



## TRANSLATING EVIDENCE INTO PRACTICE:

# Merck Childhood Asthma Network 10-Year Impact Report

### EXECUTIVE SUMMARY

The Merck Childhood Asthma Network (MCAN) is a nonprofit organization dedicated to supporting implementation of effective, evidence-based programs designed to reduce asthma symptoms and improve the quality of life for children with asthma and their families. The organization, funded by the Merck Foundation, operated from 2005 – 2015 with a vision to become a leading national resource and advocate for children with asthma and their families by working with national, regional, and community partners.

#### This report highlights the impact of MCAN on:

The implementation of evidence-based interventions and their role in reducing morbidity related to childhood asthma

Advocacy for public policy debate and changes needed to facilitate improved asthma care

Sustainability of effective interventions in diverse settings, primarily in impoverished communities

More than 6 million U.S. children have asthma and it is the third leading cause of hospitalizations and emergency room (ER) visits among children under age 15. The need for evidence-based action was critical, and thus MCAN was established to meet this need. During its 10-year history, MCAN funded and participated in the implementation of projects in varied geographic locations and settings to improve asthma care for children, responding to the growing and significant public health problem that asthma had become.

MCAN executed its activities in two phases. In **Phase I** (2005-09), MCAN funded the implementation of evidence-based interventions and engaged in activities to identify policies to improve asthma care and translational/implementation research. MCAN incorporated the experiences and lessons learned during this phase into the strategic plan for Phase II (2010-15). During **Phase II**, the organization supported implementation of an efficacious evidence-based intervention in Federally Qualified Health Centers and executed several advocacy initiatives focused on increasing national awareness and rallying action to address the public health threat of childhood asthma. MCAN worked with a coalition of stakeholders dedicated to improve the healthcare of children with asthma.

MCAN initiatives improved understanding among the public health community, community-based healthcare providers and others of the characteristics and challenges of effective community-based healthcare and how to create systems to respond to these challenges. Through its successful efforts to unite various stakeholders working to address childhood asthma, MCAN raised the profile of this chronic condition and its adverse effects on children and families.

MCAN would like to thank its many partners and supporters from the public and private sectors. Without input from and the generous support of these organizations, MCAN would not have been nearly as successful in improving the care and quality of life of children with asthma.





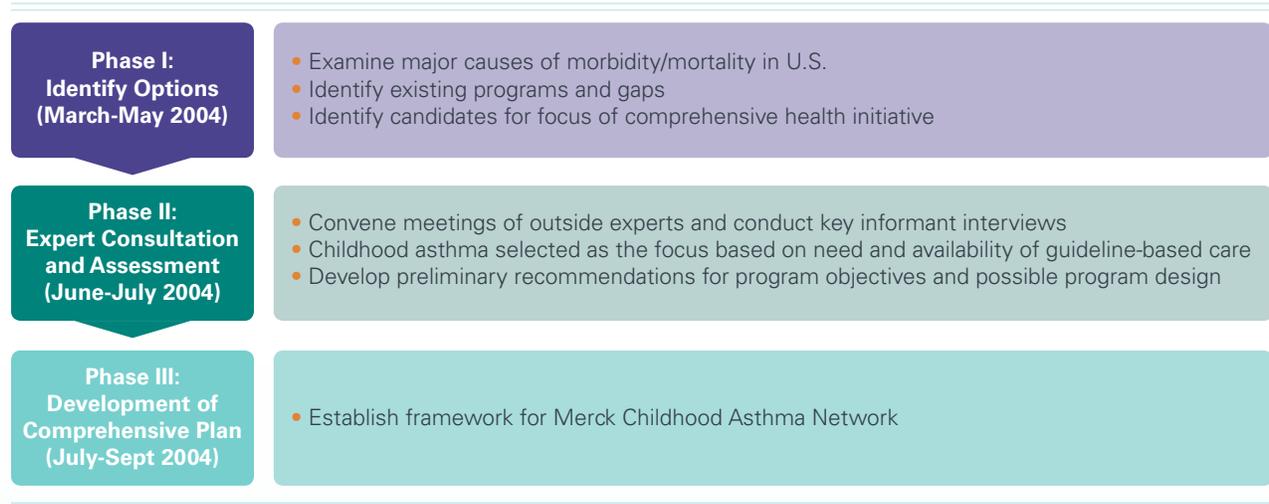
# A CALL TO ACTION: The MCAN Mission

## IDENTIFYING THE FOCUS

The Merck Foundation set out to create an organization that would make a significant contribution to a serious and growing public health problem by building public-private partnerships to implement effective, evidence-based health interventions.

As part of a three-phase planning process, the Merck Foundation chose childhood asthma as the focus for this comprehensive health initiative and developed a plan for an organization that would work to address it – the Merck Childhood Asthma Network, Inc. or MCAN.

## 3-PHASE PLANNING PROCESS



## Assessing the Challenges and Opportunities

More than 6 million U.S. children have asthma, and it is the third leading cause of hospitalizations among children under age 15. Childhood asthma is a disease that can interfere with children’s daily activities and negatively impact sleep. Poorly managed asthma can result in dangerous asthma attacks. The burden of childhood asthma is much heavier in African-American and Puerto Rican communities and for families living below the poverty level than in the U.S. population as a whole. Both morbidity rates and rates of disparities in health outcomes related to childhood asthma remain unacceptably high, even today.

**The disease is a leading cause of school absenteeism, accounting for nearly 15 MILLION lost days of school annually.**

The alarming increase in asthma morbidity and disparities in past decades persisted despite a well-established knowledge base of proven management strategies and therapies. As a result of large, federally-funded, randomized, controlled trials, efficacious interventions were developed in diverse ethnic groups of children with moderate to severe asthma. However, systematic dissemination of these interventions and existing asthma management guidelines (Expert Panel Report-3) lagged and were not implemented widely into routine practice and “real-world” settings.

## DEVELOPING THE RESPONSE

To address these challenges and opportunities, the Merck Foundation established MCAN in 2005 as an independent 501(c)(3) nonprofit organization focused on 5 main goals:

- Improve access to quality asthma care for children;
- Increase asthma knowledge among affected individuals and the general public;
- Promote asthma-friendly schools and communities;
- Promote asthma-safe home environments; and
- Reduce disparities in childhood asthma outcomes.

### MCAN's initial efforts focused on two initiatives:

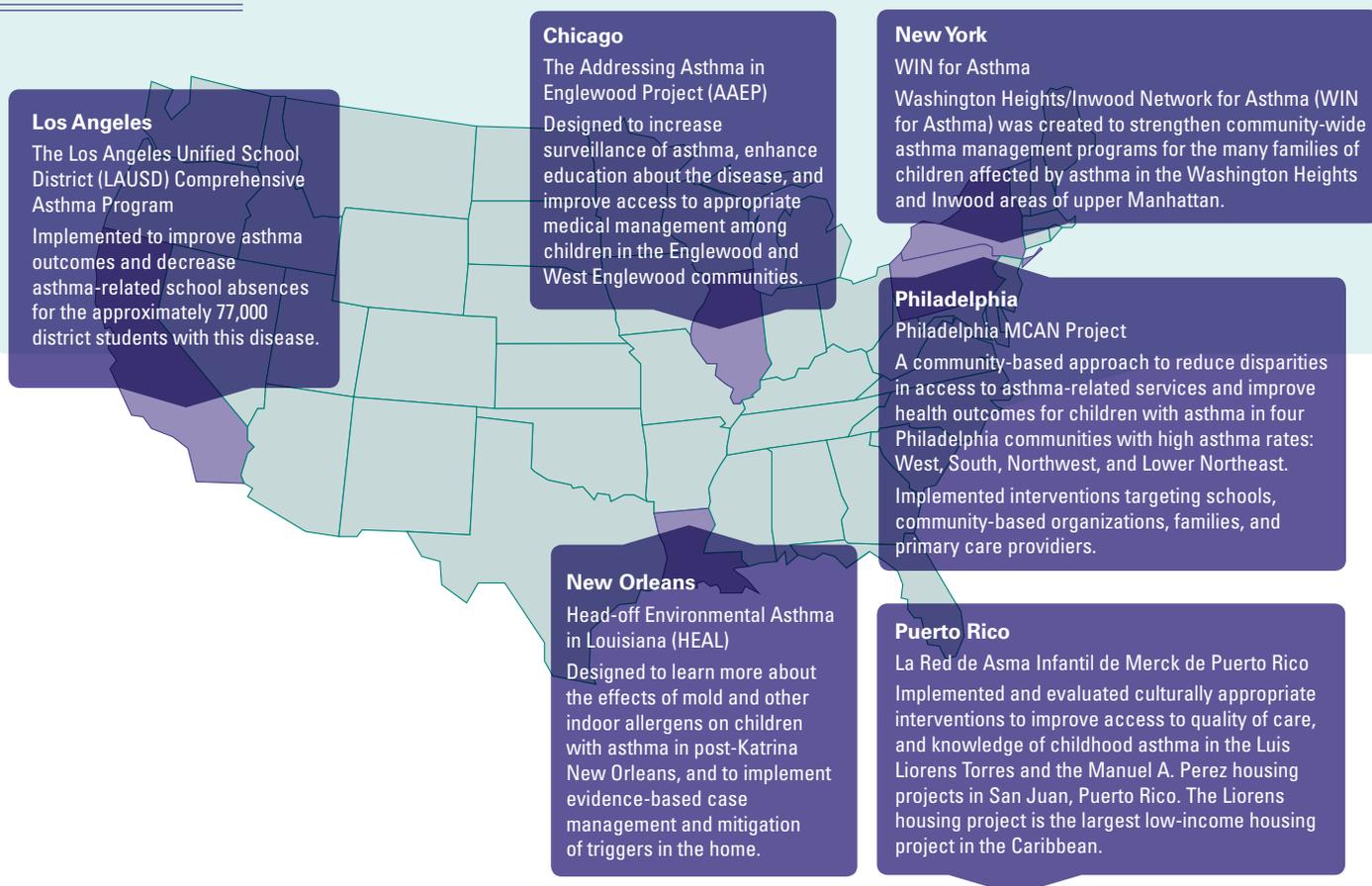
- Devising a plan to implement the guidelines and lessons learned from earlier controlled studies of asthma interventions into strategies that would improve the quality of care and life for children with asthma in diverse community and healthcare settings.
- Identifying and/or generating valid methods to evaluate the effectiveness of evidence-based asthma interventions across these diverse settings.

## A COMMUNITY-BASED CARE MODEL EMERGES

### *Implementing Evidence-Based Pediatric Asthma Interventions in Community Settings*

MCAN set out to identify innovative childhood asthma programs that implemented evidence-based interventions in low-income and medically underserved communities. In response to a national call for proposals, MCAN awarded grants, through a competitive peer review process to programs located in Chicago, Los Angeles, Philadelphia, New York City, and San Juan, Puerto Rico.

## Phase I Sites



The evidence-based interventions and delivery settings varied widely across sites, but the common theme among the grantees was the use of a community-based care coordination model. This approach contributed to overall improvements in health outcomes, reduction of disease burden, and reduction of unnecessary utilization of urgent/emergent services.

## PHASE I OUTCOMES

During Phase I, **ER visits among children at MCAN-funded sites dropped by 30 percent.** In addition, **80 percent of children across all sites experienced reduced asthma-related school absences.** These programs empowered parents or caregivers of children to manage asthma better. Almost every caregiver who participated reported that they felt more confident in their ability to control their child's disease and took steps to reduce environmental triggers in the home. Furthermore, at the end of Phase I, more than two-thirds of children with asthma had received asthma action plans from their healthcare providers.

## ELEMENTS OF SUCCESS EMERGE

Although there was much contextual variation across the Phase I sites, three core elements emerged as critical to the success of these community-based care coordination interventions in reducing the burden of asthma on children and their families. These were:

- Adaptation of existing evidence-based interventions
- Use of care coordinators/managers
- Building community partnerships

### *Adaptation of Existing Evidence-Based Interventions*

MCAN's program sites implemented a comprehensive care model that incorporated elements from one or more of the following existing, well-documented evidence-based interventions: the National Cooperative Inner-City Asthma Study (NCICAS) and the Inner-City Asthma Study (ICAS), which were randomized, controlled trials supported by the National Institute of Allergy and Infectious Diseases (NIAID), Physician Asthma Care Education (PACE), and Yes We Can Urban Asthma Partnership. The MCAN grantee programs tailored their interventions, based on factors unique to each community, such as care delivery setting, demographics, and barriers to accessing quality care.

### *Use of Care Coordinators/Managers*

Phase I sites utilized care coordinators or managers that were locally based or who worked closely with the community. Across sites, the type of coordinators/managers varied. For example, some were health educators while others were community health workers or nurses. The care coordinators/managers were responsible for providing individualized asthma education and enhancing appropriate elements of asthma management. They also worked with healthcare providers, community-based organizations, and families to ensure that care provided was consistent across settings and that care plans were easily understood and implemented by the patient and family. The care coordinators, in part because they were affiliated with the communities they served, succeeded in building trust with families, increasing program retention rates, improving health outcomes, and increasing the quality of patient-provider communication.

**ER VISITS**  
among children  
at MCAN-funded  
sites dropped by  
**30%**



## Building Community Partnerships

Collaboration among stakeholders in the community was key to success in all of the programs. Community partnerships with school districts, community-based organizations, and city health departments allowed the program sites to connect families with services and resources beyond what the site itself could provide.

### ELEMENTS OF SUCCESSFUL COMMUNITY-BASED CARE COORDINATION INTERVENTIONS



The findings from the five Phase I programs were published in a supplement to *Health Promotion Practice*, “Translation of Evidence-Based Pediatric Asthma Interventions in Community Settings: The MCAN Experience.”



## MCAN RESPONDS TO A HISTORIC NEED

In addition to the initial grantees chosen during Phase I, MCAN also took on an additional role to help children and their families in New Orleans, Louisiana impacted by Hurricane Katrina. Following the storm that struck the Gulf Coast in August 2005, the healthcare systems in the affected areas were totally disrupted, and the flood waters brought levels of mold and other allergens and contaminants that could exacerbate asthma symptoms. MCAN, the National Institute of Environmental Health Sciences (NIEHS) and the National Center on Minority Health and Health Disparities (now the National Institute on Minority Health and Health Disparities, NIMHD) joined under the auspices of the Foundation for the National Institutes of Health (FNIH) to implement an evidence-based initiative that would help to address the unique challenges of children with asthma in post-Katrina New Orleans and surrounding parishes. The deLaski Family Foundation, an organization that supports nonprofit leaders who inspire others, later joined to support the initiative. This unique “hybrid” intervention, called the HEAL (Head-off Environmental Asthma in Louisiana) project, drew from essential elements of the National Cooperative Inner-City Asthma Study (NCICAS) and the Inner-City Asthma Study (ICAS).



Head-off Environmental Asthma in Louisiana

A public-private partnership addressing childhood asthma in post-Katrina New Orleans

## HEAL

HEAL set out to assess the effects of the post-Katrina environment on childhood asthma, to provide patient-tailored asthma counseling by certified asthma counselors, and to help families reduce the asthma triggers in the home that were exacerbated by flooding.

Over the 12-month intervention period, asthma counseling and mitigation of asthma triggers in the home improved asthma management, and patients reported that the average number of maximum symptom days (MSDs) declined from 6.5 to 3.6, a statistically significant 45 percent reduction. These findings were consistent with the changes observed in the NCICAS and ICAS interventions (35 percent and 62 percent reduction in symptom days, respectively).



Source: Mitchell H, Cohn RD, Wildfire J, et al. Implementation of evidence-based asthma interventions in post-Katrina New Orleans: the Head-off Environmental Asthma in Louisiana (HEAL) study. *Environ Health Perspect.* 2012;120(11):1607-1612.



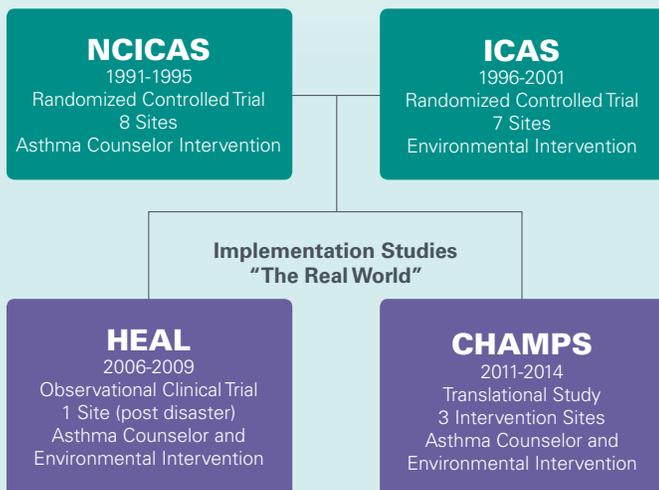
## PHASE II: BUILDING ON SUCCESS

Some challenges and questions emerged but were left unanswered during Phase I. For example, program sites did not implement a common protocol, making it difficult to quantify the extent and nature of integration across interventions, providers, and key players. This also presented a major challenge to assessing the effect of the interventions on clinical and implementation outcomes. In addition, program sites encountered challenges that included: maintaining fidelity to some elements of the evidence-based interventions at the community level, engaging and educating health care providers, assessing

the level of asthma morbidity at the community level, obtaining program referrals, and encouraging adherence to components of practice guidelines.

As a result, the strategy created for Phase II was built on lessons learned from Phase I to transition to a better-defined research approach. MCAN Phase II consisted of three very diverse programs: Care Coordination by four of the five original Phase I grantees, HEAL Phase II, and the Community Healthcare for Asthma Management and Prevention of Symptoms (CHAMPS) program.

### Randomized Controlled Trials "The Laboratory"



### Demographic Characteristics of Participants in MCAN's Translational Research Projects

Characteristic/ Variable	Care Coordination	HEAL Phase II	CHAMPS
Patients Enrolled through 2014 (N)	805	222	314
Mean age, years	7.05	9	7.8
Sex (%)			
Male	59.5	55	61
Race/Ethnicity (%)			
White	1.7	9	6
African-American	50.4	84	9
Other	5.4	7	2
Hispanic/Latino	42.1	10**	83

\*\*Hispanics not a mutually exclusive category



## CARE COORDINATION INITIATIVE

The Care Coordination project involved making evidence-based interventions an integral part of asthma care coordination programs across home, healthcare, and community settings in four different care coordination settings. In Phase II, four diverse settings focused on care coordination in their programs:

### ***The Children’s Hospital of Philadelphia’s (CHOP) Asthma Care Navigator Program***

In CHOP’s Asthma Care Navigator Program, appropriate families were identified daily by reviewing a census report that provided information on patients who were admitted to the hospital for acute asthma exacerbations. Over 12 months, caregivers reported a significant reduction in the number of days their child with asthma used rescue medications (from 5.87 days at baseline to 2.74 days at follow-up).



### ***Los Angeles Unified School District (LAUSD) Asthma Program***

Students for the LAUSD program were identified through existing school district health information and referrals from school nurses, attendance counselors, parents, school district doctors, a mobile asthma clinic, and school staff. Students were eligible if they met one or more of the following criteria:

- 10 or more absences due to asthma
- Recent use of ER or hospitalization due to asthma
- Inability to participate in school curriculum due to asthma
- Referral for assistance in asthma medication management
- Other indication of a need for asthma-specific health education and assessment
- An Asthma Control Test score of 19 or less

Four school nurses acted as the asthma care coordinators in this program. The program was successful in reducing days of school missed due to asthma from roughly 13 days a year to 5 days.



### ***Addressing Asthma in Englewood Project***

Families in Englewood, Chicago were recruited for the Addressing Asthma in Englewood Project (AAEP) by community health educators who provided education one day per week at local clinics. Alternatively, participants could be referred directly by a physician, school, community-based organization, or community event. Some families were already enrolled in the program from Phase I.

The project aimed to strengthen links between families of children with asthma and the institutions serving them, increase asthma knowledge in the Englewood and West Englewood communities, develop local infrastructure to address the disease, and provide home education and case management for families with more intensive follow-up where appropriate. The project monitored the costs and benefits of individual intervention components and showed a benefit to cost ratio of almost four. Among the participants who completed the case management program, ER visits for asthma decreased from 40 percent to 27 percent over 12 months.



### ***La Red de Asma Infantil de Merck de Puerto Rico***

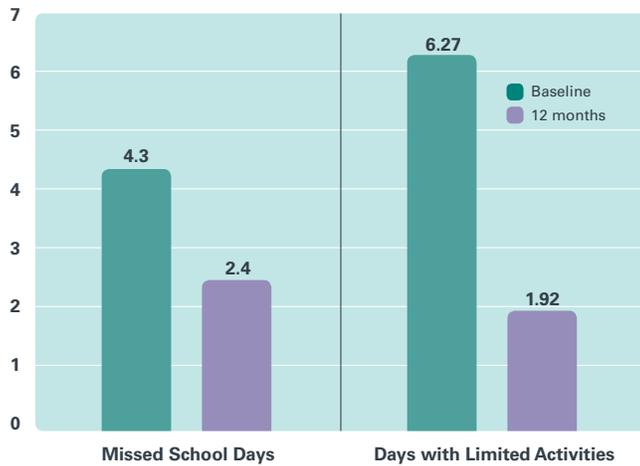
This program recruited patients from Health Pro Med, a federally-funded community health center in San Juan, Puerto Rico. La Red sought to improve access to quality asthma care for children in one of the poorest communities of Puerto Rico by implementing a combination of the *Yes We Can* Intervention and the ICAS home-based environmental evaluation. After participating in the La Red program, the percentage of families that reported an asthma-related ED visit in the past 12 months decreased from 67.1 percent to 39.1 percent.



### ***Impact of Care Coordination Initiative***

The Phase II care coordination programs enrolled 805 children with an average age of 7 years. During the year prior to program enrollment, these children missed an average of 11 days of school. They reported limited activities due to asthma on about 6 days in the month prior to enrollment. In contrast, at the one-year follow up, they reported missing an average of 4 days of school in the last year and had limited activities on fewer than 2 days in the previous month.

Furthermore, the children enrolled in these programs needed less rescue medication and had fewer nighttime awakenings, daytime symptoms, and ER visits and hospitalizations.



Care Coordination Phase II Results		
	Baseline N=805	12-month Follow-up N=805
Nighttime awakenings, past month (mean)	6.55	2.02
Emergency room visits, past year	2.86	1.09
Hospitalizations, past year	1.11	0.36
Daytime symptoms within the past 4 weeks (mean)	7.38	3.13
Use of rescue medication within the past 2 weeks (mean)	5.73	2.01

## TRANSITIONING TO HEAL PHASE II

MCAN chose to continue the HEAL initiative as HEAL Phase II, implementing the “hybrid” intervention in Federally Qualified Health Centers (FQHCs) managed by the Daughters of Charity Services of New Orleans. The four-part strategy of HEAL Phase II focused on healthcare provider training, embedding of asthma educators into the healthcare system, community outreach, and electronic medical record (EMR) enhancements to improve asthma care. The HEAL Phase II goals were to:

- Build a network of community- and health-based partnerships/collaborations to address asthma care

- Implement and sustain the post-Katrina “hybrid” intervention in a FQHC and a mobile health unit managed by the Children’s Health Fund in New Orleans, through education and empowerment of healthcare providers, administrators, and staff
- Enhance health system processes to manage pediatric asthma and improve clinical outcomes
- Reduce unnecessary utilization of healthcare facilities and reduce school absenteeism
- Promote asthma awareness in communities



HEAL Phase II Results		
Characteristic/Variable	Baseline N=187	12-month Follow-up N=187*
Number of missed school days, past year (mean)	1.4	0.6
Emergency room visits, past year	41%	22%
Hospitalizations, past year	10%	5%
Number of days child experienced daytime symptoms within the past 4 weeks	8.0	4.7
Use of rescue medication within the past 2 weeks	55%	45%

The percentages represent the percentage of participants who reported that they had an ER visit/hospitalization/or used their rescue meds.  
\* All follow-up analysis contains same cohort of participants

Qualitatively, a key outcome from HEAL II is the integration of guideline-recommended asthma management practices, used in the hybrid intervention, into the EMRs of Daughters of Charity community health centers. This increased their capacity to provide guidelines-based quality asthma care to children. The use of EMRs has the proven potential to improve the quality of patient care, increase provider productivity, and improve information sharing among providers and within a healthcare organization. Specifically, EMR improvement was shown to improve compliance with asthma management guidelines.

The HEAL II program implemented EMR changes in phases, making use of a detailed planning process. The details of the HEAL II EMR enhancement implementation were published in an article, “[The HEAL, Phase II Project: Enhancing Features of an Electronic Medical Record System to Improve Adherence to Asthma Guidelines,](#)” in the *Journal of the Healthcare for the Poor and Underserved*.

# CHAMPS

## COMMUNITY HEALTHCARE FOR ASTHMA MANAGEMENT AND PREVENTION OF SYMPTOMS (CHAMPS)



The CHAMPS program employed the hybrid intervention that proved effective in HEAL. MCAN provided funding to the George Washington University (GWU) Milken Institute School of Public Health in Washington, DC, which subcontracted to 3 FQHCs and 3 comparison FQHCs serving medically underserved low income populations. MCAN also contracted with Rho, Inc. to provide input on methodology design and to evaluate clinical outcomes of CHAMPS. This project used a common protocol that incorporated the lessons learned in implementation of the “hybrid” intervention in the HEAL project in New Orleans and engaged FQHCs to identifying a minimum set of evidence-based activities and agree to a uniform set of measures for evaluation.

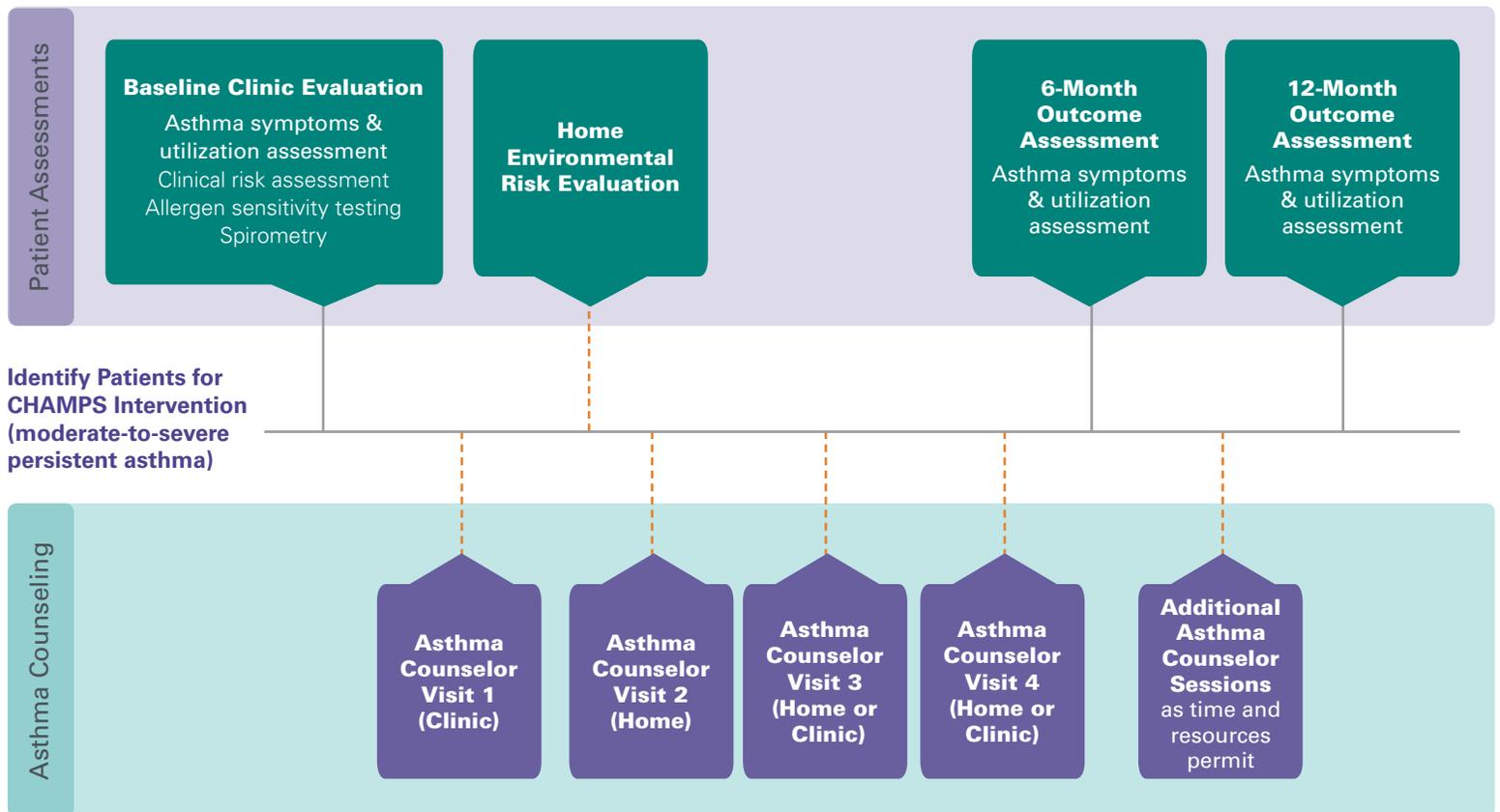
The FQHCs that implemented the intervention included El Rio Community Health Center (Tucson,

AZ), Cherry Health (Grand Rapids, MI), and Costa Salud Community Health Centers (Rincon, PR). The comparison FQHCs were Mariposa Community Health Center (Nogales, AZ), Center for Family Health (Jackson, MI), and Camuy Health Services Inc. (Camuy, PR).

### THE CHAMPS PROGRAM RESULTS

The CHAMPS intervention resulted in significantly improved asthma outcomes at the intervention sites compared to the outcomes experienced at the control sites. In addition, the intervention proved to be cost effective and yielded significant findings about the process of implementing evidence-based interventions in clinical settings. Data and final conclusions from the study will be widely disseminated in peer-reviewed publications.

### CHAMPS INTERVENTION DIAGRAM



----- Flexible visit sequence



## MCAN'S POLICY FOCUS

### *Use of Public-Private Partnerships*

MCAN worked extensively with federal agencies and departments, various local public health departments, and school systems. At the federal level, MCAN's relationships ranged from fiscal co-sponsorship of programs and initiatives to providing expert leadership and consultation. Examples included:

- MCAN and the U.S. Environmental Protection Agency (EPA) co-sponsored AsthmaCommunityNetwork.org, which provides a forum for community-based asthma programs, as well as organizations that sponsor them—including representatives of health plans and providers, government health and environmental agencies, nonprofits, coalitions, and schools to learn about best practices and improve comprehensive asthma management programs.
- Through the FNIH, MCAN had a fiscal and substantive partnership with the NIEHS and the NIMHD on the HEAL project.
- MCAN worked with the Centers for Disease Control and Prevention (CDC), the Department of Housing and Urban Development (HUD), the Health Resources and Services Administration (HRSA), the National Governors Association (NGA), and the Centers for Medicare and Medicaid Services (CMS), providing both consulting and thought leadership services.
- MCAN interacted with the President's Task Force on Environmental Health Risks and Safety Risks to Children when launching its [Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities in 2012](#).
- MCAN supported and catalyzed actions through initiating discussions, leveraging funds, and introducing additional financial support (Robert Wood Johnson Foundation as a fiscal co-sponsor) to convene the NIH Asthma Outcomes Workshop in March 2010.

## IMPACT ON POLICIES AND SYSTEMS

MCAN's policy work evolved as understanding of the core issues increased and potential solutions emerged. For instance, the State of Childhood Asthma Conference, which occurred during Phase I, set policy goals and direction for the duration of the organization. Outcomes of that conference include the development of the NIH Asthma Outcomes Workshop, the impetus for the Changing pO<sub>2</sub> Policy Report, eventual development of the Childhood Asthma Leadership Coalition, and a partnership with the American Academy of Pediatrics on the Comprehensive Asthma Project.

### *The State of Childhood Asthma and Future Directions Conference*

In December 2006, MCAN convened The State of Childhood Asthma and Future Directions Conference in Washington, DC, to identify, discuss, and recommend best practices and to assess implementation of strategies to close the gap between recommended and actual asthma treatment and management.

In developing the mission and strategic direction of this invitational conference, MCAN elicited the input and advice of thought leaders from key public and private organizations. Representatives of the Agency for Healthcare Research and Quality (AHRQ), the Kaiser Family Foundation, Rho, Inc., the CDC, the National Heart, Lung and Blood Institute (NHLBI), the National Institute of Allergies and Infectious Diseases (NIAID), the NIEHS, and the EPA provided guidance in developing the structure and content of the meeting.

MCAN then convened leading scientists and strategists from multiple disciplines to identify, discuss, and recommend pragmatic implementation strategies for best practices, policies, and research directions for childhood asthma. The meeting yielded important findings and recommendations that were communicated through a call to action.

In March 2009, MCAN sponsored a supplement to *Pediatrics*, "[The State of Childhood Asthma and Future Directions: Strategies for Implementing Best Practices](#)." This supplement summarized the presentations, discussion, and recommendations of childhood asthma experts and thought leaders convened by MCAN to tackle the unacceptable gap between what we know about effective asthma management and actual practice.

### ***RAND Studies and the NIH Asthma Outcomes Workshop***

In 2006, MCAN commissioned the RAND Corporation to conduct a comprehensive literature review to identify what critical elements contribute to the existing gap between knowledge and implementation of quality asthma care (i.e., the gap between “what we know” and “how we manage childhood asthma”), especially in impoverished communities. MCAN also commissioned RAND to estimate the cost to close this gap. RAND’s report on this review, “Estimating the Impact of Improving Asthma Treatment: A Review and Synthesis of the Literature,” revealed that the “knowledge-implementation gap,” could not be characterized with clarity due to lack of adequate standardization of outcome measures and characterization of study subjects in published manuscripts. The study showed that standardization of asthma outcome measures in clinical studies was needed in order to take full advantage of the investment in research and to provide actionable information to clinicians, patients, and payers.

As a result of the MCAN-commissioned RAND study and findings, one of the recommendations from MCAN’s State of Childhood Asthma and Future Directions Conference was to establish and promulgate a set of standard definitions for key variables in asthma-related clinical trials and other research through an NIH-led consensus process. In 2008, MCAN presented to representatives from NHLBI and NIAID, the two primary funders of asthma research, findings from the RAND study and the recommendation to standardize definitions for key variables in asthma-related clinical trials and other research.

Subsequently, NHLBI, NIAID, and MCAN were joined by other NIH institutes [National Institute of Child Health and Human Development (NICHD), NIMHD, NIEHS] and AHRQ to create 7 expert subcommittees that were charged with making recommendations for a workshop to assess which asthma outcomes should be incorporated in methodology in future asthma clinical

research studies. MCAN also engaged the Robert Wood Johnson Foundation for support and participation in the workshop.

Experts discussed a proposal for standardizing outcomes for clinical research in asthma at an NIH-organized workshop in March 2010. The group finalized the proposal and published it as a supplement to the March 2012 issue of the *Journal of Allergy and Clinical Immunology*, “Standardizing Asthma Outcomes in Clinical Research: Report of the Asthma Outcomes Workshop.”

### ***The Comprehensive Asthma Program (CAP)***

CAP was a collaborative between MCAN and the American Academy of Pediatrics (AAP) designed to improve the quality of asthma care provided to children by assisting AAP chapters and members with implementation of the asthma management guidelines. CAP supported member practices in using quality improvement methodologies to integrate the latest asthma guidelines into their standard of care. CAP also allowed AAP chapters and members to share best practices to encourage implementation of the asthma management guidelines within patient-centered medical homes.



## The Changing pO<sub>2</sub>licy Report

MCAN based the [2010 Changing pO<sub>2</sub>licy Report](#) (Report) on the need to identify policies that are important—and often critical—to the implementation and sustainability of quality pediatric asthma care in healthcare systems and communities on national, state, and local levels. The Report authored by GWU emphasized the need to enhance or change existing policies, as well as to create new policies, if necessary. In addition to characterizing the current status (at the time) of management of childhood asthma, the Report made specific policy recommendations that could reduce the burden of childhood asthma in the U.S. The recommendations included the need to make better use of programs and policies already in place, such as Medicaid and the Children’s Health Insurance Program (CHIP), as well as private-sector insurance coverage and existing public health programs. The Report noted that although millions of children are affected by asthma, many are not receiving adequate care. Furthermore, living conditions matter — living in certain communities is linked with increased risk of developing asthma and suffering disproportionate levels of adverse outcomes.

Although this report was issued prior to the enactment of the Patient Protection and Affordable Care Act, its findings serve as guideposts for making healthcare accessible and effective for at-risk children with asthma.

### **The Report noted that while evidence-based interventions provide hope, in order for them to be effectively implemented, evaluated, and sustained, there is a need for policies that address:**

- ✓ Inadequate access to insurance coverage that pays for appropriate, high-quality comprehensive healthcare and case management
- ✓ Suboptimal quality of clinical care, case management, and asthma education for many children, including those ineligible for insurance coverage
- ✓ Failure to address the indoor air environment and other indoor asthma triggers, as well as outdoor environmental triggers, that affect communities in which children live and grow
- ✓ Absence of systematic means for monitoring asthma prevalence and treatment effectiveness and for deploying targeted resources
- ✓ Lack of a coordinated research strategy

### **Having identified controllable factors on which to focus, the Report identified priority elements for improving asthma outcomes:**

- ✓ Stable and continuous health insurance for at-risk children
- ✓ High-quality clinical and case management
- ✓ Continuous information exchange and progress monitoring
- ✓ Reduction of asthma triggers in homes and communities
- ✓ Research to identify successful strategies to advance evidence-based guidelines and practices

***The Childhood Asthma Leadership Coalition (CALC)***

In partnership with the Department of Health Policy at GWU and First Focus, a bipartisan advocacy organization for children and families, MCAN established CALC in 2011, a national multi-sector coalition designed to address the recommendations of the Changing pO<sub>2</sub> Policy Report and to improve policymaking around childhood asthma. CALC members have a shared goal of improving the prevention, diagnosis, treatment, and long-term management of childhood asthma through federal policy change and targeted state efforts. By presenting a unified and informed voice using credible experts, this coalition offers a clear vision for policy solutions and develops a practical pathway for achieving desired outcomes.

Among the most important CALC successes is its advocacy in support of two Medicaid policy changes: withdrawal of the “free care” rule and reimbursement for preventive services provided by practitioners other than licensed providers. The “free care” rule refers to a policy that requires Medicaid not to pay for services to patients that are offered to the general public free of charge. Starting in 1997, this policy created a substantial barrier for schools that were trying to secure Medicaid reimbursement for health services provided to students enrolled in Medicaid. CALC vigorously advocated for a change to this rule because school health services are important for low-income children with asthma.

On December 15, 2014, CMS issued a letter to state Medicaid directors informing them of a decision to withdraw prior regulatory guidance on the free care rule.

**Among the most important CALC successes is its advocacy in support of TWO Medicaid policy changes: withdrawal of the “FREE CARE” rule and REIMBURSEMENT for preventive services provided by practitioners other than licensed providers.**

This change removed a major barrier to accessing funding for school health services. Upon implementation of this rule change, schools will have access to a dependable,



sustainable source of reimbursement for the Medicaid-eligible services they may provide. The accessibility of Medicaid funding opens doors to schools to address student health needs — not just high rates of asthma, but also diabetes, behavioral health issues, and more — by making it easier to implement evidence-based programs school-wide.

CALC’s other major policy success, in conjunction with strong advocacy support from others throughout the U.S., resulted in CMS changing its rule for reimbursement of preventive health services to Medicaid and CHIP beneficiaries. This shift, effective January 1, 2014, allows state Medicaid programs to reimburse for preventive services provided by professionals whose work falls outside a state’s clinical licensure system, so long as the services have been initially recommended by a physician or other licensed practitioner. The change was of major importance for programs working to provide community-based interventions for children with asthma. It means that federal Medicaid rules now allow coverage for community-based asthma interventions when carried out by asthma educators, healthy homes specialists, or other community health workers. Under previously existing law, state Medicaid programs can authorize payment to providers who offer recommended asthma interventions outside of a “traditional” clinical setting, such as in the home, school, or other community location.

Taken together, these rules give states the ability to allow Medicaid programs to reimburse and sustain numerous asthma interventions using nontraditional providers in nonclinical settings. However, work is still needed to encourage states to provide broad interpretations and criteria for implementation of the rules.



## SUSTAINABILITY SUCCESSES

In addition to effecting change in asthma outcomes at a community level as well as policy changes at a national level, MCAN viewed sustainability of its funded programs as an important indicator of success and another pathway to fulfilling its mission. All MCAN funded programs were required to have sustainability plans built into their design and a key component of the cross-site evaluations is an assessment of sustainability successes and their facilitating factors.

Sustainability successes experienced by MCAN programs included:

- **San Juan, Puerto Rico**  
Care Coordination program allowed federally qualified health center in San Juan to qualify as a patient-centered medical home
- **Philadelphia**  
Program secured contracts with 2 out of 3 Medicaid payers to reimburse for home visits provided by asthma care navigators; 2 asthma care navigators incorporated into ambulatory care practice as full-time staff members
- **Chicago, New Orleans, Philadelphia and Los Angeles**  
Electronic medical record amended to include guideline-based care for pediatric asthma in clinics or schools
- **Los Angeles**  
Los Angeles Unified School District incorporated school nurse dedicated to conducting home visits for asthma management into institutional budget
- **Chicago**  
Federally qualified health center hired the asthma care navigator from Englewood program to continue providing services



## IMPLICATIONS FOR MANAGING ASTHMA IN THE REAL WORLD

Although much work needs to be done to clearly understand why a child develops asthma and to implement primary prevention measures, to date secondary and tertiary interventions to manage the disease are well documented. MCAN's experience demonstrates the value of implementing evidence-based pediatric asthma interventions in community settings, or the "real world." This experience contributes to the ongoing efforts to close the gap between what works in controlled settings and what is done in health care practice.

**More than just a pervasive chronic condition, asthma is a bellwether of public health and healthcare system performance.** Effective management of asthma, especially among under-resourced patient populations, spans the entire health system and depends on efficient coordination and effective communication among key actors—health insurers, health providers, public health agencies, schools, environmental programs, and community-based initiatives. The lessons learned through MCAN's experience can be adapted and implemented by others providing services to at-risk populations. In addition, MCAN's success in identifying barriers and implementing effective asthma programs has valuable implications for the management of other disease states, especially other chronic conditions. **MCAN's work and funded initiatives over the past 10 years fully accomplished the goals of the Merck Foundation to:**

- 1** Make a significant contribution to public health by promoting and disseminating evidence-based, effective health interventions
- 2** Foster optimal use of public-private partnerships

This initiative and the benefits it produced clearly illustrate the role that strategic corporate philanthropy can play in improving healthcare outcomes in real-world settings.

Through its multi-pronged approach to childhood asthma, MCAN demonstrated how a strategic and methodical approach can be used to address a complicated public health issue. MCAN recognized early the need for policy and system-level changes in order to implement and sustain its programs. These changes were accomplished through the concerted and synchronized efforts of healthcare providers, researchers, and advocates for vulnerable populations who identified achievable goals and spoke with one voice about what was necessary. MCAN also recognized that sustainability planning for implemented programs is integral to the strategic plan and the process should begin early in the program. By implementing evidence-based interventions in a systematic, measureable way, MCAN substantially furthered the state of knowledge about how to reduce the burden of childhood asthma and improve the quality of life for our nation's most vulnerable yet valuable resource.