

Issue Brief: Using Social Impact Financing to Improve Asthma Outcomes

Asthma is the single most common chronic condition among children in the United States. Approximately 7 million children under age 18 in the U.S. have asthma, with poor and minority children suffering a greater burden of the disease.^{1,2,3} Not only is pediatric asthma widespread, the economic burden is substantial. Researchers estimate that asthma costs the U.S. healthcare system \$56 billion annually in both direct healthcare expenditures and indirect costs from lost productivity.⁴ Asthma is the third leading cause of hospitalization among children under the age of 15, and is associated with increased emergency department visits.⁵ Pediatric asthma is also one of the leading causes of school absenteeism, accounting for 14.4 million lost school days and 14.2 million days of missed work by caretakers in 2011.^{6,7}

A supportive and responsive health care system is certainly important for improving asthma management, but given the complexity of the disease, a more comprehensive, community-based approach is needed to secure optimal asthma control. While health insurance generally covers asthma-related medical treatments, the services needed to prevent environmental triggers and remove allergens and irritants are not usually included. With asthma's prevalence increasing 15% since 2001, a dramatic change in the national approach to managing this disease is needed.

Social Impact Financing models – including Social Impact Bonds (SIBs) and Pay for Success (PFS) contracts – are potentially powerful tools for improving services for underserved children with asthma. SIBs and PFS contracts are relatively new mechanisms for drawing private sector financing to improve social services. These models can offer children the non-medical interventions needed to improve their health. This issue brief provides background on SIBs and PFS models, and describes how they can be helpful in improving the lives of millions of children with asthma.

Overview of Social Impact Financing

Social Impact Financing is an innovative approach for addressing complex social challenges. In its most basic form, private investors participating in these initiatives pay the upfront costs for providing social services – from services related to criminal justice, to education, to health – and government agencies repay investors with a return on their investment if the program achieves agreed-upon outcomes, such as reduced recidivism, increased school performance, or decreased healthcare expenditures.

PFS is a general term that describes an arrangement between the government and a service provider in which the provider is only paid for reaching targeted outcomes, instead of for carrying out a service. SIBs bridge the timing gap between the capital needed for service providers to carry out their work, and the repayments based on successful outcomes. The working capital can be raised from philanthropic or commercial sources.⁸ The concept of social financing has given rise to many innovative SIB/PFS models that bridge new partnerships in the public, nonprofit, and private sectors. These models focus on achieving results that ordinarily could not be realized by these sectors individually.

SIB financing is best suited for addressing specific problems that encompass government policy priorities, and often uses the following criteria for investing:⁹

- Dedicated government leadership;
- Evidence-based interventions facilitated by service providers with expertise and the capacity to take their services to scale;
- Potential for high net benefits and return on investment that adequately offset implementation costs;
- Ability to collect and analyze robust data to facilitate credible measurement of outcomes;
- Transparent performance metrics; and
- Protections against unexpected negative consequences.

Targeting issues that meet the necessary criteria, SIBs shift the social sector funding paradigm (traditionally funded by government or philanthropic grants) by drawing in private sector investors interested in “doing well by doing good.”¹⁰ Key elements within the SIB structure incentivize the type of accountability required for success in this model:¹¹

- Stakeholders agree on evaluation metrics before funding is distributed, and return on investment is linked to monitoring and evaluating program outcomes;
- Investors, providing all of the needed capital upfront, incur the risks of financial loss;
- Investors are incentivized to partner with effective service providers with the management capacity to scale up their operations and experience using data to improve performance; and
- The need to attract and maintain investors’ capital incentivizes intermediaries and service providers to produce results.

Additionally, SIBs allow foundations and other investing organizations to support similar initiatives by recycling their capital into other projects.¹² These arrangements incorporate multiple stakeholders, and their structures are flexible enough to adapt to different actors, target outcomes, and levels of risk. In addition, investors are exploring SIB/PFS structures where private entities, such as healthcare systems, act in place of a governmental entity.

SIB Innovation in the United States

In 2010, Social Finance UK initiated the world’s first SIB in the United Kingdom with the intent to reduce recidivism among prison populations.¹³ Following the success of the UK program, several innovative SIB programs are underway in the United States. New York, Massachusetts, Michigan, Indiana, Maryland, Utah, South Carolina, and California, have begun the process of exploring and implementing SIB-supporting legislation and SIB contracts, in areas including recidivism, homelessness and affordable housing.^{14,15} Recently, PFS and SIB efforts have focused on the connection between the health care delivery/financing systems, the prevention of chronic conditions, and the social determinants of health. For example, South Carolina has developed a social financing model to provide clinical and social services to support maternal and child health, and Vermont has used this model to promote improved senior housing and health care.^{16, 17} Other communities are considering using SIBs to address diabetes, mental illness, and clinical and social care for “superusers” of the healthcare system.¹⁸

Social Impact Financing & Childhood Asthma

Efforts are underway to use social financing models to address the range of complex issues that children with asthma face to control their chronic condition. Treating, managing and ultimately reducing the burden of childhood asthma requires coordinated interventions that integrate community-based

approaches into patient care. The National Asthma Education Prevention Program (NAEPP) Expert Panel guidelines place a strong emphasis on community education for asthma self-management and control of environmental asthma triggers as vital components of effective asthma management.¹⁹ However, children at high risk for asthma exacerbations have limited access to these evidence-based interventions because coverage for these services is not typical among public and private insurers.

SIB/PFS programs can address non-medical asthma interventions like home visits, education, and support for reducing environmental triggers of asthmatic episodes, all of which can limit the number of asthma-related emergency room visits and hospitalizations. These interventions are not traditionally covered by health insurance, but are proven and effective tools for managing asthma. SIB/PFS programs in conjunction with clinical treatments can provide a more holistic approach to help individuals, especially those with limited resources, manage their illness.

SIB and PFS models that focus on asthma are designed to demonstrate that by educating patients and taking action against asthma triggers at home, insurers can achieve significant savings on emergency visits, hospitalizations and other healthcare costs. The case of asthma resonates with investors because of the potential for considerable return on investment (ROI). The U.S. Department of Health and Human Services' *Guide to Community Preventive Services* reviewed published cost-benefit studies on home-based, multi-trigger, multicomponent environmental asthma interventions and found the studies show a return of \$5.3 to \$14 for each dollar invested.²⁰ These types of solutions are conducive to the types of cross-sector partnerships that SIBs are modeled to leverage.

Unlike most social impact financing opportunities, the reduction of high cost medical utilization offered by remediating home-based environmental health hazards for children with asthma appears to produce a high ROI in a very short time period. Beyond just a high return, the speed at which that return is produced from asthma interventions is compelling to investors. Therefore, implementing SIB/PFS models at the local, state, and federal levels provides a potentially powerful tool with which to increase impact and efficiency in the fight against asthma.

A key consideration for asthma-focused SIB and PFS models is the complexity of the medical payment system, specifically the question around which entities are sharing the costs of healthcare services. Hospital systems, managed care plans, accountable care organizations, state Medicaid agencies, and the federal Centers for Medicare & Medicaid Services could all have a role in terms of being the “saver” and paying back the initial investment. Also, healthcare reform is introducing new payment models, structures, and incentives for the healthcare system that will influence how a SIB/PFS will be structured.

Case Studies: Examples of Social Impact Financing Projects Focused on Asthma

FRESNO, CA

In 2013, the California Endowment awarded grant funding to Social Finance Inc. and Collective Health for a demonstration project to measure the health and financial outcomes of a home-based asthma program for children in Fresno, California, and to assess the feasibility of scaling the program through social-impact financing. Fresno has one of the nation's highest asthma rates; approximately 20 percent of children have been diagnosed with the disease. Every day in Fresno, nearly 20 asthma sufferers end

up in the emergency room, and at least three are hospitalized, at an estimated cost of \$35 million per year.²¹ The program is providing 200 children with uncontrolled asthma with a year of asthma home visits from community health workers, education, and support in reducing environmental triggers.²² Children are selected based on asthma diagnosis, asthma-related health care utilization and other factors. The team is using Medicaid claims data to identify potential participants and to measure program impact through a randomized control trial.²³ The program is projected to reduce ER visits by 30% and hospitalizations by 50%, resulting in an estimated net savings of \$1000-5000 per child.²⁴

BALTIMORE, MD

The Green & Healthy Homes Initiative (GHHI) is a national nonprofit that provides direct services in Maryland and technical assistance throughout the country. The work of GHHI addresses underlying housing conditions that impact health outcomes including the root cause remediation of environmental health hazards responsible for preventable asthma episodes. The integrated delivery of environmental health services, health education, and home improvement is necessary to address asthma at the primary source of asthma trigger exposure, the home. Evaluation of GHHI's services has shown significant impact on patients with asthma. Taking data from GHHI's impact and cost information, GHHI enlisted a leading actuarial firm to conduct an analysis, which has shown a high return on investment.

GHHI is working with a private investment organization and healthcare entity in Maryland to set up a Pay for Success structure, in which GHHI will provide services to 1800 asthma patients who have been in the emergency room or hospitalized for asthma. The healthcare organization has been engaged to act as the saver/payor and pay back a portion of the savings to the investor from the avoided medical costs following the intervention. While government agencies such as Medicaid will not be part of the structure, applicable metrics will be tracked throughout the project to pave the way for potential changes in state Medicaid practices, additional private payor or government-related Pay for Success transactions or public sector budgetary decisions.

ALAMEDA COUNTY, CA

The Alameda County Public Health Department's "Asthma Start" and Alameda County Healthy Homes Department have launched a PFS initiative to improve asthma outcomes for children. The program will provide asthma in-home case management and housing interventions to improve home environments for children with asthma living in Alameda County.

The program will include 200-250 households with children under 18 who have been hospitalized at least once in the last 3 months. The anticipated intervention will be 90 days and includes case management, home assessments, and home remediation. The initiative will serve to test the referral system of the new combined intervention and will measure the impact of utilization and cost savings as a result of the intervention. Preliminary empirical evidence has shown a reduction of pediatric emergency department visits from 65% to 13% and hospitalizations from 45% to 4% in the six months before and after case management with the Asthma Start program alone. Alameda County will explore establishing a Sustainable Health Impact Fund with the help of a local community foundation if the project proceeds to the next phase.

Looking Forward

With approximately \$50 million in private capital being channeled into social financing, the U.S. SIB/PFS market is the largest in the world.²⁵ The success of these models has captured the interest of Congress and the Administration to more actively promote SIB/PFS models within federal programs. Since 2011, the Obama Administration has supported pay for success initiatives in each of its budgets,²⁶ and in 2014, the President's budget proposed nearly \$500 million for social financing investments, including the establishment of a new \$300 million Incentive Fund at the Department of the Treasury.²⁷ Bipartisan legislation to create such a fund has recently been introduced that would establish qualifications for receiving funding for SIBs and would create a *Federal Interagency Council on Social Impact Bonds* to help manage the new SIB program.^{28,29,30}

Private funders are investigating how to develop asthma-related PFS initiatives, given the great potential for return on investment. For example, the Corporation for National Community Service's Social Innovation Fund announced on October 1, 2014 that the Green & Healthy Homes Initiative received a Pay for Success award. This new program will assess the feasibility of asthma-related PFS projects benefitting low-income children in five U.S. cities.³¹

With the rising interest in SIB/PFS projects, it is important that the asthma community continues to take part in and create opportunities for asthma-focused programs. One concern some stakeholders have expressed is that sometimes these models can be highly complex and not transparent enough for robust community involvement. However, when structured well and implemented correctly with community involvement from the start, SIB/PFS initiatives have great potential to improve the efficiency and effectiveness of community-based asthma programs. With several asthma-focused SIB/PFS programs already in place and soon-to-be underway, these projects can provide insight into the best practices for launching future social financing programs for asthma. In addition, in areas with a high prevalence of childhood asthma, advocates can encourage state and local governments to participate in SIB/PFS programs and bring the necessary partners together.

¹ Centers for Disease Control and Prevention. *2011 National Health Interview Survey (NHIS) Data*. Table 3-1: Current Asthma Population Estimates— in thousands by Age, United States: National Health Interview Survey. 2011. Available at: <http://www.cdc.gov/asthma/nhis/2011/table3-1.htm>. Accessed: September 12, 2014.

² Akinbami et al. Trends in asthma prevalence, health care use, and mortality in the United States, 2001-2010. *Centers for Disease Control and Prevention, National Center for Health Statistics*. 2012. Available at: <http://www.cdc.gov/nchs/data/databriefs/db94.pdf>. Accessed: September 12, 2014.

³ Centers for Disease Control and Prevention. *2011 National Health Interview Survey (NHIS) Data*. Table 2-1: Lifetime Asthma Prevalence Percents by Age. 2011. Available at: <http://www.cdc.gov/asthma/nhis/2011/table2-1.htm>. Accessed: September 12, 2014.

⁴ Centers for Disease Control and Prevention: National Center for Health Statistics, National Health Interview Survey Raw Data, 2009. *Analysis by the American Lung Association Research and Program Services Division*. Available at: <http://www.lung.org/lung-disease/asthma/resources/facts-and-figures/asthma-in-adults.html#1>. Accessed: September 12, 2014.

⁵ Centers for Disease Control and Prevention: National Center for Health Statistics, National Hospital Discharge Survey, 1995-2010. Analysis by the American Lung Association Research and Health Education Division using SPSS software. Available at: <http://www.lung.org/lung-disease/asthma/resources/facts-and-figures/asthma-children-fact-sheet.html#4>. Accessed: September 12, 2014.

⁶ *Id.*

⁷ Barnett SB, Nurmagambetov TA. Costs of Asthma in the United States: 2002-2007. *Journal of Allergy and Clinical Immunology*, 2011; 127(1):145-52.

⁸ Third Sector Capital Partners. What is Pay for Success? Available at: <http://www.thirdsectorcap.org/pay-for-success/what-is-pay-for-success/>. Accessed: September 10, 2104.

⁹ Hughes J, Scherer J. Foundations for social impact bonds: How and why philanthropy is catalyzing the development of a new market. *Social Finance*. 2014.

¹⁰ Hernandez M, Syme SL, Brush R. A Market for Health: Shifting the paradigm for investing in health. March 2012. Available at: <http://health.citizing.org/data/projects/citizen-solve-health/Health%20Capital%20Market%20FINAL%20March%202012.pdf>. Accessed September 10, 2014.

¹¹ Hughes J, Scherer J. Foundations for social impact bonds: How and why philanthropy is catalyzing the development of a new market. *Social Finance*. 2014.

¹² *Id.*

¹³ *Id.*

¹⁴ Golden M, Waters J, Seok-Hyrun Mun K. Using Pay for Success Financing to Improve Outcomes for South Carolina's Children: Results for a Feasibility Study. *Institute for Child Success*. September 2013.

¹⁵ Crowley DM. The role of social impact bonds in pediatric health care. *Pediatr*. 2014 Jul. 134; e331-e333.

¹⁶ *Ibid.* 14.

¹⁷ Ludwig T. Pay for success: Building on 25 years of experience with the low income housing tax credit. Community Development Investment Review. *Federal Reserve Bank of San Francisco*. 2013.

¹⁸ Brush R. Can pay for success reduce asthma emergencies and rest a broken health care system? Community Development Investment Review. *Federal Reserve Bank of San Francisco*. 2013.

¹⁹ 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.

²⁰ 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 Preventive Medicine*. 2011; 41(2S):S5-S32.

²¹ Social Finance Inc. Press Release, March 2014. Available at: <http://www.socialfinanceus.org/california-endowment-awards-grant-social-finance-and-collective-health>. Accessed September 10, 2014.

²² Clay, R.F., Health Impact Bonds: Will Investors Pay for Intervention? *Environmental Health Perspectives*. 2013. 121(2): p. 45-46. Available from: http://ehp.niehs.nih.gov/pdf-files/2013/Feb/ehp.121-a45_508.pdf. Accessed September 10, 2014.

²³ *Id.*

²⁴ *Id.*

²⁵ Hughes J, Scherer J. Foundations for social impact bonds: How and why philanthropy is catalyzing the development of a new market. *Social Finance*. 2014.

²⁶ *Id.*

²⁷ White House Office of Management and Budget. July 2013. Available at: <http://www.whitehouse.gov/blog/2013/07/10paying-success-innovative-approach-imrpove-results-and-save-money>. Accessed September 10, 2014.

²⁸ Representatives Todd Young and John Delaney and Senators Orrin Hatch and Michael Bennet introduced companion bills, H.R. 4885 and S.B. 269, during the summer of 2014.

²⁹ H.R. 4885, 113th Cong. §2057; S. 2691 §2057

³⁰ H.R. 4885, 113th Cong. §2056(a); S. 2691 §2056(a)

³¹ Press Release: National Service Agency Announces \$12 Million to Support Pay for Success Projects. *Corporation for National & Community Service*. Oct 2014. Available at: <http://www.nationalservice.gov/newsroom/press-releases/2014/national-service-agency-announces-12-million-support-pay-success>. Accessed October 7, 2014.