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NATIONAL ASTHMA FORUM

Communities in Action for Asthma-Friendly Environments

DRAFT

A Systems-Based Approach for Creating and Sustaining Effective Community-Based Asthma Programs

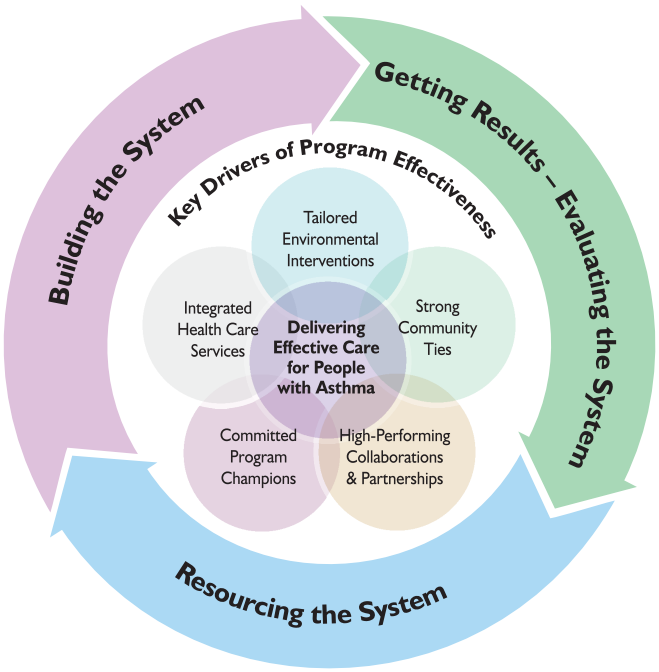
Snapshot of Ten High-Performing Asthma Management Programs

To access the Change Package and to join a network of communities committed to delivering high-quality asthma care, like those profiled in this Snapshot, visit **www.asthmacommunitynetwork.org**.

Ten High-Performing Asthma Management Programs

EPA has developed the *Communities in Action for Asthma-Friendly Environments* Change Package to support a national network of asthma programs as they share knowledge, tools, and strategies to accelerate improvements in asthma care. The Asthma Change Package is one of the network's most valuable tools for rapidly sharing scientific and field-based data on program strategies and tactics that drive results. It synthesizes research and field-observation of successful asthma programs and demonstrates **what** highly effective asthma programs do to deliver their remarkable results through the *Key Drivers of Program Effectiveness* and **how** successful programs that embody the *Key Drivers* are built, refined, evaluated, resourced, and ultimately sustained. (See pages 2 and 3 for more on the *System* and the *Key Drivers*.) Collectively, these elements interact to form a dynamic system—the *System for Asthma Control Program Sustainability*—that drives program design, delivery, outcomes, longevity, and expansion.

System for Asthma Control Program Sustainability



What follows is a brief snapshot of ten successful asthma management programs. We present their stories through the framework of the *System for Asthma Control Program Sustainability* and highlight the *Key Drivers of Program Effectiveness* as they appear in these programs. In their diversity, these programs demonstrate that, whether led by a health plan, health care provider, or community-based organizations, the *System for Asthma Control Program Sustainability* provides the foundation for programs to achieve enduring health improvements for people with asthma.

Learn more about

Communities in Action for Asthma-Friendly Environments Change Package Version 2.0: A System-Based Approach for Creating & Sustaining Effective Community Asthma Programs

The *System for Asthma Control Program Sustainability* consists of key elements that interact to create a dynamic and fluid system that drives the emergence of a promising asthma program; the development, evolution, and effective use of program evaluation data; the recruitment and institutionalization of resources to support the program; and, the continuous improvement and expansion of high-quality asthma care. This table captures common strategies that successful asthma programs embodying the *Key Drivers of Program Effectiveness* followed as they built, evaluated, and resourced their systems.

System for Asthma Control Program Sustainability

Building the System

1. **Be True to Your Mission**
2. **Identify Your Goals & Plan for Action**
   - Know the Impact of Asthma on Your Community
   - Be Data Driven
   - Align Your Goals with Your Mission
   - Build on Your Strengths
3. **Conduct Needs-Based Planning**
   - Seek Input from the Community
   - Be Responsive to Community Needs
   - Meet Your Community Where It Is
4. **Collaborate to Build a System That Will Last**
   - Align Incentives with Goals

Getting Results - Evaluating the System

1. **Collaborate to Get the Data You Need**
   - Provide Incentives
   - Train Staff to Collect Program Data
2. **Let the Data Guide Program Design/Modification**
   - Process Outcomes—Refine and Improve the Program
3. **Use Data to Measure Effectiveness**
   - Health Outcomes—Track Progress Towards Goals
4. **Use Evaluation Data to Build the Business Case**

Resourcing the System

1. **Focus on the Resource Strategy at Every Step**
2. **Use Your Data to Demonstrate Your Value–Funders Will Respond**
   - Be Visible: Funders Support What They Know
   - Target the Right Data to the Right Funder
   - Make It Easy to Support Your Program
3. **Drive Institutional Change to Sustain Your Program**
4. **Collaborate to Resource the System**
   - Recruit the Target Community

See Table on Page 3 for the Key Drivers of Program Effectiveness
Five Tested Strategies for Improving Health Outcomes

Key Drivers of Program Effectiveness

Five Tested Strategies for Improving Health Outcomes

Committed Leaders and Champions

- **Use outcomes data to promote change.**
  - Make sure ***everyone*** knows the program's goals and how performance is measured.
- **Demonstrate passion and perseverance** in pursuit of the program's goals.
- **Accept uncertainty and test new possibilities.**
  - Try new strategies for achieving goals, track your progress, and when you find a strategy that works, spread it across the program.

Strong Community Ties

- **Focus on relationships in everything you do.**
  - Strong ties to the community can help increase local awareness of your program, identify culturally competent employees and partners, and make it easier for your target community to accept your services.
- **Treat relationships like they really matter because they do.**
  - Be visible in your community and invite community stakeholders to help you as you plan your program. Listen to your community's needs and be responsive and open to change.

High-Performing Collaborations

- **Be ready to partner with everyone**, particularly with collaborators that are already active in your target community.
- **Always share everything you can** and borrow from your partners: don't reinvent the wheel. You can share/borrow resources, staff, materials, contacts, clients, and much more.
- **Collaborate with established organizations to build credibility.**

Integrated Health Care Services

- **Educate clinical care teams** on your process and goals. Where possible, enlist physician champions to help educate your providers. Help teams to continuously improve by tracking their outcomes and sharing the data with them on a regular basis.
- **Address clinical care teams' needs** to make it as easy as possible for them to adopt changes to their care plan.
- **Promote patient and provider interaction** by helping providers to deliver new services and promoting patient education at clinical sites.
- **Facilitate communication across the care team to coordinate services.**

Tailored Environmental Interventions

- **Educate clinical care teams on environmental trigger assessment and management** and support them as they implement environmental management programs.
- **Assess trigger sensitivity and exposure in clinical interviews** to diagnose triggers and deliver tailored environmental counseling at clinical sites. Tailor your environmental interventions to individual sensitivities.
- **Make environmental management a reality at home, school, and work.**
  - Partner with others to address environmental triggers everywhere people with asthma spend time.

The Asthma Network of West Michigan (ANWM)

The ANWM was formed in 1994 when community leaders came together to address the rise in morbidity and mortality associated with pediatric asthma. In 1996, the ANWM received funding for a demonstration project which would deliver home-based asthma care to uninsured and underinsured children in Grand Rapids whose asthma was leading to a high number of ER visits and missed school days. The ANWM now provides comprehensive home-based case management to children and adults, including asthma education, coordination with health care providers, development of asthma action plans, home environmental assessments, and social worker support.

Program at a Glance

Location: Grand Rapids, MI

Type: Community Coalition

Service Area: 4 counties in West Michigan

Population Served: 94,500 people with asthma (27% are younger than 18 years)

Key Players: Priority Health, Molina Healthcare of MI, Saint Mary's Health Care, Spectrum Health, Grand Rapids Public Schools, Blue Care Network, Community Choice Michigan, Grand Valley State University, Heart of West Michigan United Way

Results: The ANWM's comprehensive care costs $2,500 PPPY and leads to 70% decrease in hospitalizations, 60% decrease in ER visits, and reductions in health care costs of ~$800 per year

Building the System

Be True to Your Mission

A committed group of health professionals joined forces to tackle the burden of asthma in West Michigan. These individuals shared a passion for children with asthma and held key positions of leadership in the community that allowed them to parlay that passion into action. A key to their early success was a physician champion, Dr. Gary Kirk, who opened doors at local healthcare institutions and foundations and leveraged funding from key stakeholders to develop the ANWM's direct service model.

Identify Your Goals & Plan for Action – Build on Your Strengths

Everything that the ANWM does is the result of a partnership and the network knows how to maximize the contributions of its members. By defining specific tasks and assigning responsibilities to one of the standing committees, the ANWM has steadily achieved its goals. "Each committee is an integral part of the whole; attacking the asthma issue from differing perspectives," says Karen Meyerson, the ANWM's Manager.

KEY DRIVER

INTEGRATED HEALTH CARE SERVICES – PROMOTE PATIENT INTERACTION WITH THE CARE TEAM

Asthma programs that create strong relationships between care providers and people with asthma achieve improved health outcomes. The ANWM's asthma educators/case managers and social workers work with primary care providers and specialists to develop tailored asthma management plans for patients. They communicate with the clinical care team regularly to share findings from home visits and update the care plans.

The ANWM's care delivery model also relies on collaboration across the care team. For example, taking baseline severity assessments involves the home visitor (a certified asthma educator), medical social worker, and families; the development of individualized asthma action plans engages families, home visit teams, and providers; coordinated care conferences include providers, families, and home visitors; asthma education includes school personnel and families; and psychosocial interventions.

KEY DRIVER

HIGH-PERFORMING COLLABORATIONS – BE READY TO PARTNER WITH ANYONE

To help partners recognize their opportunities for collaboration and ensure that a partnership approach was integrated into the ANWM's organizational framework, the network's leaders called on early partners to "leave their affiliations at the door and to focus on the real challenge at hand… uncontrolled pediatric asthma in our community."

The ANWM also collaborates with a variety of groups to augment their case management services, building on what already exists within the community. For example, when they recognized the need for a summer camp for children with asthma, instead of designing the program from scratch, the ANWM partnered with the local children's hospital and area doctors and nurses to manage the camp. Similarly, when it came time to create their Web site, the ANWM saved resources by asking a local Eagle Scout to develop their site.

Collaborate to Build a System that Will Last
The ANWM knew that to create an organization that was effective and enduring, they had to convene and engage community health care leaders in a shared mission. "To get folks to collaborate, remind them that they're here because they care about asthma and have the ability to make a difference. They are not here to represent competing institutions," says Karen Meyerson.

Getting Results – Evaluating the System

Use Evaluation Data to Build the Business Case
"We just wanted to prove that our model was compelling and effective, so we captured data and assigned costs to our outcomes from the beginning," said Karen Meyerson. The ANWM partnered with Grand Valley State University faculty to track outcomes for 34 children over one year and demonstrated a total cost savings of $55,000 by pulling patient charts, asking hospitals for costs information, assigning dollar values to outcomes, and comparing costs for the year preceding the program to costs in the first year. Upon seeing the results, Priority Health, the ANWM's first health plan partner, agreed to reimburse the ANWM for their home visit program in 1999, which is believed to be the nation's first agreement between a grassroots coalition and a managed care plan. Contracts now exist between the ANWM and five local health plans. The ANWM receives reimbursement for home-based case management of individuals with Medicaid, Commercial, or Medicare coverage. Third-party reimbursement now supports over one-third ($130,000) of the ANWM's total annual budget ($300,000).

Resourcing the System

Use Your Data to Demonstrate Your Value – Be Visible: Funders Support What They Know
The ANWM once received an unsolicited $30,000 grant from a social investors group in Grand Rapids because the program was well publicized and its leaders made time to speak publicly about their results. When the investors group was looking to support a significant social issue through an organization that provided direct service and demonstrated results, the ANWM quickly rose to the top of the list.

KEY DRIVER

STRONG COMMUNITY TIES – BE ACTIVE IN YOUR COMMUNITY

Karen Meyerson, the ANWM's Manager, credits her regular appearances at local health fairs, community events, United Way meetings, and other venues for calling attention to the program. When Karen was staffing a booth at a community fair, for example, she met a foundation program officer who asked about the ANWM. Karen has been asked more than once by program officers she has met at such events to submit funding requests based on the good work and impressive outcomes of the ANWM.

Use Your Data to Demonstrate Your Value – Target the Right Data to the Right Funder
The ANWM has recruited corporate sponsors by visiting large corporations in the community and using the data to describe the personal burden of asthma. For example, Karen Meyerson describes the number of area children with severe asthma and explains that when those children have acute attacks, they often use the ER for care, and their parents are likely to miss work. This tactic has been successful for the ANWM: almost 30 organizations support the network, including GlaxoSmithKline, Genetech/Novartis, AstraZeneca, Alticor, and Shering Plough. Similarly, when the Medical Directors of four local plans saw the cost savings data the ANWM had achieved for Priority Health's members in the ANWM's program, they agreed to also reimburse for home visits for their plan members in the area.

Make it Easy to Support Your Program
The ANWM calculated the cost per patient per year for home-based intensive case management and invited funders and donors to sponsor one child for one year: $2,500 can reduce hospitalizations, ER visits and missed school and work days. By making it simple and making it hard to say no, the ANWM successfully lined up a diverse and sustainable funding stream.

The ANWM was originally housed inside a hospital in Grand Rapids. The hospital was a founding member and, early on, the ANWM found support within the hospital's infrastructure; the accounting department accepted checks and managed the bills. But, as the ANWM grew, its leaders found it hard to make the mission and organization clear when contribution checks were made out to the hospital rather than to the ANWM. The ANWM's decision to form an independent 501(c)(3) has had a great deal to do with its sustainability. Being a 501(c)(3) allows funders to provide tax-deductible contributions, makes it simpler to give restricted funds, which are often slated for non-profit organizations, provides tax breaks for the ANWM, and empowers the ANWM to keep their own books and have ready access to complete financial information at all times.

Boston Public Health Commission's Asthma Program

The Boston Public Health Commission (BPHC) Asthma Program emerged from public need: The Boston Urban Asthma Coalition, a city-wide asthma advocacy organization, had formed in response to the rising asthma rates in Boston and was urging the mayor to take action on increasing asthma rates. The city's public health department saw the data and recognized the scope of the growing problem. Boston residents were requesting home inspections, concerned that their homes might be making them sick. The BPHC responded to the need and had partners lined up to collaborate with them from the start.

Program at a Glance

Location: Boston, MA

Type: Public Health Department

Service Area: Boston, MA (focus on Roxbury, Dorchester, Jamaica Plain, South End, and South Boston)

Population Served: Annually serves 150 homes with a child with asthma directly. Through grants to community organizations, supports another 150-200 annually.

Key Players: Boston Urban Asthma Coalition, Boston Medical Center, Boston Housing Authority, Committee for Boston Public Housing, Boston Inspectional Services Department

Results: Hospitalization rate of 2.4 per 1000 in 2004 was 11.1% lower than 2003; number and rate of asthma hospitalizations among Boston residents has followed a downward pattern since 1996

Building the System

Identify Your Goals & Plan for Action – Build on Your Strengths

When building the program, the BPHC's leaders continually asked themselves, "what is our core function and where do we fit in the fight against asthma in Boston?" By focusing on core capacities, the BPHC recognized that addressing the environmental factors of asthma was a logical fit for their efforts: the City already had home inspectors and health educators on staff. Its city-wide surveillance data, relationships with the health care institutions, and connections to the housing commission meant the BPHC was well prepared to target home interventions and promote policy changes to affect population-level asthma outcomes. As a government agency, the BPHC was well positioned to convene multi-disciplinary partners, including academics, clinicians, advocacy groups, housing partners, and government officials.

KEY DRIVER

TAILORED ENVIRONMENTAL INTERVENTIONS – MAKE ENVIRONMENTAL MANAGEMENT A REALITY AT HOME, SCHOOL, AND WORK

BPHC listened to their stakeholders and took steps to help families implement environmental controls by partnering with the housing authority, providing funds for environmental interventions, and advocating for policy changes.

Conduct Needs-Based Planning – Be Responsive to Community Needs

When the BPHC first launched its Asthma Program, they started with a housing component designed for young children with asthma living in one of the lowest income neighborhoods of Boston. The program provided home visits, environmental assessments, and environmental guidance for families. But, the program was not successful: it received few referrals because it only served children between 4-12 years in one neighborhood, and the families it did reach, low-income homeowners, could not make the suggested changes to their homes. The BPHC leaders asked the Boston Urban Asthma Coalition and local providers for feedback. Because the BPHC only served a narrow group of their patients and identified problems, but provided no resources to address them, it did not meet the needs of health care providers or their patients. BPHC responded to the feedback by removing all barriers to referrals and finding funding to support families as they make changes in their home environments to make them more asthma-friendly.

KEY DRIVER

HIGH PERFORMING COLLABORATIONS & PARTNERSHIPS – COLLABORATE TO BUILD CREDIBILITY

By collaborating with BHA, affordable housing developers, housing enforcement agencies, tenants right groups, advocacy groups, and others, BPHC found ways to apply their particular strengths and to leverage the strengths and interests of their partners to affect institutional level change to environmental policies in the city.

Collaborate to Build a System That Will Last

The BPHC collaborates closely with the Boston Housing Authority (BHA) and the city-wide public housing organization, Committee for Boston Public Housing

(CBPH), to improve home environments in Boston public housing. Pests are a major environmental asthma problem in these communities, and a major priority for the housing management and tenant organizations so the BPHC came to the BHA with an offer of initial funding to support a safe and effective pest control program in public housing. Working together, the BPHC, the BHA, and CBPH educated tenants about their own rights and guided institutional change across the city to address how new housing is built, how existing housing is renovated, and how and what kind of pesticides are used in public housing.

Getting Results – Evaluating the System

Let the Data Drive Program Design – Process Outcomes — Refine and Improve the Program
The BPHC evaluates recruitment, retention, and participant satisfaction for their Healthy Homes clients. Because the program is a public health initiative, the BPHC also monitors the communities from which their clients are recruited to make sure that they are achieving their mission to deliver care to the underserved. The BPHC works closely with health care providers to identify families in need of services and focuses outreach on the neighborhoods most affected by asthma. The program changed its recruitment approach to allow for word-of-mouth referrals and as clients started telling neighbors about the services the BPHC offered, requests for services spiked and the BPHC has never had a problem demonstrating the need for their program since.

Collaborate to Get the Data You Need – Train Staff to Collect Program Data
To gather data about clients' outcomes, the BPHC's Asthma Program trained their home visitors to collect self-reported environmental and health outcomes data, such as ER visits and hospitalizations, symptom days, missed school days, and other measures. Through comparing environmental sampling and inspection reports with self-reported data, the BPHC has found the self-reported outcomes data to be a reliable source of information. They identify environmental hot spots in the city where individual family interventions may not be enough to reduce environmental factors. In those areas, BPHC reached out to the BHA, other landlords and housing code enforcement, to identify ways to address structural housing problems and policy-level actions to improve the environment.

Resourcing the System

Drive Institutional Change to Sustain Your Program
BPHC has raised money externally, first from the CDC, the Department of Housing and Urban Development's Healthy Homes Program, the Environmental Protection Agency, and the WK Kellogg Foundation. With every grant, the BPHC seeded institutional change across the city by documenting the need, the market for services, and partnering with other government programs. For example, when the BPHC recognized that their asthma mission aligned with the BHA's goals, they brought money to the table to launch a joint initiative with the clear understanding that, if effective, the initiative would be maintained by the partner.

The BPHC's Asthma Program was dedicated to addressing the environmental factors that contribute to asthma and knew that underserved populations are typically hardest hit by environmental factors. Through their partnership with the BHA, tenants' rights organizations, environmental health advocates, clinicians and others, the BPHC advanced policy changes supporting the construction and renovation of public housing that reduced environmental exposures for asthma patients.

Use Your Data to Demonstrate Your Value – Funders Will Respond
Margaret Reid, the Director of the BPHC's Asthma Program, credits the city government's continued support for her program to their ability to demonstrate the public demand for its services. The BPHC constantly receives requests for its asthma services from neighborhoods across the city, particularly from low-income and public housing areas.

Collaborate to Resource the System – Recruit the Target Community
It's not just residents who clamor for the BPHC's program: it's also clinicians, tenant advocates, environmental health experts, and other local government programs. By forging effective collaborations with strategic partners, like the BHA around pest management and the childhood lead poisoning program around comprehensive environmental assessments, the BPHC established a strong lobby to support its continued work.

Cambridge Health Alliance's Planned Care Program

The Cambridge Health Alliance (CHA) recognized that childhood asthma was a major problem in their community and looked for a proven model to help them reduce the burden. With support from the Robert Wood Johnson Foundation (RWJF), CHA built the infrastructure, including an electronic asthma registry, to deliver the Institute for Healthcare Improvement's (IHI) Planned Care Model for Asthma.

Program at a Glance

Location: Cambridge, MA

Type: Integrated Health Care System (3 hospitals, 20 primary care practices, Medicaid managed health program)

Service Area: Cambridge, Somerville, and metro north Boston

Population Served: 1,800 children with asthma in registry system

Key Players: Cambridge Public Health Department Healthy Homes Program, Cambridge Public Schools, Healthy Children's Task Force

Results: 80% reduction in unplanned hospital visits from one year prior to enrollment to second year in registry, a 50% reduction in asthma-related ER visit, and 100% of patients who need it are on controller medications

Building the System

Be True to Your Mission

CHA is a mission-driven organization that puts quality improvement at the center of its work. When building the asthma program, CHA focused on the Institute of Medicine's (IOM) standards of safe, timely, effective, and patient-centered care. CHA staff embodies the organization's quality mission and commitment to the IOM's standards, so the Planned Care Program Model for Asthma was a natural fit for the staff. The Planned Care Model is designed to achieve high-quality chronic disease management; the same common goal of all CHA programs.

Collaborate to Build a System That Will Last

CHA collaborated with a wide variety of players, including politicians, schools, local government officials, other hospitals, and health plans to identify candidates for participation in their Planned Care Program for asthma, deliver services (including home environmental interventions), and build program sustainability. For example, school nurses are part of the asthma care team and are connected to the asthma registry, so they can see patient history, report on care delivered at school, and provide a link for providers to one of the most crucial environments in which pediatric asthma patients spend their time. The public health department, also connected through the registry, supports Healthy Homes visits for patients referred by CHA and reports findings in the registry to share information with the providers.

KEY DRIVER

TAILORED ENVIRONMENTAL INTERVENTIONS - PARTNER TO PROVIDE HOME VISITS

CHA's care team can refer children living in Cambridge or Somerville to the Cambridge Public Health Department's Healthy Homes Program for home visits. A full time nurse and one staff person manage the Healthy Homes Program to make sure that referred families receive prompt and comprehensive home visits.

Collaborate to Build a System That Will Last - Align Incentives With Goals

CHA operates a pay-for-performance model for their providers. Financial incentives for physicians and clinical staff encourage attention to all of the asthma registry elements, including severity classification, environmental home visit referrals, and completion of individualized asthma action plans. The registry is used to produce monthly reports, sorted by clinical care site, that highlight gaps in compliance. Every provider team in the system receives an individualized report with the names of patients who are "not under control" showing up in red ink at the top of the page. Financial performance incentives help to insure that providers are paying attention to the red ink and proactively manage their patients who are not "under control."

Getting Results – Evaluating the System

Let the Data Guide Program Design/Modification – Process Outcomes — Refine and Improve the Program

Dr. Link, the Chief of Pediatrics and Program Director of Cambridge Health Alliance's (CHA) Planned Care Program,

spearheaded the RWJF-funded effort to develop an electronic patient registry. During 2005-2006, an electronic medical record (EMR) was introduced at CHA that could download critical information into the registy, thus avoiding the need for double data-entry. This integration of the EMR and the registry has been key to sustaining the work and the dramatically improved outcomes. With the click of a button, the registry allows everyone involved with CHA's Asthma Program to see outcomes on hospital stays and unplanned visits to the emergency room for children with asthma. Program partners, including school nurses, pediatricians, allergists, home visitors, and health department staff, can view medical histories online and immediately see trends in health outcomes and quality of life indicators. CHA uses the registry data to drive program improvement and demonstrate to staff the health outcomes related to their efforts. The system also allows clinical teams to compare their results with other teams' and to recognize areas in which they can improve. The data-driven process changes delivered remarkable results: an 80% decrease in unplanned provider visits and a 50% drop in asthma-related ER visits per 100 patients over two years.

KEY DRIVER

COMMITTED LEADERS & CHAMPIONS – USE OUTCOMES DATA TO PROMOTE CHANGE

Dr. Link insists on a "relentless commitment to evaluating outcomes," to drive quality improvement and talks about the importance of outcomes measures to successful program planning and implementation whenever he gets the chance.

KEY DRIVER

INTEGRATED HEALTH CARE SERVICES – FACILITATE COMMUNICATION ACROSS THE CARE TEAM

CHA's asthma registry is a highly effective communication tool that links schools, clinics, hospitals, outreach workers, and other members of the care team in a real-time conversation about children with asthma in their program.

Use Data to Measure Effectiveness – Health Outcomes — Track Progress Towards Goals

The IT infrastructure at CHA allows the program leaders to continuously monitor their outcomes so that even the slightest slippage in ER visits, for example, can immediately be identified and corrected. The data-driven culture at CHA not only allows the Planned Care Program to drive consistent care delivery across their provider network, but it also allows CHA to sustain their remarkable health outcomes over time: CHA has held hospitalizations for children with asthma to 2% per year and annual ER visits for asthma to 6% for over three years in a row.

Resourcing the System

Drive Institutional Change to Sustain Your Program

CHA built their Planned Care Program "not by creating new jobs, but by showing the staff they had already how to do their jobs better," according to Laureen Gray, the Program Director. To institutionalize the program, CHA redesigned their work flows and developed the resources and systems, such as the electronic registry and medical records system, to make it easier for staff to deliver the quality care the program was designed to achieve. CHA expanded the patient care team to include the IT staff empowering them to take a more active role in care delivery. By integrating the IT function, CHA created the organizational design that made delivering the Planned Care Model feasible and sustainable.

CHA also increased their effectiveness by expanding the care team to include the patients themselves. CHA insists that patients have asthma action plans that get updated regularly. This creates efficiencies and savings because it promotes better patient self-management. The patients are the ones who sustain their level of care and CHA has seen those changes reflected in population level data. Laureen Gray says, "we have been able to sustain our results because this program is so integrated into the operations of CHA and is not an add-on. Looking at monthly data for last month compared to a year ago, you see that it is flat. In other words, we have been able to hold our results constant. That's because of sustainability."

Children's Mercy Hospitals and Clinics Asthma Disease Management Program

Several factors led Children's Mercy Hospitals and Clinics (CMH) to develop their Asthma Disease Management Program. First, a state Medicaid review of the quality of asthma care found that CMH's Medicaid managed care organization, Family Health Partners (FHP), was not delivering asthma care that was on par with state expectations. Secondly, the leadership knew that CMH delivered high-quality asthma care at the hospital, but wondered about patients outside of the hospital's reach.

Program at a Glance

Location: Kansas City, MO

Type: Non-profit Hospitals and Clinics and Medicaid managed care plan (31 hospitals and 2,400 providers)

Service Area: 9 counties in the Kansas City area

Population Served: 45,000 members (16.8 % of children with asthma); large minority population

Key Players: Children's Mercy Family Health Partners, Missouri Medicaid HMO, Children's Mercy's Environmental Health Program, the Healthy Homes Network, Indoor Air Quality Association

Results: 2500 enrollees have asthma action plans, number of members requiring high-cost services has declined by one third, 40% decline in ED visits, hospitalizations decreased more than 50%, and a 35% decrease in the cost for an asthma claim

Building the System

Be True to Your Mission

CMH's mission statement is to "deliver excellent care to children in the Kansas City region." The organization had achieved impressive results for pediatric asthma patients at the hospital, but CMH's leaders recognized that they had to scale their services to reach beyond their four walls.

Identify Your Goals & Plan for Action – Be Data-Driven

FHP's data showed that even members who were following their medication requirements were not experiencing the expected improvements in asthma severity symptoms and that 5 percent of FHP members were responsible for 60 percent of asthma-related claims. When reviewing the data, CMH's leaders knew they had to deliver the same outcomes that were possible inside the hospital to all plan members.

Identify Your Goals & Plan for Action – Know the Impact of Asthma in Your Community

When CMH operationalized their goal to provide high-quality asthma care to all children in the area, their first step was to identify the pediatric population with asthma and to assess the health system in place to meet its needs. FHP's data showed that there were not enough specialists to serve the pediatric asthma community, but there was a large primary care network. CMH decided to mobilize and empower the primary care providers (PCPs) to deliver high-quality care by developing a Disease Management Program.

Conduct Needs-Based Planning – Seek Input from the Community

CMH conducted focus groups of providers and patients. As Dr. Portnoy, Chief of Allergy, Asthma, and Immunology and Director of Health Management put it, "I didn't know everything…I had to hear from the community what they needed in order to know how to design the right program. Patients wanted education from their providers and that's what we had to give them." Based on provider and patient input, CMH decided to hire asthma educators to provide intensive training for physicians and their staffs.

KEY DRIVER

INTEGRATED HEALTH CARE SERVICES – ADDRESS CLINICAL CARE TEAMS' NEEDS

Providers said they needed education and time and CMH found ways to deliver both to help providers deliver improved asthma care to their patients.

Collaborate to Build a System That Will Last – Align Incentives With Goals

CMH had to build successful partnerships with providers to make it easy for providers to deliver standards-based care. CMH and FHP developed codes to reimburse providers who had been through the CMH training who provided asthma education to patients. "We learned something amazing when we provided those codes…it was more important to the PCPs to know that they could be paid for providing asthma education than to actually receive payment."

Getting Results – Evaluating the System

Let the Data Guide Program Design/Modification
In order to use limited resources well, CMH designed their program to target its most intensive interventions to those who need them most. Members are assigned to a category based on asthma outcomes data—ranging from members who may develop asthma based on medical history, but who have not yet been diagnosed, to the top 1.5% of hospital users. The "frequent flyers" receive the most intensive care. CMH constantly recalculates utilization scores, so if a member goes six months without an ER visit or hospitalization, his or her score drops to zero, and the member may receive a different service.

Use Data to Measure Effectiveness – Health Outcomes — Track Progress Towards Goals
Dr. Portnoy recommends using utilization data, ER visits, and hospital stays to measure progress against goals because these measures are benchmarked by the Centers for Disease Control and Prevention (CDC). When CMH compared their baseline data to CDC's averages, they saw that their health outcomes were in line with CDC's findings. CMH has continued to track the same measures to assess the program's impact. Because the measures are compatible with CDC's data, CMH can compare their outcomes with national trends and discern the difference between population-level changes and their program's effects.

Collaborate to Get the Data You Need – Provide Incentives
CMH found it was difficult to get quality of life (QOL) data from asthma patients, but wanted to know if the program was actually affecting patient QOL. So, CMH provided $10 gift certificates to patients who returned their QOL surveys and soon had access to a lot more self-reported QOL data. CMH also provided incentives to providers to report when they prescribed controller medications for patients with persistent asthma and when they provided asthma action plans. To encourage providers to report this activity, FHP made a new CPT code available to pay providers an extra fee for providing and reporting on these services.

KEY DRIVER

INTEGRATED HEALTH CARE SERVICES – PROMOTE PATIENT AND CARE TEAM INTERACTION

CMH provides incentives to get providers and patients talking more about patients' asthma and individualized strategies for asthma self-management by promoting and reimbursing time spent developing asthma action plans.

Resourcing the System

Focus on the Resource Strategy at Every Step
CMH sought support to launch their Asthma Disease Management program from the RWJF. The moment the grant was received, Dr. Portnoy told his team that they will have failed if they have not developed a sustainable program by the time the grant expired. CMH used the grant money to hire two asthma educators, a social worker, and a database specialist and to build the sustainable infrastructure and knowledge-base required to sustain it beyond the grant funding period.

Use Data to Demonstrate Your Value – Funders Will Respond
During the course of the RWJF grant, CMH tracked per-member per-month (PMPM) costs for the Asthma Disease Management program and captured data that demonstrate a savings of about $2 PMPM. CMH also captured costs savings over time as the program shifted the focus of asthma care from ER and hospital visits to the clinical setting. When the RWJF grant expired in the fall of 2004, FHP renewed the program because the health plan noticed that their bottom line for asthma patients was improving. The health plan now pays CMH 43 cents PMPM on a two-year Asthma Disease Management contract.

The Children's Hospital of Philadelphia's Community Asthma Prevention Program

The Community Asthma Prevention Program (CAPP) recognized that asthma morbidity continued to rise among urban, poor, minority populations, like the ones served by the Children's Hospital of Philadelphia (CHOP). CAPP sought to demonstrate the potential to improve asthma health outcomes among an inner-city minority population by providing community-based asthma education and controlling common indoor asthma triggers.

Program at a Glance

Location: Philadelphia, PA

Type: Hospital affiliated community-based participatory research program devoted exclusively to the care of children with asthma

Service Area: North, South and West Philadelphia

Population Served: 3,000 families predominantly African American and Latino communities

Key Players: American Lung Association, Habitat for Humanity, School District of the City of Philadelphia, City of Philadelphia Department of Health, Philadelphia Allies Against Asthma, Philadelphia Health Management Corporation, Merk Childhood Asthma Network

Results: Decrease in asthma-related hospitalizations, ER visits, sick visits, and asthma symptoms; decrease in inpatient stay and ER visit compared to control group

KEY DRIVER

HIGH-PERFORMING COLLABORATIONS – BE READY TO PARTNER WITH EVERYONE

As CAPP prepared to spread their effective model for asthma care, the program's leaders moved into new areas by first seeking out established organizations, local leaders, and local knowledge to tailor their asthma care model to the particular needs of their target communities and to resource their program by establishing close ties to partners willing to help deliver CAPP's program.

Identify Your Goals & Plan for Action – Know the Impact of Asthma on Your Community

CAPP knew that asthma health outcomes for minority, inner-city children in Philadelphia were not improving despite the existence of accepted national standards linked to improved asthma care. To help their service population achieve improved asthma health outcomes, CAPP focused on decreasing asthma-related hospitalizations and ER visits by educating children and their families about asthma and increasing asthma self-management skills for identifying and mitigating environmental asthma triggers at home.

Conduct Needs-Based Planning – Seek Input from the Community

CAPP established their program by assembling a large group of partners from the target communities and asking them what they needed and how CAPP could help. By engaging the community in their planning process, CAPP developed the relationships that have supported the program over time.

Conduct Needs-Based Planning – Meet Your Community Where It Is

CAPP learned from listening to community input how to make community asthma education programs work for North and West Philadelphia communities. Based on community input, classes are offered in the evenings to accommodate working parents' schedules. Classes are also delivered in English and Spanish at several locations, such as schools, churches, and local YMCAs, that are accessible by public transportation.

Collaborate to Build a System That Will Last

CAPP looked for potential partners who might help them deliver their program. "If you're addressing a real need, you will be able to find local partners who want to address it as much as you do," said Dr. Tyra Bryant-Stephens, CAPP's Program Director. "We come to the table alone most of the time and try to find other interested parties – faith based organizations and community-based organizations. Often, we find partners already providing community services in the area and we coordinate with them for service delivery." For example, to deliver services in North Philadelphia, CAPP partners with Habitat for Humanity, the local YMCA, and the school district to reach out to children with asthma and their caregivers.

Getting Results – Evaluating the System

Collaborate to Get the Data You Need – Train Staff to Collect Program Data

CAPP's leaders knew that collecting data and demonstrating results was critical, so they built in quantitative measures to track health outcomes and qualitative measures to track how the program's work gets done. To capture their data, CAPP spends a significant amount of time training their home health educators to collect data on the home environment and patient health

and quality of life. The training was critical, according to Dr. Bryant-Stephens: "You have to plan for good data collection – garbage in will mean garbage out. So, we train our home visitors. To ensure that our program was actually promoting improved environmental management, we had to train our home visitors to use the assessment forms consistently. All visitors had to respond the same way to the question, "is the home carpeted?" when they saw a throw rug. To achieve that level of understanding, we started by simplifying our forms only to include the essential data. Then we scripted every question and worked with our home visitors to review the forms item by item and to practice providing answers. Because we invested heavily in preparing our home visitors to capture evaluation data, we can now use the data to reliably assess the impact of our program."

KEY DRIVER

TAILORED ENVIRONMENTAL INTERVENTIONS – PROMOTE AWARENESS OF TRIGGERS

CAPP trains home visitors with exceptional relationship management skills to work closely with inner-city families to educate them about common indoor environmental asthma triggers and strategies for reducing trigger exposure at home. The relationship skills are key because the asthma home educators need to be welcome in people's homes if they are to make home environmental management a reality for children with asthma.

Use Data to Measure Effectiveness – Health Outcomes — Track Progress Towards Goals

CAPP collects hospital and ER data from providers in West Philadelphia and from CHOP; it is easy to get the data in that region. In North Philadelphia, where it is harder to get data, CAPP relies on self-reported data collected by the home visitors. CAPP uses the data to assess the impact of their efforts to educate the community, improve home environments, and coordinate care with local providers on their goal of improving asthma health outcomes in underserved communities. They also use the data in presentations to potential funders to demonstrate how they do their work, what their work achieves, and the progress they are making towards reducing the burden of asthma in inner-city Philadelphia.

Resourcing the System

Focus on the Resource Strategy at Every Step

When CAPP spread their program model to reach new communities in North Philadelphia, they convened partners to discuss the program, describe how it had worked elsewhere, and hear from local partners about how to tailor the program to North Philadelphia's needs. CAPP forged an agreement with the community partners: in year 1, CAPP would deliver the program; in year 2, CAPP would manage a train-the-trainer program to prepare community members to deliver the education program and conduct home visits; and in year 3, CAPP would step back and be available for technical assistance. "We've seen our asthma home visit and community education programs incorporated as parts of existing programs and local providers have sustained the programs over time by championing them with local organizations," says Dr. Tyra Bryant-Stephens.

KEY DRIVER

COMMITTED LEADERS & CHAMPIONS – RECRUIT CHAMPIONS FOR YOUR COMMUNITY

CAPP has a number of innovative strategies for deploying champions, including recruiting parents to enroll in train-the-trainer courses. When CAPP educators identify particularly motivated parents, they ask them to become peer educators. CAPP trainers conduct a formal teaching session and then the parent-trainees accompany experienced asthma educators on at least five community education sessions where the parents buddy-teach. When the parents are ready, CAPP asks them to lead community education classes. Over the past seven years, CAPP has trained 40 parents through this program, and two training program parents are now full-time home visitors on CAPP's payroll.

Collaborate to Resource the System – Recruit the Target Community

CAPP is built on a network of collaborative relationships to deliver asthma care in local communities across Philadelphia. One way that CAPP's leaders leverage their community partners to achieve sustainability is by recruiting them to accompany CAPP staff on visits to policy makers. "Educating policy makers is important. If you walk into a politician's or government office with a fleet of partners in tow, it makes a powerful statement about the need for your program and the lobby that's backing it." This tactic has worked for CAPP, which has seen line item funding in the state budget for the program for two years in a row after CAPP and their collaborators paid a visit to a senator.

Improving Pediatric Asthma Care in the District of Columbia (IMPACT DC)

IMPACT DC is a comprehensive asthma surveillance and intervention program centered at Children's National Medical Center in Washington, DC. The program is designed to serve the neediest children in Washington, DC, where there is a 10.3% asthma prevalence for children ages 0-17 years and where children under the age of 5 visit the ER for asthma care five times more often than children nationally.

Program at a Glance

Location: Washington, DC

Type: Asthma Clinic affiliated with Children's National Medical Center Hospital

Service Area: Washington, DC

Population Served: 400-500 new asthma patients per year (75% of which are on Medicaid); large urban, minority population

Key Players: DC Department of Health, DC Asthma Coalition, Medicaid Managed Care, School Nurses

Results: The intervention group experienced a 100% increase in the use of controller medications, a nearly 50% reduction in subsequent ED visits, and sustained improvements in numerous quality of life measures

Building the System

Identify Your Goals & Plan for Action – Know the Impact of Asthma on Your Community

IMPACT DC is under contract to the Washington, DC, Department of Health to conduct surveillance on all asthma-related ER visits in the city. IMPACT DC collects data from all of the city's hospitals and then geo-spatially maps ER visits for asthma. As Dr. Stephen Teach, the Medical Director explains, "We know what the barometer for asthma is in this city, and we always use the data to design our interventions, locate our services, and drive our outreach to providers."

Identify Your Goals & Plan for Action – Build on Your Strengths

As Dr. Teach and Deborah Quint, the Project Director, built the IMPACT DC system, they focused on incremental program growth and "took a long view" of their path to success. "The population we're serving is wary of programs that come and go, and it's critical to build the community's trust if you're going to make a real difference. Our strength was our presence in the community, and we couldn't afford to promise anything that we weren't sure we could deliver."

Conduct Needs-Based Planning – Meet Your Community Where It Is

Recognizing that one of the barriers to care that the community faces is access to providers, IMACT DC built a system to deliver care where their community can most readily receive it: in the ER, the primary point of service for many children in Washington, DC, and in a clinic housed in a community center in the heart of the city's neighborhood with the largest number of children with uncontrolled asthma.

KEY DRIVER

STRONG COMMUNITY TIES – MAKE IT EASY TO ACCEPT SERVICES

To make the community as comfortable as possible with their program, IMPACT DC located their services in places familiar to and accessible to their target community.

Getting Results – Evaluating the System

Let the Data Drive Program Design/Modification

IMPACT DC has a research arm in addition to its clinical component. When building the system to support the program's clinical interventions, IMPACT DC used their robust surveillance data to identify where to locate their services and which patients to target in order to have the biggest impact.

IMPACT DC also collects textured data on the children with asthma seen in the ER and at the program's community clinic. After examining the number of children showing up at the ER and determining their asthma severity, IMPACT DC staff quickly recognized that too many children in the city were not on the controller medications they should be (only 20% were on the right drugs). They used this information to focus their clinical counseling. When IMPACT DC's counselors work with asthma patients, they discuss the importance of medication usage for preventing acute asthma episodes and listen for barriers

patients and their families may face to using medications appropriately. IMPACT DC's staff also follows-up with patients' primary care physicians to discuss what they have discovered about medication adherence.

KEY DRIVER

INTEGRATED HEALTH CARE SERVICES – FACILITATE COMMUNICATION ACROSS THE CARE TEAM

IMPACT DC's innovative ER-based care model is not intended to replace, but to strengthen, the care provided by primary care physicians (PCPs). IMPACT DC communicates regularly with PCPs who care for the asthma patients IMPACT DC serves by sharing copies of asthma action plans and sending patient updates with medication and utilization information after patients are seen at IMPACT DC sites.

Resourcing the System

Focus on the Resource Strategy at Every Step

IMPACT DC's program leaders have always been committed to promising only what they can deliver and delivering on their promises. To ensure that they keep promises, the IMPACT DC team looks 18 months ahead when planning its funding and relies on a diverse portfolio of funders. "Having just one major funder can be a huge mistake," according to Dr. Teach. IMPACT DC's solution is to combine payer support, private foundation funding, and local and federal government support, and to leverage the results captured by the program's well-funded research arm to drive continuous support for the IMPACT DC model.

Use Your Data to Demonstrate Your Value – Funders Will Respond

Dr. Teach describes philanthropists as business-savvy consumers who look for the greatest value opportunities for investment. When he gives presentations to potential funders, Dr. Teach uses a combination of quantitative data to describe the population-level needs in Washington, DC, and compares the city's asthma burden to national averages as a way of demonstrating just how critical his program is; and qualitative data that follows one pediatric patient through the IMPACT DC program to demonstrate the health and quality of life results that his program achieves.

Monroe Plan's Improving Asthma Care for Children

Rochester, N.Y., faces significant challenges in children's health care. A 1998 study ranked the area near the bottom of 216 cities in child quality of life and the city's school district has the state's highest poverty rate (78%) and a large minority population. Monroe Plan saw trends in pediatric asthma and noticed high admission rates and that minorities were particularly affected. In the fall of 2001, in partnership with ViaHealth, a health care delivery system, Monroe Plan launched a program to shift asthma care away from emergency services and inpatient care and toward improved patient self-management.

Program at a Glance

Location: Rochester, New York

Type: Managed Care Organization with over 4,500 providers

Service Area: Monroe County and 12 neighboring rural counties

Population Served: 5,633 children with asthma; large minority population.

Key Players: ViaHealth, Robert Wood Johnson Foundation

Results: Percentage of participants categorized as moderate-to-severe asthmatics declined from 51 to 26% and quality-of-life surveys showed improvements in patients' symptoms and functional limitations

Building the System

Identify Your Goals & Plan for Action – Align Your Goals with Your Mission

Monroe Plan's mission focused on improving health outcomes and reducing health disparities. Consequently, to be consistent with that mission, Monroe Plan's leadership knew that it had to improve asthma care for its children. Monroe Plan adopted the Center for Health Care Strategies' Best Clinical and Administrative Practices (BCAP) Quality Framework to support the development of the program.

Identify Your Goals & Plan for Action – Know the Impact of Asthma in Your Community

Monroe Plan and ViaHealth recognized that they could do more to better serve children by working together and determined that asthma patients needed more education if they were to become fully engaged in their own care. Monroe Plan and ViaHealth received a grant from the Robert Wood Johnson Foundation (RWJF) to support asthma educators and outreach workers; used plan data to identify children with asthma with multiple visits to primary care providers (PCP), ER visits, or in-patient stays; made sure that all children with an asthma diagnosis were linked to a PCP; provided improved data for PCPs to support their asthma care delivery (e.g., make sure PCPs know when patients go to the ER); engaged patients in specialty care services; provided home visits to enhance asthma management understanding; and improved administrative processes to support these interventions.

KEY DRIVER

STRONG COMMUNITY TIES – MEET LOCAL NEEDS WITH LOCAL PEOPLE

Monroe Plan heard from providers that they had limited time to deliver asthma education, so they decided to augment clinical education with home visits. To reach their diverse population, Monroe Plan hired a dedicated Asthma Outreach Representative who is from the community he serves. Neil Pedraza, the Asthma Outreach Representative for the Monroe Plan and ViaHealth partnership, has lived in the Rochester area for 19 years. He is bilingual and understands the cultural background of his Hispanic clients. When Neil conducts home visits to educate children with asthma and their families, people recognize him, understand him, and welcome his help.

Conduct Needs-Based Planning – Be Responsive to Community Needs

In addition to providing the data to support providers, Monroe Plan also responded to providers calls for education. "We found out our providers didn't know as much about asthma as they wanted to know – assessment, management, using equipment…they were honest about the information they were missing. They also said that they had limited time for patient education." Monroe Plan designed a program to address the providers' needs.

Collaborate to Build a System that Will Last – Align Incentives With Goals

To develop provider education, Monroe Plan borrowed, with permission, content from Family Health Partners and Children's Mercy Hospitals, American Lung Association, and Denver Jewish Hospital provider curricula for asthma. Monroe Plan developed a five-hour program for which providers and their staffs may receive CME credits. Monroe Plan partnered with

other payers in their market to create a set of uniform codes that allow providers to bill for patient education once they have completed the training. "It became easy for offices to provide asthma education, particularly once they only had to worry about one code set." Monroe Plan trained Asthma Education Counselors at every site, created a registry of Asthma Education Counselors, and shared the registry with the other payers. Monroe Plan also changed their benefits structure to make it easy for providers to deliver high-quality asthma care: they began paying for spacers and nebulizers and removed the specialty referral requirement so that children could easily get allergy skin testing.

Getting Results – Evaluating the System

Use Data to Measure Effectiveness – Health Outcomes — Track Progress Towards Goals
Monroe Plan's Dr. Stankaitis, the Chief Medical Officer, and Howard Brill, PhD, Director of Medical Informatics, led a team to develop an evaluation strategy involving quality of life, care management process, medical claims, and qualitative interview data. "We do the survey twice a year (seasonally) to catch people when they are more aware of their asthma. We want to know how our program is impacting them and whether we were delivering the kind of care we want to be providing," said Deb Peartree, the plan's Director of Clinical Services.

Use Evaluation Data to Build the Business Case
According to Deb Peartree, being able to demonstrate the quality of life impacts and collect utilization information from the pilot program was a driving force in Monroe Plan's program sustainability. "We were able to build an initial business case that enabled the Board to support expanding it to the entire population because we were achieving improved quality of life and demonstrating a shift in costs from ED and inpatient utilization to primary and specialty care. Our survey results showed that our program had improved patient's lives and that was a slam-dunk for our Board. We are fortunate to have a committed Board that is dedicated to quality of care and it is easy for them to support us when we have good data to put in front of them."

Key Results
When Monroe Plan began its efforts, 51% of children in the ViaHealth system were categorized as having moderate-to-severe asthma based on their utilization of higher level services. After efforts to coordinate better care, the percentage dropped to 25%. The results of Monroe Plan's Integrated Therapeutics Group Asthma (ITG) for Children Survey showed that the plan achieved significant improvements in all of the relevant measures for asthma; daytime and nighttime symptoms, functional limitations, inhaler adherence, and family-life adjustment. In addition, hospitalization and ED visit rates demonstrated a downward cost trend.

Resourcing the System

Drive Institutional Change to Sustain Your Program
New York State's Medicaid program offers financial incentives to Medicaid managed care programs that perform well on a number of measures. Monroe Plan has consistently achieved high scores in these measures resulting in quality incentive payments from the State. Monroe Plan's Board has committed to reinvest these funds into quality improvement which has sustained quality initiatives, including the Improving Asthma Care for Children program.

New York City Asthma Initiative

The New York City Asthma Initiative (NYCAI) formed the New York City Asthma Partnership (NYCAP) when several community groups came together and joined with the Department of Health and Mental Hygiene to address the disproportionately high and rapidly rising asthma rates in low-income and minority communities across New York City.

Program at a Glance

Location: New York, NY

Type: City-wide Asthma Coalition

Service Area: New York, NY

Population Served: 300,000 children and 700,000 adults with lifetime diagnosis of asthma; large minority and low-income population

Key Players: Over 300 individuals and organizations including NYC Department of Health and Mental Hygiene, New York Academy of Medicine, New York City Schools, Urban Health Plan, South Bronx Asthma Partnership

Results: Number of hospitalizations for asthma among NYC residents decreased by more than 9% from 2004 to 2005, hospitalization rate among children (0-14) is 43% lower than it was in 1997

Building the System

Collaborate to Build a System That Will Last

A group of individuals and organizations dedicated to social justice and children's health banded together to move policy and take action to tackle the skyrocketing asthma rates in low-income, inner-city neighborhoods. Programs such as Urban Health Plan, the South Bronx Clean Air Coalition, medical providers and managed care organizations, including the Medicaid Program run through the Department of Health, and K-12 schools and day care organizations were among the NYCAI's early champions. These members recognized that an effective collaboration, with shared knowledge, funding sources, skills, and responsibilities, would lead to more dramatic and sustainable outcomes than any single organization could achieve.

Identify Your Goals & Plan for Action – Build on Your Strengths

NYCAP formed five committees, each tasked with addressing a critical issue related to asthma: medical standards of care; school and early childhood; environment; research; and organization planning. People were assigned to the committees based on experience, expertise, and interest. Committees developed recommendations, position statements, and key strategies that quickly led to tangible success. For example, the schools committee partnered with the Office of School Health to streamline access to asthma medications at school and improved asthma management policy; and the research committee successfully advocated for a bill requiring ERs to report the reasons for ER visits so that the coalition could better track asthma-related ER visits.

KEY DRIVER

HIGH-PERFORMING COLLABORATIONS AND PARTNERSHIPS – BUILD ON WHAT ALREADY EXISTS

The members of the NYCAI leveraged the NYCDOHMH's expertise and data resources to improve local programs across the city and the NYCDOHMH leveraged the local programs' knowledge and networks to build the NYCAP's visibility and support-base.

Identify Your Goals & Plan for Action – Be Data Driven

The New York City Department of Health and Mental Hygiene (NYCDOHMH's) Asthma Initiative, a convener of the NYCAP and active on all of its committees, was in an odd place at the outset of the initiative: it had great resources, skills, knowledge, and experience available, but many NYCAP members didn't know the value of what the health department could offer. To help the NYCAP succeed, NYCDOHMH enabled local programs from across the city to use the department's asthma prevalence and severity data to plan program strategy, and health outcomes data to drive program improvement and secure funding. "We showed community groups how to use zip code data. We showed them how to look for high numbers within a specific age group or neighborhood to refine and target their services; we taught them to understand the problem and draw on our resource base of evidence-based interventions to determine program strategy. We became an important resource that helped neighborhood leaders combine what they felt in their hearts with the reality of the data to deliver more powerful and effective programs," said Jacqueline Fox-Pascal, Deputy Director of the NYCDOHMH.

Conduct Needs-Based Planning – Seek Input from the Community

The NYCDOHMH took a leadership role by organizing NYCAP's activities and being a visible resource for asthma initiatives across the city. NYCDOHMH listened to community's perceptions of asthma problems in their neighborhoods and asked

groups to describe their needs. "We listened to the community's needs and didn't assume we knew what they needed. When you listen, you find the key people in each neighborhood who are leaders and ready to act. If you're lucky, you also find your support base. The same folks we talked to about local asthma needs ended up being our biggest backers. Those same leaders lobbied the City Council for support for our asthma program—something those of us on staff can't do," said Fox-Pascal.

Conduct Needs-Based Planning – Build on Your Strengths
Fox-Pascal describes how the NYCDOHMH applied their particular strengths to support asthma efforts across the city: "When we first talked to people in the community about how we could join them to address asthma, they said 'give us money,' but didn't really recognize the other capabilities we could bring." She knew that the NYCDOHMH's particular capacity was in evaluation and that they could strengthen the NYCAI by showing members how to use data well.

KEY DRIVER

STRONG COMMUNITY TIES – BE VISIBLE

NYCDOHMH sought out partners to collaborate with on local initiatives. Jacqueline Fox-Pascal and her colleagues put themselves into the communities where asthma rates are highest to hear from community leaders, asthma activists, and others. "We went to community meetings, schools, wherever folks wanted to be heard."

Getting Results – Evaluating the System

Collaborate to Get the Data You Need
The NYCDOHMH supported neighborhood groups, health plans, and health providers by sharing their staff resources to design evaluation strategies at the outset of local initiatives, to support data collection, and to present data to the community in a way that helped them better understand their circumstances and opportunities. "We take what folks already know and help them make them better. Local ownership is critical and we can't manufacture that, but we can improve their chances of success by bringing our strengths in surveillance, evaluation, and population-based planning to the work," said Jacqueline Fox-Pascal.

Use Evaluation Data to Build the Business Case
The community of health plans, providers, and activists didn't have much of a connection to the health department before the NYCAI was formed. To many of these organizations, the NYCDOHMH was a distant funder, but not a partner. But, by using their evaluation prowess to strengthen programs, help them grow, and demonstrate impact through the NYCAI and NYCAP, the NYCDOHMH created a closer bond with the community that ultimately led to city-wide support for the health department's asthma program. These groups also learned that money invested in the health department was helping them to achieve asthma health improvements across the city. They became advocates for the NYCDOHMH, helping to sustain the NYCAI and NYCAP by demonstrating to city council members and others the clear value of the NYCDOHMH's efforts.

Resourcing the System

Use Your Data to Demonstrate Your Value – Funders Will Respond
By reaching out to local community programs, listening to community needs and meeting neighborhood programs where they were, and bringing their strengths in funding and evaluation to the table to support partners, NYCDOHMH built city-wide support for their asthma program. According to Fox-Pascal, "we kept ownership for the various asthma initiatives in the [local communities] and that ownership has been critical to our sustainability. If we had tried to drive everything, the community folks would have felt like we were visiting for a short-term program, but would soon be on to something else." But, that's not how the NYCDOHMH operated. For example, they partnered with Urban Health Plan (UHP) and supported its success in the South Bronx. UHP took ownership for asthma outcomes in their neighborhood from the beginning and when NYCAI support was no longer available, the initiative continued because UHP had used the NYCAI support to build its own local resource base.

Collaborate to Resource the System
In the early 1990s, asthma was a top mayoral priority, so early on, the mayor ensured that funds were available for the NYCDOHMH's asthma work. Over time, other health issues, such as obesity and diabetes, have emerged as new hot topics and the asthma program has faced funding shortfalls. But, the NYCAI has been sustained because the NYCDOHMH spent time up-front building relationships, creating a network, and seeding change at the neighborhood level. "Our partners fight for our funding with their city council people," said Fox-Pascal. "If we see budget cuts, our advocacy groups are usually right there to fight for us and to make sure the money is restored."

Urban Health Plan's Asthma Relief Streets Program

Urban Health Plan (UHP) in the Bronx, New York, serves the poorest congressional district in the U.S. There is a 10% asthma prevalence in this community where 82% of the population is Hispanic and 15% is African-American. In 1997, annual hospitalization rates for asthma for children aged 0-14 peaked at 22.5 per 1,000 patients. UHP recognized that they had to improve asthma care in their community to control what was becoming an epidemic.

Program at a Glance

Location: Bronx, NY

Type: Federally Qualified Health Center

Service Area: Bronx, NY

Population Served: 6,000 patients tracked in asthma registry (27% of children in the South Bronx have an asthma diagnosis); large Hispanic and African-American population

Key Players: NY City Asthma Initiative, Bronx Breathes, Alliance for Tobacco Free Health, NYC Council State Legislative Agenda, South Bronx Asthma Partnership, Bureau of Primary Health Care

Results: 100% of providers use standard asthma classification system during patient visits, 100% of patients on anti-inflammatory medications, 60% of patients have self-management goals; average of 10.4 symptom free days in a row

Building the System

Collaborate to Build a System That Will Last

UHP collaborated with the New York City Asthma Initiative (NYCAI), the South Bronx Asthma Partnership, and the Bureau of Primary Health Care's Health Disparities Collaborative (BPHC) to implement a comprehensive asthma program built around the BPHC's Model for Improvement and the Chronic Care Model. The collaborative approach helped UHP to develop their effective care model because it provided resources, experience with underserved communities, and insight into interventions that work as UHP was getting their program up and running.

Identify Your Goals & Plan for Action – Be Data Driven

UHP looked at their baseline data and considered what they could expect to achieve with the BPHC's care model in order to name program goals. UHP set out to achieve: more than 10 symptom free days in a row; more than 90% of patients stratified for asthma severity; more than 95% of patients whose severity called for it on anti-inflammatory medications; more than 70% of patients with documented self-management goals; and urgent care visits below 55%.

KEY DRIVER

COMMITTED LEADERS AND CHAMPIONS – USE OUTCOMES DATA TO PROMOTE CHANGE

Everyone should know the program's core goals and how to measure them. UHP's leaders worked hard to explain their program's short-term objectives and long-term goals to everyone in the system until the entire staff understood their charge and knew that their success would be measured in the number of symptom-free days for asthma patients in the UHP system.

Identify Your Goals & Plan for Action – Build on Your Strengths

To improve the quality of asthma care across the system, UHP created a multi-faceted implementation strategy that includes provider education, intensive patient education, standard data management forms, a clinical information system, and environmental home visits for some patients. UHP spread the program by turning their multi-site infrastructure and staggered training schedule across sites into an advantage. UHP designed a Masterminds program to produce a fleet of trainer-champions to teach others the elements of BPHC's care model. Upon spreading the asthma program to other sites or departments, UHP expects all staff members of the site to be present. In order to do so, temporary workers from other trained sites are brought in to replace the staff during the training. The entire asthma team, from the CEO to the Medical Assistant, does the training. All the necessary tools are placed into each exam room, such as changing out all of the old forms for new forms, while the clinical staff attended the trainings. By the time the training session concludes, clinical staff know why change is important, understand the data that demonstrates the effectiveness of the proposed changes, and have tools at-the-ready to implement the new and more effective care model.

Getting Results - Evaluating the System

Collaborate to Get the Data You Need – Train Staff to Collect Program Data
UHP developed a clinical information system and standard forms to ensure the consistent capture of patient information. The system was designed to make chart reviews unnecessary and to enable providers and UHP's management team to easily monitor asthma care and health outcomes. The system allowed UHP to train providers and continuously monitor care, thereby ensuring that the program achieved its goals.

Let the Data Drive Program Design/Modification – Process Outcomes — Refine and Improve the Program
UHP developed an asthma classification test for all of their providers and then used the test results to drive clinical improvements. Initially, providers' answers to questions about how they use the classification scheme varied widely. To convince the providers that change was critical, the program champions made sure the clinicians saw the inconsistency in their severity rankings and the health outcomes being achieved at the pilot sites that used the classification scheme correctly. The outcomes data proved that the new system worked better and motivated providers to make changes to their standard practice.

Use Data to Measure Effectiveness – Health Outcomes — Track Progress Towards Goals
UHP uses their data management system to assess their progress towards goals and their outcomes have been impressive. They have achieved: 10 symptom free days in a row for patients (and the number continues to rise); 100% of patients stratified for asthma severity; 100% of patients on appropriate medications; 60% of patients with self-management goals; and 3.5% drop in asthma urgent care visits.

Resourcing the System

Collaborate to Resource the Program – Recruit the Target Community
UHP serves almost 6,000 asthma patients after starting with fewer than 30 patients in their asthma registry in 2001. UHP's program has grown through patient word-of-mouth because the staff and mission are visible across the community. UHP's Board members sit on other community boards and the majority are also patients, so they make effective program advocates. UHP undertook a marketing campaign to draw patients to the program and, by achieving economies of scale through the size of their patient population, UHP has created a sustainable system for asthma control that is community funded.

KEY DRIVER

STRONG COMMUNITY TIES – BE VISIBLE

One way UHP built the community base to ultimately be a self-sustaining program was by being visible in their service community. UHP is the largest employer in their zip code with 13 sites, and just about everyone in the Bronx knows about UHP's asthma program and someone who works there. One of UHP's Health Educators is known as the "Asthma Lady." She explains that all of UHP's health educators live in the community and "if we don't see our patients at the clinic, we know we will see them on the street or in the grocery store…when we ask how they are, they know we are asking about their asthma."

WellPoint's State Sponsored Business Comprehensive Asthma Intervention Program

Several factors led to the development of WellPoint's State Sponsored Business (SSB) Comprehensive Asthma Intervention Program (CAIP), initiated in Sacramento County, California in 1996. First, Health Plan leaders, Medical Directors, and the Physician Quality Improvement Committee reviewed the needs of the membership and decided that they could do more for members with asthma. Mindful of the national trends that indicated childhood asthma was on the rise, they decided that members and their families and providers needed more education and information in order to achieve better asthma outcomes. As SSB expanded to additional counties in California, Health Plan leaders observed disproportionately higher pharmacy claims for asthma medications than other types of medications, especially in certain regions. Therefore, they designed a new set of asthma interventions involving both physicians and pharmacists, tailored to the specific needs of diverse communities.

Program at a Glance

Location: Main Office, Camarillo, CA

Type: Health Plan

Service Area: WellPoint's State Sponsored Business (SSB) supports multiple health plans contracting with Medicaid and other state agencies to serve a combined 2 million members across 14 states. SSB serves 1.2 million Medicaid and Healthy Families members in 11 California counties

Population Served: Over 35,000 members with asthma in California (approximately 75% of whom are children and adolescents); SSB provides coverage for one-third of California's Medicaid and Healthy Families enrollees; culturally diverse, low-income population

Key Players: members, physicians, pharmacists, and hospitals throughout communities where members live; public health departments, quality improvement organizations, schools, universities, research institutions, and coalitions

Results: For California members, who were continuously enrolled in the asthma program, the use of appropriate asthma medication increased from 55% to 66% between 2001 and 2005; hospitalizations among Medicaid members with asthma in the program decreased by 45% and ED visits by 42% from 2004 to 2005

Building the System

Identify Your Goals & Plan for Action – Know the Impact of Asthma on Your Community

SSB used baseline data on members' asthma-related service utilization and medication usage, as well as community trend data on asthma rates, to identify where and how to target interventions most effectively to improve member access to asthma education and higher quality asthma care.

Conduct Needs Based Planning – Be Responsive to Community Needs

The CAIP developed printed asthma education packages for members and sent physicians member-specific information on their patients with asthma. To deliver effective patient education, SSB designed a method for engaging pharmacists in the asthma program so that they could also provide asthma medication education to members, particularly those at higher risk.

Getting Results - Evaluating the System

SSB's asthma program emphasizes accurate assessment and monitoring of members with asthma. The plan uses data from medical and pharmacy claims, concurrent review, and case management to identify members with asthma throughout the plan, track interventions they receive, and monitor their health outcomes.

Let the Data Guide Program Design/Modification

SSB members are stratified according to risk level based on asthma-related service utilizations and asthma medication usage. Risk stratification determines the type and intensity of health plan interventions members receive. By maintaining a plan-wide claims-based asthma registry that tracks member risk levels, interventions, and outcomes, SSB provides physicians with information resources that help them deliver enhanced asthma care.

KEY DRIVER

INTEGRATED HEATLH CARE SERVICES – HELP CLINICAL CARE TEAMS TO CONTINUOUSLY IMPROVE

SSB recognized that to deliver high-quality asthma care, providers needed education and data about their members (patients) with asthma. To help them, SSB sends a quarterly member-specific fax (medical record insert) to every provider with information on the member's asthma risk stratification level, asthma-related ER visits and inpatient stays and asthma medications dispensed in the last twelve months.

SSB's CAIP supports pharmacist asthma medication education for members in poor control of their disease. By identifying for pharmacists those members with asthma who are not utilizing asthma medications appropriately, and by providing extra payment to pharmacists for extended pharmacy asthma medication education, SSB has engaged and reinforced the participation of local pharmacists in the CAIP.

During the first four years of the Pharmacy Asthma Consultation Program (PACP), only a 30-minute, pre-scheduled pharmacy asthma consultation was available. Within this timeframe, 1,695 members received a comprehensive consultation from their local pharmacist. After the program was enhanced with a briefer, point-of-service non-scheduled consultation, the number of members receiving pharmacy consultations quadrupled in less than one year. By utilizing a hard computer edit pop-up pharmacy screen, SSB is able to reach members while they are filling a prescription. In the first seven months of the point-of-service program, 7,090 members received pharmacy asthma consultations.

After the PACP was implemented, SSB tracked accessibility and impact of pharmacy consults. In a 2003 study, 6,707 members with poor asthma control were eligible for pharmacy consultations. Data showed that the pharmacy consultations were beneficial: asthma medication usage data for the six months before and after the day of member eligibility for a consult demonstrated that members used significantly more asthma controller medications after they received pharmacy consultations. However, because only 43.8% of eligible members received consultations during 2003, and because disparities appeared in consultation rates among racial and ethnic groups, SSB recognized that pharmacists were missing chances to contribute to improved asthma outcomes. SSB reminded pharmacists in underserved communities that their pharmacy asthma consultation performance was being monitored, and that by missing chances to provide consultations, they were losing opportunities to impact health outcomes. Follow-up data in 2005 showed significantly improved rates of pharmacy asthma consultation for all eligible members, and reduced variation in the rates of consultation among diverse racial and ethnic groups.

Use Data to Measure Program Effectiveness – Health Outcomes — Track Progress Towards Goals
SSB evaluates inpatient and outpatient service utilization, and the rate of appropriate use of asthma medication, to assess whether CAIP interventions contribute to improved outcomes. For members continuously enrolled in the asthma program for at least two years, SSB observed decreases in asthma-related ER visits and hospitalizations. Findings also indicate improved rates of use of appropriate asthma medications. These results suggest that over time, members are deriving more comprehensive benefits from their asthma care, and that they are self-managing their asthma symptoms more effectively. SSB leadership recognizes the quality of CAIP interventions and seeks to extend their implementation for new members in new regions.

Resourcing the System

Use Your Data to Demonstrate Your Value – Funders Will Respond
SSB has observed a decrease in asthma related ER and hospitalization rates over the last few years while the CAIP program has been actively implemented. During this time, appropriate medication usage by asthmatic members has improved as demonstrated by increase in HEDIS rates for this measure.

Drive Institutional Change to Sustain Your Program
SSB's leadership and asthma champions promote the importance of data capture in order to demonstrate program effectiveness for members, and contract compliance and accountability to state Medicaid agencies. Appropriate program evaluation is required to justify program sustainability. SSB leadership has established the expectation that the effectiveness of asthma interventions, within both plan-wide efforts and community-specific projects, is evaluated according to process and outcome measures. Yearly evaluations of the asthma program interventions are presented to Medical and Health Plan Leadership. Opportunities for improvement are discussed, and asthma interventions are enhanced, as applicable, over time.

Health Plan leaders and asthma champions also recognize the critical importance of addressing environmental factors as part of the overall health plan approach to asthma management. Following SSB's receipt of the 2006 EPA National Environmental Leadership Award in Asthma Management, SSB leadership worked closely in collaboration with the EPA to provide additional training by EPA for SSB staff on environmental management of asthma. SSB field staff were so inspired by the EPA's guidance and resources, that they unanimously agreed as a group to engage in a coordinated program of new projects to address environmental management of asthma in collaboration with local schools, child care settings, and after school and recreation programs. Field staff in 7 different states (more than 17 counties/regions) have now initiated plans tailored to the diverse needs of members with asthma in their areas. Their activities so far in this ambitious endeavor reflect the passion and creativity with which they approach this disease.