshops on asthma management, demonstrations of proper medication use, distribution of demonstration kits, role play, forms and certification. Training sessions will be conducted for healthcare professionals. The data is collected on an ongoing basis.

Collection of Info, Data, or Bio specimens

Data will be collected through digital forms, tests, and observations during training sessions to ensure accurate responses.

Will PII be Captured?
No
Expected Use of Findings/Results and their impact
The data will be used to evaluate the effectiveness of the training program and improve future training initiatives. Findings will be disseminated through evaluation reports.
Anticipated Project Begin and Completion Dates:
Project begin date: 09/2024 - Project completion date: 08/2028
Spatiality
The data will be collected in Puerto Rico.
Keywords
Asthma, Healthcare Training, Medication Management, Puerto Rico

Data Information

Anticipated Data Collection Start and End Dates:
data collection start date: 09/2024 - *data collection end date:* 08/2028
Data Access Level(s) – Check all apply

<The degree to which the data collected as part of this project could be shared or made publicly available. Projects can have multiple datasets or different data elements within a single dataset that adopt different levels of data access.>

☐ **Public release – individual data**

(De-identified individual level data will be made publicly available without restrictions; data steward no longer controls data. This should be the default selection unless justified otherwise.)

☐ **Public release – aggregate data**

(De-identified aggregate/summary data will be made available to public without restrictions.)

☒ **Restricted data sharing**

(Data is available upon request and approval. Data sharing is restricted by use restrictions or data use agreement; Provide the data use restrictions or the data use agreement template.)

☐ **Restricted data access**

(Data is available via CDC Research Data Center, and will remain under CDC custody.)

☐ **No data release/sharing**

(check all applicable reasons below)

- ☐ CIO conducting this project does not fund or own the data and is not responsible for making it available
- ☐ Country/Jurisdiction owns the data with protections under their laws and regulations
- ☐ Not sharable due to dual use research or dual use research of concern
- ☐ Not sharable due to protection of intellectual property or trade secrets
- ☐ Removal of identifiers renders the remaining data of no value
- ☐ Other (specify)

Data Access Level Justification

The data can be provided upon request and approval. The data will be de-identified before sharing. The project did not obtain consent for sharing identifiable information.

Access Rights/Restrictions

Data access will be shared upon request.

Archiving and Long-term Preservation of Data

The data will be securely stored on the REDCap platform for a maximum of five years. Access is restricted to authorized personnel (program manager, evaluator and epidemiologist). Individuals handling confidential, identifiable information will do so in a secure and locked area. This practice adheres to all relevant laws, regulations, and ethical standards.

Project Information

Project Title

Educational Interventions

Description

Educational Interventions encompasses various workshops aimed at educating different target groups about asthma management and control. These workshops include 1-hour sessions for adults, caregivers, and children, participation in community outreach interventions and training for healthcare professionals.

Goals/Purpose

To enhance asthma management and control knowledge among different target groups through tailored educational interventions.

Objective

Educate adults, caregivers, children, and healthcare professionals on asthma management based on EPR-4 asthma guidelines, adequate use of asthma medication, preventive and control measures, rights and responsibilities of children in schools and the importance of the Asthma Action Plan.

Methods

It includes workshops on asthma management, demonstrations of proper medication use, Law 56 of 2006, Regulation 9224, and administrative order 473. The project will use satisfaction surveys, pre and post tests, attendance sheets and observation.

Collection of Info, Data, or Bio specimens

Information and data will be collected through paper-based questionnaires, attendance sheets, and tests. These will then be uploaded to the REDCap platform and Microsoft Excel encrypted worksheets to facilitate evaluation and data analysis, and to ensure the protection of personally identifiable information (PII).

Will PII be Captured?

Yes

Expected Use of Findings/Results and their impact

The findings will be used to evaluate the effectiveness of the educational interventions and improve future programs. Results will be disseminated through evaluation reports and our annual stakeholders meeting.

Anticipated Project Begin and Completion Dates:

Project begin date: 09/2024 - Project completion date: 08/2028

Spatiality

The data will be collected in Puerto Rico.

Keywords

Asthma, Education, Workshops, Community Outreach Interventions, Healthcare Training, Puerto Rico

Data Information

Anticipated Data Collection Start and End Dates:

data collection start date: 09/2024 - *data collection end date:* 08/2028

Data Access Level(s) – Check all apply

<The degree to which the data collected as part of this project could be shared or made publicly available. Projects can have multiple datasets or different data elements within a single dataset that adopt different levels of data access.>

☐ **Public release – individual data**
(De-identified individual level data will be made publicly available without restrictions; data steward no longer controls data. This should be the default selection unless justified otherwise.)

☐ **Public release – aggregate data**
(De-identified aggregate/summary data will be made available to public without restrictions.)

☒ **Restricted data sharing**
(Data is available upon request and approval. Data sharing is restricted by use restrictions or data use agreement; Provide the data use restrictions or the data use agreement template.)

☐ **Restricted data access**
(Data is available via CDC Research Data Center, and will remain under CDC custody.)

☐ **No data release/sharing**
(check all applicable reasons below)
- ☐ CIO conducting this project does not fund or own the data and is not responsible for making it available
- ☐ Country/Jurisdiction owns the data with protections under their laws and regulations
- ☐ Not sharable due to dual use research or dual use research of concern
- ☐ Not sharable due to protection of intellectual property or trade secrets
- ☐ Removal of identifiers renders the remaining data of no value
- ☐ Other (specify)

Data Access Level Justification

The data can be provided upon request and approval.

Access Rights/Restrictions

Data access will be restricted based on privacy and security policies. Identifiable data will be de-identified before sharing.

Archiving and Long-term Preservation of Data

The digital data will be securely stored on the REDCap platform for a maximum of five years. Access is restricted to authorized personnel (program manager, evaluator and epidemiologist). Individuals handling confidential, identifiable information will do so in a secure and locked area. Paper-based questionnaires and tests will be stored in a locked storage facility. This practice adheres to all relevant laws, regulations, and ethical standards.

Project Information

Project Title

Asthma Claims

Description
The dataset contains information about asthma-related claims from public and private health insurance companies, including emergency department visits, hospitalizations, and costs for asthma related services.
Goals/Purpose
Analyze asthma-related claims data to gain insights into asthma management and healthcare utilization in Puerto Rico.
Objective
Collect and analyze data on asthma-related claims to improve asthma management and healthcare strategies.
Methods
The data is collected by health insurance companies and reported by health providers for billing purposes. Data will be stored in a Microsoft Excel encrypted worksheet.
Collection of Info, Data, or Bio specimens
Data is collected by health insurance companies and reported by health providers. PRHIA and private health insurance companies ensure data quality.
Will PII be Captured?
No
Expected Use of Findings/Results and their impact
The information is included in the asthma surveillance system report and infographics, which covers emergency room visits and hospitalizations for asthma. The raw data will not be published, only the reports and aggregated data.
Anticipated Project Begin and Completion Dates:
Project begin date: 09/2024 - Project completion date: 08/2028
Spatiality
The data will be collected in Puerto Rico, involving participants from various regions.
Keywords
Asthma, Health Insurance, Claims Data, Emergency Department Visits, Hospitalizations, Puerto Rico

Data Information

Anticipated Data Collection Start and End Dates:
data collection start date: 09/2024 - *data collection end date:* 08/2028
Data Access Level(s) – Check all apply
<The degree to which the data collected as part of this project could be shared or made publicly available. Projects can have multiple datasets or different data elements within a single dataset that adopt different levels of data access.>

☐ **Public release – individual data**
(De-identified individual level data will be made publicly available without restrictions; data steward no longer controls data. This should be the default selection unless justified otherwise.)

☐ **Public release – aggregate data**
(De-identified aggregate/summary data will be made available to public without restrictions.)

☒ **Restricted data sharing**
(Data is available upon request and approval. Data sharing is restricted by use restrictions or data use agreement; Provide the data use restrictions or the data use agreement template.)

☐ **Restricted data access**
(Data is available via CDC Research Data Center, and will remain under CDC custody.)

☐ **No data release/sharing**
(check all applicable reasons below)
- ☐ CIO conducting this project does not fund or own the data and is not responsible for making it available
- ☐ Country/Jurisdiction owns the data with protections under their laws and regulations
- ☐ Not sharable due to dual use research or dual use research of concern
- ☐ Not sharable due to protection of intellectual property or trade secrets
- ☐ Removal of identifiers renders the remaining data of no value
- ☐ Other (specify)

Data Access Level Justification

Under the Centers for Disease Control and Prevention Cooperative Agreement, all data is reported to the CDC. This data is then shared publicly to enhance outcomes for individuals with asthma. Information on hospitalization and emergency department visits reports is accessible to the public on the Puerto Rico Department of Health (PRDoH) website. This accessibility supports the public and partners in improving asthma outcomes.

Access Rights/Restrictions

All findings are reported annually through the CDC's Asthma Performance Measures system.

Archiving and Long-term Preservation of Data

The data will be stored on an encrypted hard drive for up to 5 years. Individuals working with hard copies of confidential information do so in a secure and locked area. Access is restricted to the epidemiologist and the program manager. This practice adheres to all relevant laws, regulations, and ethical standards.

Project Information

Project Title

BRFSS

Description
The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based system of telephone health surveys that collect information on health risk behaviors, chronic health conditions, and use of preventive services. Established in 1984, BRFSS collects data in all 50 states, the District of Columbia, and three U.S. territories, including Puerto Rico.
Goals/Purpose
Collect and analyze data on health-related risk behaviors, chronic health conditions, and use of preventive services to inform public health policies and programs. PRAMCU uses asthma related modules.
Objective
Gather state-level data on health risk behaviors, chronic health conditions, and preventive health practices to monitor and improve public health. PRAMCU focuses on asthma related data.
Methods
The project conducts telephone health surveys using computer-assisted telephone interviewing (CATI) systems. Also, collects data on demographics, current health-related conditions, and behaviors using core components of questions used by all states, optional CDC modules on specific topics, and state-added questions.
Collection of Info, Data, or Bio specimens
The CDC collects data through telephone interviews with adults aged 18 and older residing in households. PRAMCU has a cooperative agreement with the Puerto Rico BRFSS to receive state-specific data.
Will PII be Captured?
No
Expected Use of Findings/Results and their impact
The information is included in the asthma surveillance system report. The raw data will not be published, only the reports and grouped data, but BRFSS core data is available on the CDC webpage.
Anticipated Project Begin and Completion Dates:
Project begin date: 09/2024 - Project completion date: 08/2028
Spatiality
The data will be collected in United States and its territories.
Keywords
BRFSS, Health Surveys, Chronic Diseases, Preventive Services, Public Health, Telephone Interviews

Data Information

Anticipated Data Collection Start and End Dates:
data collection start date: 09/2024 - *data collection end date:* 08/2028

Data Access Level(s) – Check all apply

<The degree to which the data collected as part of this project could be shared or made publicly available. Projects can have multiple datasets or different data elements within a single dataset that adopt different levels of data access.>

☐ **Public release – individual data**

(De-identified individual level data will be made publicly available without restrictions; data steward no longer controls data. This should be the default selection unless justified otherwise.)

☒ **Public release – aggregate data**

(De-identified aggregate/summary data will be made available to public without restrictions.)

☐ **Restricted data sharing**

(Data is available upon request and approval. Data sharing is restricted by use restrictions or data use agreement; Provide the data use restrictions or the data use agreement template.)

☐ **Restricted data access**

(Data is available via CDC Research Data Center, and will remain under CDC custody.)

☐ **No data release/sharing**

(check all applicable reasons below)

- ☐ CIO conducting this project does not fund or own the data and is not responsible for making it available
- ☐ Country/Jurisdiction owns the data with protections under their laws and regulations
- ☐ Not sharable due to dual use research or dual use research of concern
- ☐ Not sharable due to protection of intellectual property or trade secrets
- ☐ Removal of identifiers renders the remaining data of no value
- ☐ Other (specify)

Data Access Level Justification

Under the Centers for Disease Control and Prevention Cooperative Agreement, all data is reported to the CDC. This data is then shared publicly to enhance outcomes for individuals with asthma. Information on BRFSS reports is accessible to the public on the PRDoH website. This accessibility supports the public and partners in improving asthma outcomes.

Access Rights/Restrictions

All findings are reported annually through the CDC's Asthma Performance Measures system.

Archiving and Long-term Preservation of Data

The data will be stored on an encrypted hard drive for up to 5 years. Individuals working with hard copies of confidential information do so in a secure and locked area. Access is restricted to the epidemiologist and the program manager. This practice adheres to all relevant laws, regulations, and ethical standards.

Project Information

Project Title

Mortality Data

Description

The dataset contains mortality data from the Puerto Rico Demographic Registry, specifically analyzing cases where asthma is listed as the primary cause of death.

Goals/Purpose

To analyze mortality data where asthma is the primary cause of death to gain insights into asthma-related mortality trends in Puerto Rico.

Objective

To collect and analyze data on asthma-related mortality to improve public health strategies and policies.

Methods

The data is collected by the Puerto Rico Demographic Registry and shared through an encrypted Excel file. The data includes personal identifiers and is used for detailed analysis of asthma-related mortality.

Collection of Info, Data, or Bio specimens

Mortality data is collected by the Puerto Rico Demographic Registry. PRAMCU specifically focuses on cases where asthma is the primary cause of death. The data is shared through an encrypted Excel file.

Will PII be Captured?

Yes

Expected Use of Findings/Results and their impact

The information will be used to analyze asthma-related mortality trends and causes, informing public health strategies and policies. Findings will be disseminated through surveillance reports and publications. No raw data will be available.

Anticipated Project Begin and Completion Dates:

Project begin date: 09/2024 - Project completion date: 08/2028

Spatiality

The data will be collected in Puerto Rico.

Keywords

Asthma, Mortality, Demographic Registry, Public Health, Puerto Rico

Data Information

Anticipated Data Collection Start and End Dates:

data collection start date: 09/2024 - *data collection end date:* 08/2028

Data Access Level(s) – Check all apply

<The degree to which the data collected as part of this project could be shared or made publicly available. Projects can have multiple datasets or different data elements within a single dataset that adopt different levels of data access.>

☐ **Public release – individual data**
(De-identified individual level data will be made publicly available without restrictions; data steward no longer controls data. This should be the default selection unless justified otherwise.)

☐ **Public release – aggregate data**
(De-identified aggregate/summary data will be made available to public without restrictions.)

☐ **Restricted data sharing**
(Data is available upon request and approval. Data sharing is restricted by use restrictions or data use agreement; Provide the data use restrictions or the data use agreement template.)

☐ **Restricted data access**
(Data is available via CDC Research Data Center, and will remain under CDC custody.)

☒ **No data release/sharing**
(check all applicable reasons below)
- ☐ CIO conducting this project does not fund or own the data and is not responsible for making it available
- ☐ Country/Jurisdiction owns the data with protections under their laws and regulations
- ☐ Not sharable due to dual use research or dual use research of concern
- ☐ Not sharable due to protection of intellectual property or trade secrets
- ☐ Removal of identifiers renders the remaining data of no value
- ☐ Other (specify)

Data Access Level Justification

The information is shared only to include the results of the analysis in the asthma surveillance system report, which includes emergency room visits and hospitalizations.

Access Rights/Restrictions

Mortality frequencies and rates are reported annually through the CDC's Asthma Performance Measures system.

Archiving and Long-term Preservation of Data

The data will be stored on an encrypted hard drive for up to 5 years. Individuals working with hard copies of confidential information do so in a secure and locked area. Access is restricted to the epidemiologist and the program manager. This practice adheres to all relevant laws, regulations, ethical standards, and IRB guidelines when applicable.

Contact Information	
Extramural applicant/awardee	Puerto Rico Department of Health
Extramural applicant/awardee POC	Keila E. Narvaez Sanchez
Extramural applicant/awardee POC Email	keila.narvaez@salud.pr.gov

Data Sharing Information

Dataset Name	Dataset Description	Dataset Owner/Publisher	Data Access Level	Access URL
VIAS project	The dataset collects information about the knowledge of asthma, the responses of asthma control tests prior and post interventions, sociodemographic variables, asthma triggers identified in the house of the participants, and other data.	PRAMCU	Restricted Access	Data will not be published. If a researcher requests the data and is approved, the de-identified dataset will be provided.
OAS project data	Information about asthma knowledge, asthma control tests, and sociodemographic variables	PRAMCU	Restricted Access	Data will not be published. If a researcher requests the data and is approved, the de-identified dataset will be provided.
Asthma School Registry	Information about students with asthma in schools and their asthma action plans	PRAMCU	Restricted Access	Data will not be published. If a researcher requests the data and is approved, the de-identified dataset will be provided.
AMED project	Information about asthma	PRAMCU	Restricted Access	Data will not be published. If a

	knowledge, asthma control tests, and sociodemographic variables			researcher requests the data and is approved, the de-identified dataset will be provided.
Educational Interventions	Information on educational workshops for asthma management	PRAMCU	Restricted Access	Data will not be published. If a researcher requests the data and is approved, the de-identified dataset will be provided.
Asthma Claims Data	Information about asthma-related claims from public and private health insurance companies.	PRHIA	No data release/sharing	All findings are reported annually through the CDC's Asthma Performance Measures system.
BRFSS	Information on health-related telephone surveys.	Centers for Disease Control and Prevention (CDC)	Public release – aggregate data	All findings are reported annually through the CDC's Asthma Performance Measures system.
Mortality Data	Mortality data from the Demographic Registry of Puerto Rico.	Puerto Rico Demographic Registry	No data release/sharing	Mortality frequencies and rates are reported annually through the CDC's Asthma Performance Measures system.