

Update from the Field: Paying for Success to Improve Asthma Outcomes

Pay for Success projects addressing asthma in the United States

Asthma is a chronic medical condition that affects millions of children and adults every year. Many of these individuals cycle in and out of emergency departments and hospitals because they do not have access to high quality disease management programs and services that would keep their asthma under control. Evidence-based interventions in community settings – including self-management education, home assessments and housing repairs to address asthma triggers – are fundamental components of effective asthma management that improve asthma symptoms and reduce hospitalizations and emergency department visits.^{1,2} The direct medical cost related to asthma is \$50.1 billion per year³, most of which is due to acute healthcare visits for potentially preventable asthma episodes; this far exceeds the cost of implementing community-based interventions. This cost differential provides an opportunity for the healthcare system to better address key physical and social determinants of health in the home environment.

Projects around the country are seeking to leverage innovative new funding models like Pay for Success to improve asthma care, driving down healthcare costs through comprehensive home-based interventions. This issue brief is an update to the 2014 publication, [*Using Social Impact Financing to Improve Asthma Outcomes*](#)⁴.

Existing Financing Options for Home-based Asthma Services

Home visits for asthma – which can include education for asthma management and medication adherence, assessing the home environment for allergens and irritants, and remediating hazards that exacerbate asthma – are a key component of the National Asthma Education Prevention Program (NAEPP) Expert Panel *Guidelines for the Diagnosis and Management of Asthma*⁵ and recommended by the Task Force on Community Preventive Services.⁶ While Medicaid rules allow for coverage of many of these evidence-based interventions,⁷ children and adults at high risk for asthma exacerbations have limited access to these services because Medicaid programs, Medicaid Managed Care Organizations (MCOs) and other health care payers seldom offer coverage for asthma services outside of clinical settings.⁸

Even where Medicaid or MCO coverage of asthma services in home settings is available, services are often limited to education and assessment, as federal Medicaid rules prohibit state Medicaid

programs from reimbursing for services and supplies not otherwise considered “medical assistance.” In the case of asthma, services like integrated pest management or supplies like air filters may be essential for a patient to manage asthma triggers in their home, but these supplies/services are not typically reimbursable by Medicaid. In some cases, state Medicaid programs have sought to pilot-test funding for these services through Medicaid demonstration waivers or with funding from the Center for Medicare & Medicaid Innovation, but these initiatives are not commonplace.⁹

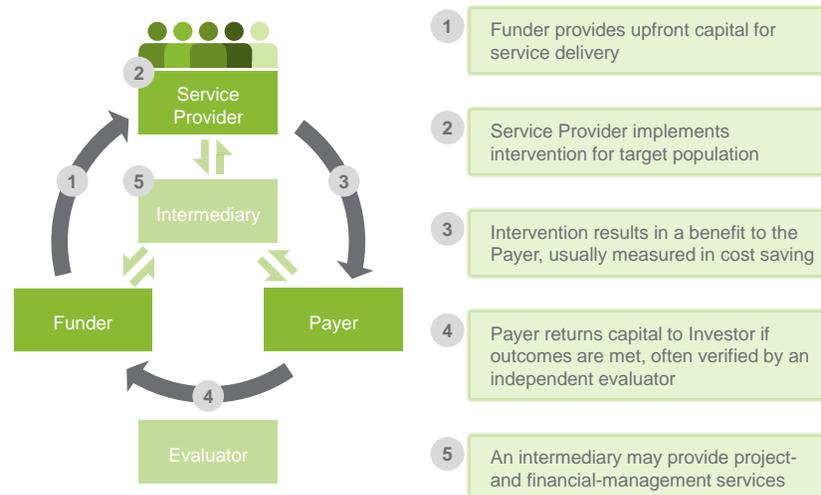
Because coverage for home-based asthma interventions is not typical among public and private insurers, community-based programs that deliver these services depend on support from public and private funding streams. Many such programs are supported with grants from private foundations, federal funding from the Centers for Disease Control and Prevention (CDC) and the Department of Housing and Urban Development (HUD), and local/state public health funding).¹⁰ Given the scarcity and unpredictability of these funding streams, there remains a significant funding gap for evidence-based housing remediation services that can alleviate the presence of home asthma triggers^{11,12}.

Overview of Pay for Success

Pay for Success (also called “Social Impact Bonds”) is a set of partnerships that focus on the outcomes that a social service produces, rather than funding based solely on the delivery of those services. In its most basic form, private investors pay the upfront costs for providing social services, or in the case of asthma for public health prevention services, and government

agencies (State Medicaid) or private institutions (health insurance plans) repay investors with a return on their investment (“success payments”) if the program achieves agreed-upon outcomes

Exhibit 1
Pay for Success Overview



(such as decreased healthcare expenditures). Exhibit 1 demonstrates the steps involved in a Pay for Success project.

Asthma is a prime issue area for Pay for Success financing because improved outcomes through cost savings from decreased medical utilization (e.g. fewer visits to the hospital and emergency department due to asthma episodes lead to reduction in the total cost of care per member enrolled) can be directly measured from administrative claims data. From these cost savings, a healthcare payer is then able to pay back the initial investment to the upfront funders. If the project evaluator determines that improved outcomes were not achieved, the payer has no obligation to repay the funders. Therefore, financial risk for the project is borne by the funders and not the healthcare payer.

Case Studies: Progress of Asthma PFS Projects

Since the inception of Pay for Success in the United States in 2012, there have been 11 projects launched to-date, each focusing on issue areas ranging from early childhood education to juvenile justice to homelessness. While there have not yet been projects launched that focus on improving asthma outcomes, there are a number of such projects in development across the country. Below are several examples of asthma Pay for Success feasibility studies in progress.

Alameda

In Alameda County, approximately 45,000 children suffer from active pediatric asthma, representing nearly 13% of children in the County. With one of the highest rates of pediatric asthma in the state of California, Alameda County's Public Health and Healthy Homes departments began two effective asthma management and prevention programs, Asthma Start and Healthy Homes, focused on health education, clinical services, and environmental home remediation. The County's Health Care Services Agency is exploring using Pay for Success contracting to support the combination and expansion of the two programs to serve more low-income youth and generate asthma-related health savings.

The County is currently participating in a pilot program to hone County intervention outcomes, engage with the project end payer on a referral pathway and price of outcomes, and build out cost savings from intervention impacts. It has partnered with Third Sector Capital Partners and Impact4Health to complete the feasibility phase.

Baltimore

Green & Healthy Homes Initiative (GHHI), a nonprofit healthy homes and technical assistance service provider, began working with Johns Hopkins Hospital system and its Medicaid Managed Care Organization, Priority Partners, in 2014 to develop a Pay for Success project that would deliver home-based asthma services to over one thousand patients in the greater Baltimore area. Social Finance joined the team in 2015 as intermediary, and is facilitating project development between all stakeholders.

The project has completed feasibility phase and is now under transaction structuring phase. Partners are in discussion with the Maryland State Medicaid office to structure a gain-sharing arrangement in which Priority Partners and Medicaid can portion out healthcare savings that are attributable to the intervention. Partners are also analyzing Maryland's All Payer Model and how that will impact the economic model.¹³ Project partners plan to secure the payment mechanism and launch the PFS project by the end of 2016.

Fresno

With grant funding from The California Endowment, the Asthma Impact Model Fresno (AIM4Fresno) demonstration project aimed to reduce emergency room visits and hospitalizations of low-income children in Fresno, CA by investing in a home-based asthma education and environmental remediation program. Fresno sits in the San Joaquin Valley, which has one of the highest prevalence rates of asthma in the country with over 624,000 people, including 184,000 children, suffering from the chronic disease. The AIM4Fresno project was led by Social Finance and Collective Health, with technical assistance from Regional Asthma Management and Prevention. Central California Asthma Collaborative delivered in-home asthma education with community health workers and also coordinated the environmental remediation work. The University of California, Santa Barbara evaluated the program.

Using medical claims data and a randomized control trial, the evaluation of the 37 participants who completed the one-year asthma program showed net savings from reduced health care costs of approximately \$2,200 per person over a 24-month period. These results are encouraging, but not definitive given the small sample size of participants. Obstacles around data-sharing and consistent engagement from Medi-Cal health plans resulted in lower than anticipated enrollments. These were further exacerbated by the implementation of the Affordable Care Act and mergers among health plans that coincided with the project. The results from the AIM4Fresno project

nevertheless add to the growing body of evidence that investing in home-based asthma management delivers both health and financial benefits. The project team identified several potential financing strategies to scale the intervention, including Pay for Success, and is pursuing opportunities with the state and local health plans.

CNCS-funded Feasibility Cohort

In 2014, the Corporation for National and Community Service’s Social Innovation Fund awarded GHHI a grant to deliver technical assistance and capacity building services to five communities across the country, to analyze the feasibility of Pay for Success financing for home-based asthma services.

CNCS-funded Cohort

*Buffalo, NY
Grand Rapids, MI
Memphis, TN
Salt Lake City, UT
Springfield, MA*

The feasibility project at each of the five sites consisted of ten technical assistance work streams, ranging from actuarial analysis of medical claims data to intervention delivery mapping to economic modeling. GHHI completed feasibility studies for each site in September 2016, and determined that Pay for Success can be a feasible financing mechanism for asthma services at all sites. Based on key parameters estimated in the actuarial analysis and total costs of program economic and sensitivity analyses, the team determined that there are multiple scenarios in which high utilizing asthma patients (those with inpatient stays or multiple ED visits) produce a positive return on investment upon receiving home-based multi-component, multi-trigger health education and environmental remediation services. Annual enrollment could range from 150 to 330 members per year depending on each specific sites’ parameters, and there are clear paths forward to launching these PFS projects.

Service Provider’s Perspective

“The GHHI Asthma PFS feasibility study was the catalyst for forming a partnership with Habitat for Humanity of Greater Memphis and with Memphis CHiLD, our medical-legal partner. Since then, it has enlarged our vision and ability to build a strong case for PFS financing locally, that we ultimately hope will influence policy at the state and national level.”

--Meri Armour, President, Le Bonheur Children’s Hospital, Memphis, TN.

Two key issues remain for most sites prior to PFS launch: operational and payment mechanism feasibility. The majority of sites have determined that a pilot phase is necessary to test the planned intervention, which in all cases is a coordinated service delivery model between healthcare providers and community-based housing service providers. A pilot phase would allow teams to refine

referral handoff procedures, develop data sharing processes, and test assumptions around the prevalence of asthma triggers in homes.

A second key issue for all sites relates to the payment mechanism between health plan payers and State Medicaid offices. Existing Medicaid policies do not incentivize and can even penalize health plans investing in long-term prevention programs by limiting their ability to retain a substantial component of savings from the PFS intervention over time. GHHI is working with state and federal policymakers to clear a path for PFS payment mechanisms that will incentivize public-health innovation.

Payer's Perspective

“At Baystate Health there was resistance to addressing social determinants of health (SoDH) and balkanized positions about the role of social (non-clinical) interventions, pro and con positions about - the “who” should and “how to” do this work. Similar issues revolved around the responsibility for financing social interventions. The GHHI PFS design and feasibility assessment process, particularly its data driven solutions and actuarial modeling became the platform for addressing these central questions about shared responsibility for upstream interventions. The GHHI PFS initiative is a template for blending healthcare and public health and advancing the value proposition that ‘together {health care providers and community service providers} we can deliver a higher state of care,’ in this case, by closing by reducing ER visits and reduce preventable hospitalizations and ultimately reducing health disparities. The GHHI Springfield Asthma PFS initiative is a template and framework for health and social care integration to achieve shared values in vulnerable and diverse low-income populations (i.e., improved patient experience and value, increased safety, quality, and equity), and not just for asthma but for other health disparities. This initiative addresses both the policy and financing (with social impact bonds) challenges making it possible to design and structure effective, highly accountable, and transparent outcome-based interventions.”

--Frank Robinson, Vice President, Baystate Health, Springfield, MA

RWJF-funded Feasibility Cohort

In 2015, the Robert Wood Johnson Foundation awarded GHHI a grant to expand its asthma Pay for Success feasibility work to an additional five cities across the country. GHHI, in partnership with Social Finance, began these five feasibility studies in the spring and summer of 2016, and have begun structuring data extracts of claims data for actuarial analysis, as well as designing a coordinated service delivery model between healthcare and housing service providers in each locality. Social Finance is working with the payer at each site to analyze payment mechanism options, as well as to identify potential funders at a national and local level.

RWJF-funded Cohort

*Chicago, IL
Houston, TX
New York, NY
Philadelphia, PA
Rhode Island State*

Feasibility determinations should be complete by the end of 2016 for all sites, at which point project partners will determine if Pay for Success is viable and the best path forward for all parties involved.

Feasibility Funder's Perspective

“The Corporation for National and Community Service, through its Social Innovation Fund (SIF) is pleased to support organizations such as GHHI that are on the front lines of exploring and advancing innovative ways of expanding effective programs to serve more people in need. GHHI is a leader in the use of home-based, asthma prevention strategies that work, and with support from the SIF has determined that Pay for Success is a feasible approach to financing such strategies. With the promise of improved health outcomes and cost savings for the healthcare system, this approach has great potential for asthma prevention, as well as other critical health issues.”

--Lois Nembhard, Director (Acting), CNCS Social Innovation Fund

Looking Forward: Next Steps

Pay for Success is not only an opportunity to finance improved health outcomes for asthma patients, but also a chance for the healthcare system to explore innovative interventions to address critical issues across the broader public health field. Home-visiting and home remediation services are preventative services that are not traditionally funded by healthcare dollars but clearly lead to future cost savings by improving health outcomes, and therefore are prime candidates for PFS financing. Examples of potential applications include interventions that address slip and fall injury, lead poisoning, and COPD.

The asthma community should be encouraged and optimistic by the findings and progress of PFS projects outlined in this brief. The largest barrier for successful implementation of Pay for Success financing in the public health sector is the ability for healthcare payers (providers, health plans, Medicaid) to categorize PFS success payments as medically relevant. By building a critical mass of similar Pay for Success projects across the country, advocates of the model will continue to work with the necessary stakeholders to unlock Pay for Success in public health.

For additional information regarding the projects outlined in this brief, please contact:

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Social Finance: nshah@socialfinance.org

Collective Health: rick@collectivehealth.net



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This material is based upon work supported by the Corporation for National and Community Service (CNCS) under Social Innovation Fund Grant No. 14PSHMD001. Opinions or points of view expressed in this document are those of the authors and do not necessarily reflect the official position of, or a position that is endorsed by, CNCS.

¹ U.S. Department of Health and Human Services, National Heart, Lung and Blood Institute, National Asthma Education and Prevention Program. Expert Panel Report 3: *Guidelines for the Diagnosis and Management of Asthma*. 2007.

² Nurmagambetov TA, Barnett SBL, Jacob V, Chattopadhyay SK, Hopkins DP, Crocker DD, Dumitru GG, Kinyota S, Task Force on Community Preventive Services. Economic value of home-based, multi-trigger, multicomponent interventions with an environmental focus for reducing asthma morbidity: a Community Guide systematic review. *Am J Prev Med* 2011;41(2S1):S33-47.

³ Centers for Disease Control and Prevention. *Vital Signs*. May 2011.

⁴ Green & Healthy Homes Initiative and Childhood Asthma Leadership Coalition. *Issue Brief: Using Social Impact Financing to Improve Asthma Outcomes*.

⁵ Expert Panel Review 3. National Asthma Education and Prevention Program. National Heart, Lung, and Blood Institute. National Institutes of Health.

⁶ Nurmagambetov TA, Barnett SBL, Jacob V, Chattopadhyay SK, Hopkins DP, Crocker DD, Dumitru GG, Kinyota S, Task Force on Community Preventive Services. Economic value of home-based, multi-trigger, multicomponent interventions with an environmental focus for reducing asthma morbidity: a Community Guide systematic review. *Am J Prev Med* 2011;41(2S1):S33-47.

⁷ Pathways to Medicaid Reimbursement for Pediatric Asthma Services. Childhood Asthma Leadership Coalition. May 2016. Available at: <http://www.childhoodasthma.org/resources/2016/5/27/pathways-to-medicare-reimbursement-for-pediatric-asthma-services>.

⁸ Asthma Care Coverage Project. American Lung Association. 2016. <http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/asthma-education-advocacy/asthma-care-coverage/>

⁹ Pathways to Medicaid Reimbursement for Pediatric Asthma Services. Childhood Asthma Leadership Coalition. May 2016. Available at: <http://www.childhoodasthma.org/resources/2016/5/27/pathways-to-medicare-reimbursement-for-pediatric-asthma-services>.

¹⁰ Case Studies in Healthcare Financing of Healthy Homes Services. National Center for Healthy Housing & the Milken Institute School of Public Health at the George Washington University. 2016. Available at: <http://www.nchh.org/Program/DemystifyingHealthcareFinancing/CaseStudies.aspx>.

¹¹ U.S. Department of Health and Human Services, National Heart, Lung and Blood Institute, National Asthma Education and Prevention Program. Expert Panel Report 3: *Guidelines for the Diagnosis and Management of Asthma*. 2007.

¹² Crocker et al. Effectiveness of Home-Based, Multi-Trigger, Multicomponent Interventions with an Environmental Focus for Reducing Asthma Morbidity: A Community Guide Systematic Review. *American Journal of Preventative Medicine*. 2011.

¹³ Maryland All-Payer Model to Deliver Better Care and Lower Costs. <https://innovation.cms.gov/initiatives/Maryland-All-Payer-Model/>