

# Using Social Impact Financing to Improve Asthma Outcomes



**Childhood Asthma  
Leadership Coalition**

<http://www.childhoodasthma.org/>

Webinar

Monday, September 29, 2014

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- If you have a question during the webinar, please click on the “Q&A” tab at the right of your screen and send it to “All Panelists.”
  - If you are directing your question to a specific presenter, please write their name before the question (e.g., Lamb, Yu, Iton, Brush, Norton, Hernandez).
- Due to the large number of participants, we will answer as many questions as possible within the time frame allotted for this webinar. If your question was not answered, we encourage you to reach out to the individual presenter via e-mail following the webinar (email addresses will be provided at the end of the presentation).

# Today's Agenda and Speakers

## Using Social Impact Financing to Improve Asthma Outcomes

*Anne Kelsey Lamb, MPH, Director, Regional Asthma Management & Prevention*

## Overview of Pay for Success

*Alice Yu: Associate, Third Sector Capital*

**Case Study I: Fresno, CA** – *Tony Iton, MD, JD, MPH, Senior Vice President, Healthy Communities, The California Endowment / Rick Brush, Founder and CEO, CollectiveHealth*

**Case Study II: Baltimore, MD-** *Ruth Ann Norton, President & CEO, Green & Healthy Homes Initiative*

**Case Study III: Alameda County, CA** – *Maria Hernandez, PhD, President, Impact4Health; Special Advisor on Social Impact Investing, Health Research for Action, UC Berkeley School of Public Health*

## Questions & Answers



# Using Social Impact Financing to Improve Asthma Outcomes

Introduction

Anne Kelsey Lamb, MPH, Director  
Regional Asthma Management & Prevention

# Why are we interested?

1. Asthma is a significant public health problem
2. We know a lot about how to manage and prevent asthma
3. We lack sustainable funding sources to make it happen

# Asthma is a significant public health problem

- According to the CDC, in 2010, 18.7 million adults and nearly 7 million children had asthma—a 15% rise since 2001
- There are significant disparities by race, ethnicity, and socioeconomic status
- Asthma costs the healthcare system an estimated \$56 billion annually

# **Asthma is not as well managed as it should be**

- Nearly 60% of children diagnosed with asthma have experienced an attack within the previous 12 months
- Researchers project that improving asthma management among vulnerable populations could save as much as 25% of the total asthma costs

# **We know a lot about how to manage asthma**

## *National Clinical Guidelines*

- Assessment of disease severity and control
- Comprehensive pharmacologic therapy
- Patient education
- Environmental control measures to avoid or eliminate factors that contribute to asthma onset and severity



## *National Clinical Guidelines*

- Assessment of disease severity and control
- Comprehensive pharmacologic therapy
- Patient education
- Environmental control measures to avoid or eliminate factors that contribute to asthma onset and severity

*"An increasingly robust body of evidence shows that these two aspects of effective asthma management not only improve symptoms, but do so at a reasonable cost."* -Asthma Regional Council, Investing in Best Practices for Asthma

# Patient education

- *Impacts:* Reduced asthma symptoms, enhanced quality of life, improved medication adherence, fewer activity limitations and, reduced medical costs
- *ROI studies:* One education program targeting high risk children demonstrated a ROI of \$11.22 for every \$1 spent, while a case management and education program targeting children demonstrated a ROI of \$7.69-\$11.67 for every \$1 spent

# Environmental control measures

- *Impacts:* U.S. Centers for Disease Control's Task Force on Community Preventive Services found "strong evidence of effectiveness of in-home environmental interventions" in improving overall quality of life and productivity in children and adolescents with asthma
- *ROI analysis:* In its analysis, the Task Force included an economic review and studies showing a return of \$5.3 to \$14 for each \$1 invested

# Sustainable funding for these evidence-based interventions?

- *Grant funding:* An essential component, but we've seen many grant-funded programs come and go
- *Policy changes:* There are some exciting opportunities being explored at state and local levels
- *Social impact financing:* A new opportunity?

# Speakers

- **Alice Yu:** Associate, Third Sector Capital Partners
- **Tony Iton, MD, JD, MPH:** Senior Vice President, Healthy Communities, The California Endowment;  
***Presenting with Rick Brush:*** Founder and CEO, CollectiveHealth
- **Ruth Ann Norton:** President & CEO, Green & Healthy Homes Initiative
- **Maria Hernandez, PhD:** President, Impact4Health; Special Advisor on Social Impact Investing, Health Research for Action, UC Berkeley School of Public Health



# Overview of Pay for Success

September 29, 2014

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Third Sector Capital Partners, Inc.

Boston & San Francisco | (617) 912-8957 | [info@thirdsectorcap.org](mailto:info@thirdsectorcap.org) | [www.thirdsectorcap.org](http://www.thirdsectorcap.org)

# Definitions

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## Pay for Success (PFS)



**Performance-based contracting** within the social sector where government pays only if results are achieved.

## Social Impact Finance (SIF)\*

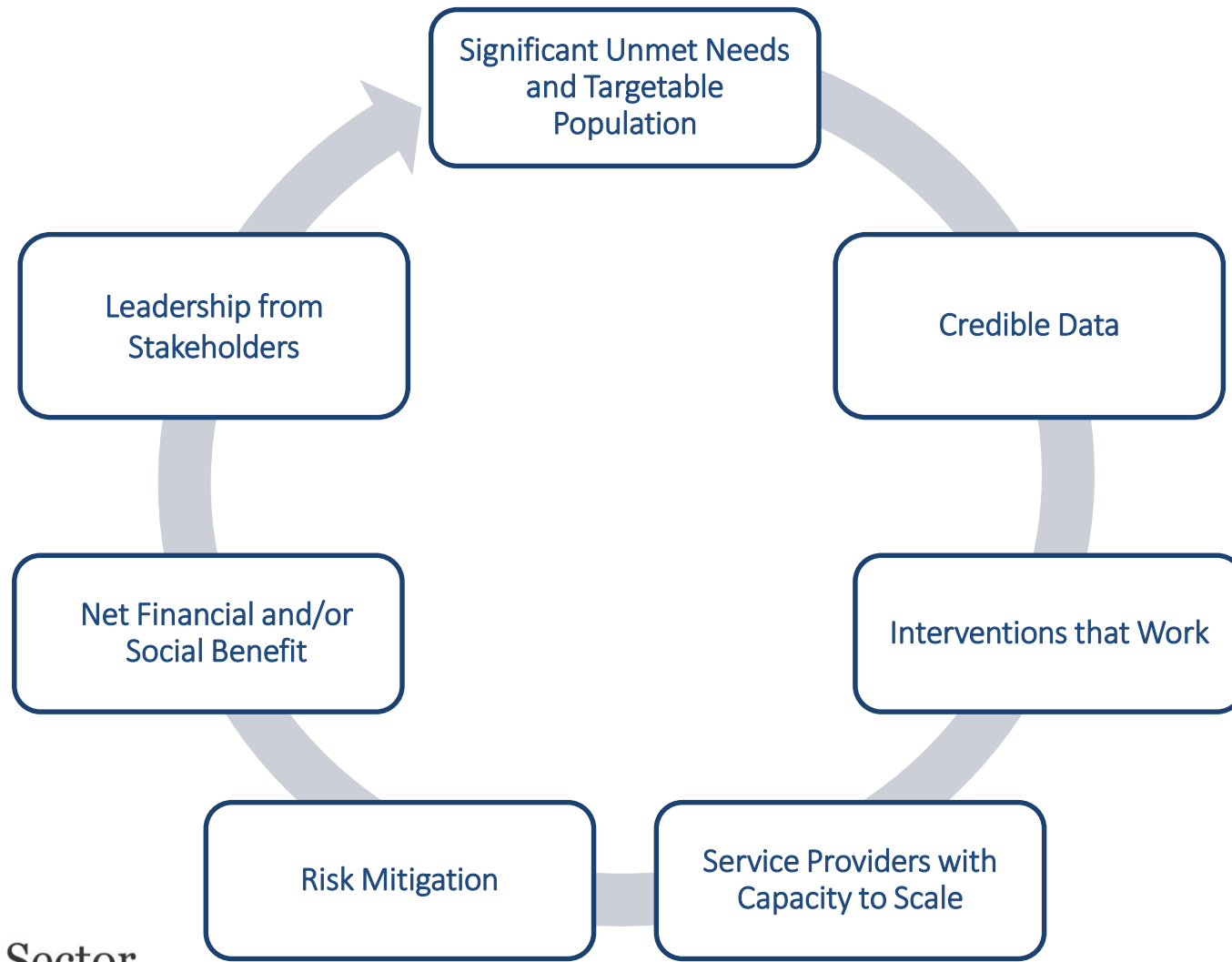


**Financing that bridges timing gap** between government payments for successful outcomes and upfront capital needed to run PFS programs.

\*Social Impact Bonds (SIBs) are a type of SIF

# When Does PFS Make Sense?

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# PFS Momentum Across the Country



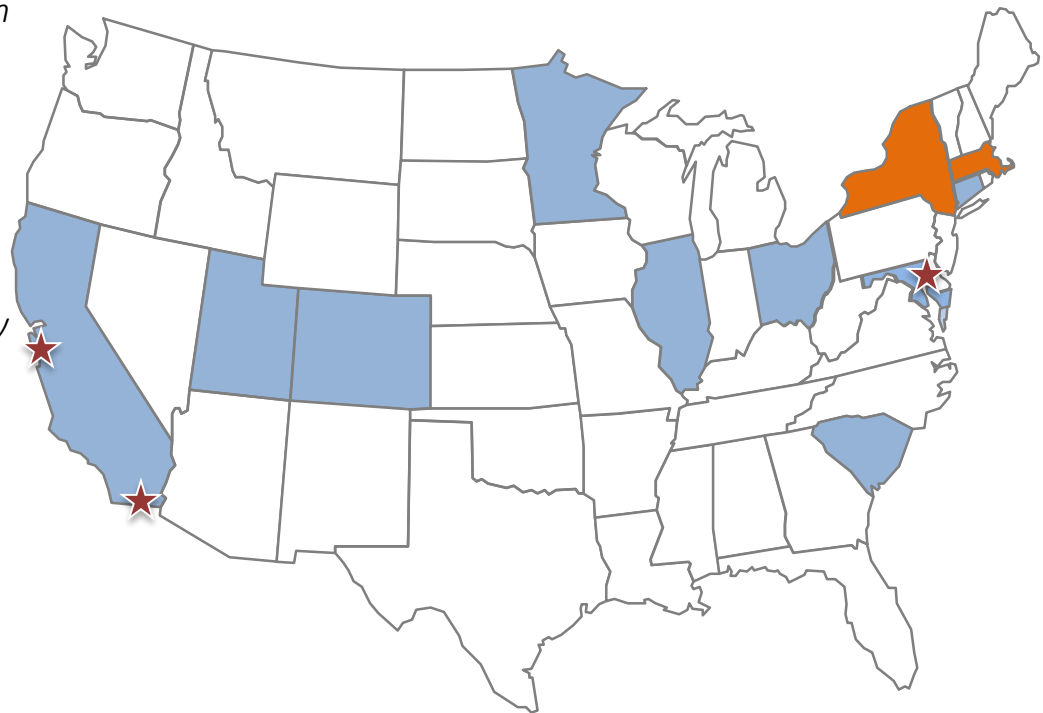
## Active Project Construction/Feasibility

- Cuyahoga County, OH – *Homelessness/Foster Care*
- Illinois – *Dually Involved Youth*
- New York State – *Juvenile Justice*
- Santa Clara County, CA – *Chronic Homelessness*
- Santa Clara County, CA – *Mental Health*
- ★Alameda County, CA – *Asthma*
- ★Baltimore, MD – *Asthma*
- Connecticut – *Child Welfare*
- Denver, CO – *Homelessness*
- ★Fresno County, CA – *Asthma*
- Los Angeles County, CA – *Feasibility*
- Los Angeles County /First 5 – *Feasibility*
- Minnesota – *Homelessness*
- Orange County/First 5 – *Feasibility*
- San Francisco County, CA – *Feasibility*
- Salt Lake County, UT – *Feasibility*
- South Carolina – *Early Childhood*
- Washington, DC – *Teen Pregnancy*



## Launched Projects

- Massachusetts – *Juvenile Justice*
- New York – *Justice/Workforce Development*
- New York City – *Juvenile Justice*
- Salt Lake City, UT – *Early Education*



# Key Players in a PFS Deal

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## Government / Payor

- Initiates contract and identifies lead agency and/or provider(s)
- End payer for successful outcomes

## Lead Agency

- Serves as contract holder and service project manager
- Negotiates PFS contract and identifies service providers/subcontractors
- Can also provide direct services

## Service Provider(s)

- Delivers services
- Receives complete cost coverage; may receive performance payments

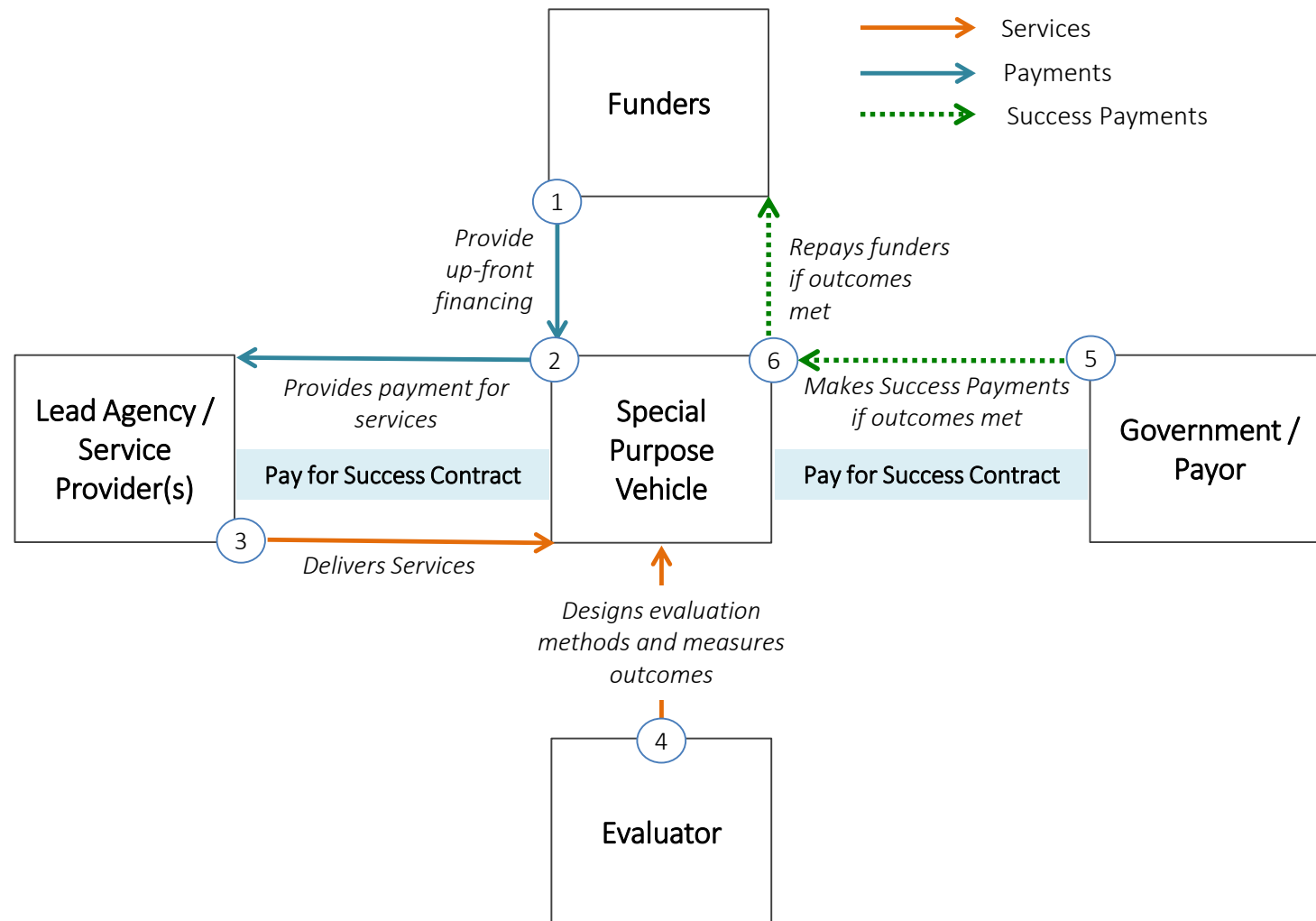
## Funder(s)

- Provide working capital to lead agency/providers
- May lose capital if project unsuccessful or be re-paid through government success payments

## Evaluator

- Supports rigorous evaluation design; measures progress towards outcomes based on contract requirements

# Pay for Success Structure



# Opportunity for Asthma with Pay for Success

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## 1 Establish or Expand Capacity to Scale Interventions

- Identify a means to establish or expand capacity of preventative asthma programs to serve more clients and enable programs to scale interventions

## 2 Assess Effectiveness of Interventions

- Enable programs and stakeholders to assess the effectiveness of asthma interventions through a more rigorous evaluation

## 3 Explore Performance-based Contracting

- Test and explore the use of PFS or outcome-driven contracting for future asthma intervention programs

## 4 Attract Additional Sources of Funding

- Attract a new source of funding to pay up-front needs of service provision, in particular for programs that have proven to be effective

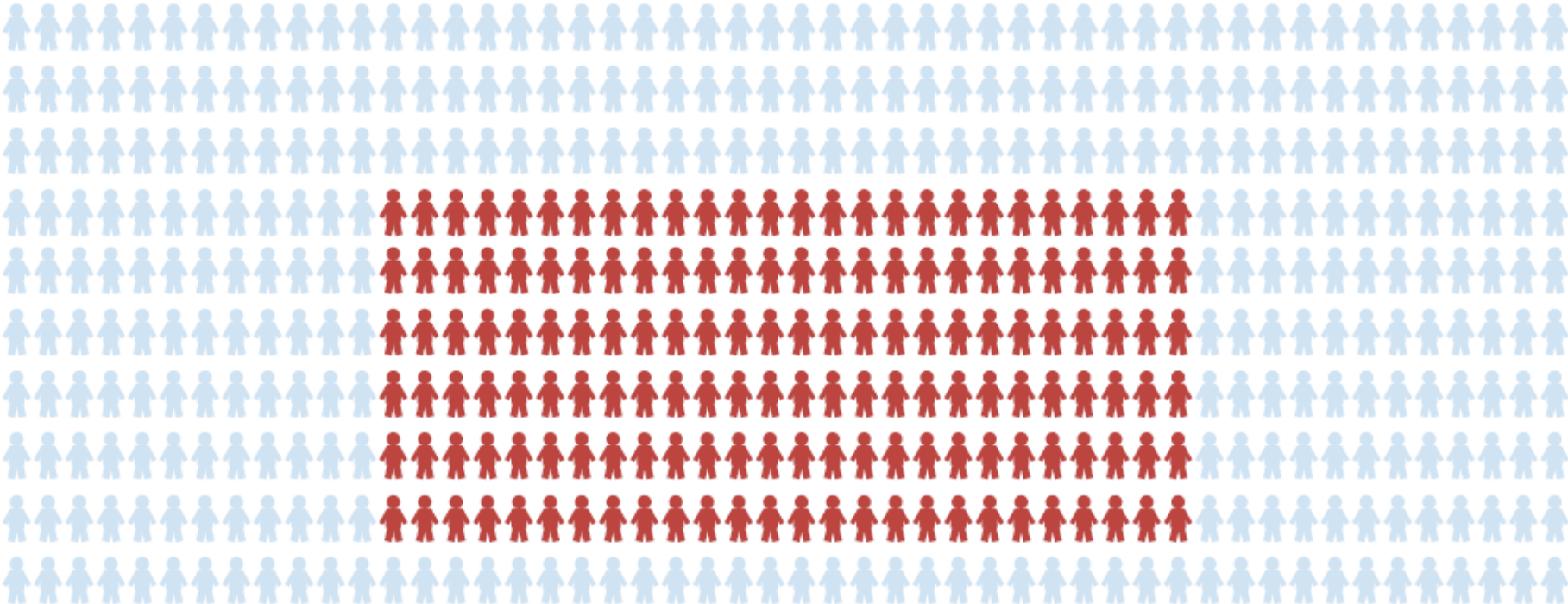


## **Asthma Impact Model for Fresno (AIM4Fresno)**

*Using Social Impact Financing to Improve Asthma Outcomes*

**Webinar: September 29, 2014 • Childhood Asthma Leadership Coalition**

# Asthma in Fresno: A Crisis for Children and Community



**20.2%** children 5-17 diagnosed with asthma\*

Every day, **20** go to the ER and **3** hospitalized for asthma

**\$34.8M** per year for asthma-related ER and hospitalizations

*\* significantly higher for some race/ethnicity and socioeconomic groups*



# Asthma: A Business Case for Prevention



## Asthma Control: Home-Based Multi-Trigger, Multicomponent Environmental Interventions

### Economic Review

Cost-benefit studies show **return of \$5.3 to \$14.0** for each \$1 invested.

[www.thecommunityguide.org/asthma/multicomponent.html](http://www.thecommunityguide.org/asthma/multicomponent.html)

# PEDIATRICS®

Published online February 20, 2012  
Pediatrics Vol. 129 No. 3 March 1, 2012  
pp. 465–472  
(doi: 10.1542/peds.2010-8472)

### Article

#### Community Asthma Initiative: Evaluation of a Quality Improvement Program for Comprehensive Asthma Care

Elizabeth R. Woods, MD, MPH<sup>a</sup>, Urmi Bhaumik, MBBS, MS, DSc<sup>b</sup>,  
Susan J. Sommer, MSN, RNC, AE-C<sup>a</sup>, Sonja I. Zinlel, PhD<sup>c</sup>,  
Alaina J. Kessler, BS<sup>a</sup>, Elaine Chan, BA<sup>a</sup>, Ronald B. Wilkinson, MA,  
MS<sup>d</sup>, Maria N. Sesma, BS<sup>a</sup>, Amy B. Burack, RN, MA, AE-C<sup>b</sup>,  
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Deborah U. Dickerson, BA<sup>b</sup>, and Shari Nethersole, MD<sup>b,h</sup>

Twelve-month data show a **significant decrease** in any ( $\geq 1$ ) **asthma ED visits (68%)** and **hospitalizations (84.8%)**.

<http://pediatrics.aappublications.org/content/129/3/465.abstract>



# Asthma Impact Model for Fresno (AIM4Fresno)

## *Intended Outcomes for Phase I (demonstration project)*

- **Reduce the rate of asthma emergencies** among 200 high-risk children enrolled in Medi-Cal in Fresno:
  - $\geq 30\%$  lower asthma-related emergency department (ED) visits
  - $\geq 50\%$  lower hospitalizations
- **Measure health care cost savings for payers** using insurance claims data; reduction in asthma-related health care services for program participants compared to randomized control group
- **Develop an impact investment strategy** to finance scale-up of the program in Phase II

Is a *Social Impact Bond* a viable strategy for financing a home-based asthma program for high-risk children covered by Medi-Cal?



# Asthma Impact Model for Fresno (AIM4Fresno)

**16,000 children (potential)**

**↑health, ↓ER 30%, ↓IP 50%**

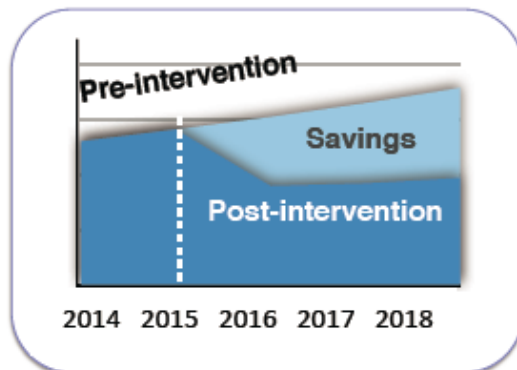
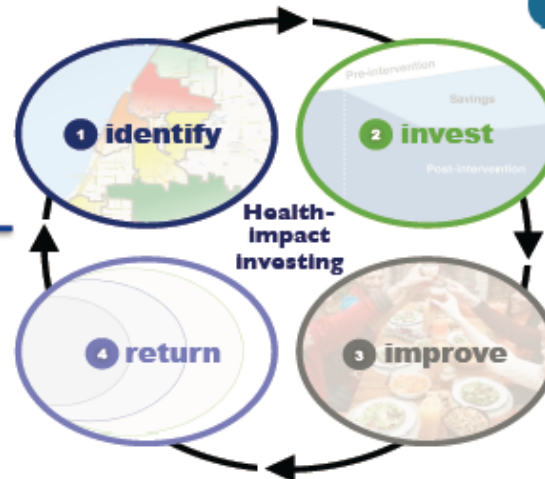
**\$1K-\$5K (estimated net savings PPPY)**



**grant funding for 200 children**



**investors for scale up**



**RCT using insurance claims data**  
**Validated by third-party actuary**



**Home-based education & environmental remediation**

## **Philanthropy as a Bridge to Social Impact Investing**

- **Validate existing evidence-base** with rigorous evaluation design & insurance claims data
  - **Measure actual health care utilization and cost reductions**
- **Confirm risk/return proposition** will attract impact investors (philanthropy to commercial investors)
- **Identify payer(s) of outcomes** for scale-up

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# Appendix

## Potential Scale Up of AIM4Fresno

### Goal:

- Improve health, social and financial outcomes for high-risk children with asthma
- Reduce ER 30% & inpatient 50%

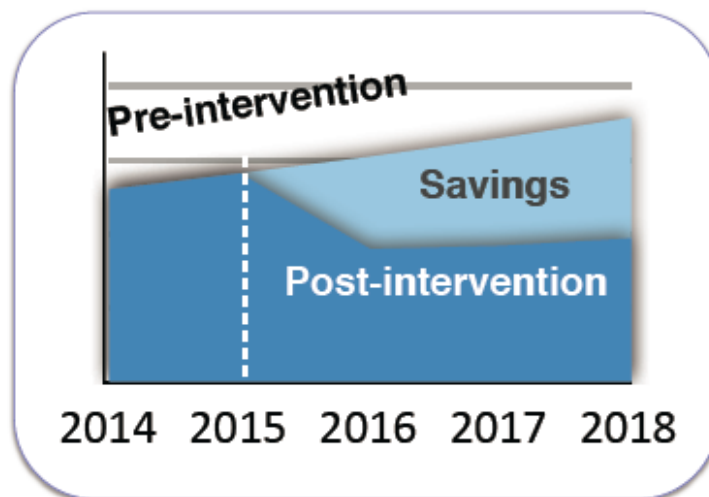
### Potential eligible population:

- **16,000 children** (3-19) covered by Medi-Cal with ER or urgent care visit for asthma in past 12 months

### Estimated net savings:

- \$1,000-\$5,000 per child

*example only*



# **GHHI's Pay for Success Model**

Ruth Ann Norton  
September 29, 2014

# GHHI's model shifts funding towards preventative care in the home setting

## Today...



There are millions of homes across the country that are contributing to the poor health of their residents



GHHI finds these homes and 'braids' public and private funding from numerous sources to provide the necessary improvements



This intervention yields proven results, including reduced medical expenses, yet the beneficiaries of these savings are not involved

## ...the long-term goal



There are millions of homes across the country that are contributing to the poor health of their residents



The medical field recognizes the home as a key part of the continuum of care and payers provide funding for home improvements



This funding is provided to GHHI through a more streamlined process so they can scale their operations and serve more homes

**Our assumption is that large public and private payers will not shift funding until the intervention is proven at scale**

# Organizational history

- 501(c)3 nonprofit organization established in 1986. Headquartered in Baltimore, Maryland
- Direct service programs have helped more than 25,000 Baltimore families, including over 1,600 asthma patients since 2000.
- Launched a national initiative in 2008 to transform the country's fractured and siloed approach to the delivery of energy and health-based housing interventions.
- Currently there are 17 GHHI cities around the country, and 5 more are onboarding for certification.
- Funding support from federal, state and local agencies, and philanthropy

# GHHI: The Team

## Environmental Health Educator

- Resident education
- Pre and post client health surveys
- Action plans for the residents
- Healthy Homes Maintenance Kit
- Referrals to partners for other services



## Environmental Home Assessment Technician

- Pre and post intervention environmental assessments and audits
- Comprehensive Health and Housing Assessment Tool
- Complete scopes of work for the properties

## Housing Intervention Crews

- Executes cross-discipline scopes of work (next slide)

## Data Collection

## Quality Assurance & Quality Control





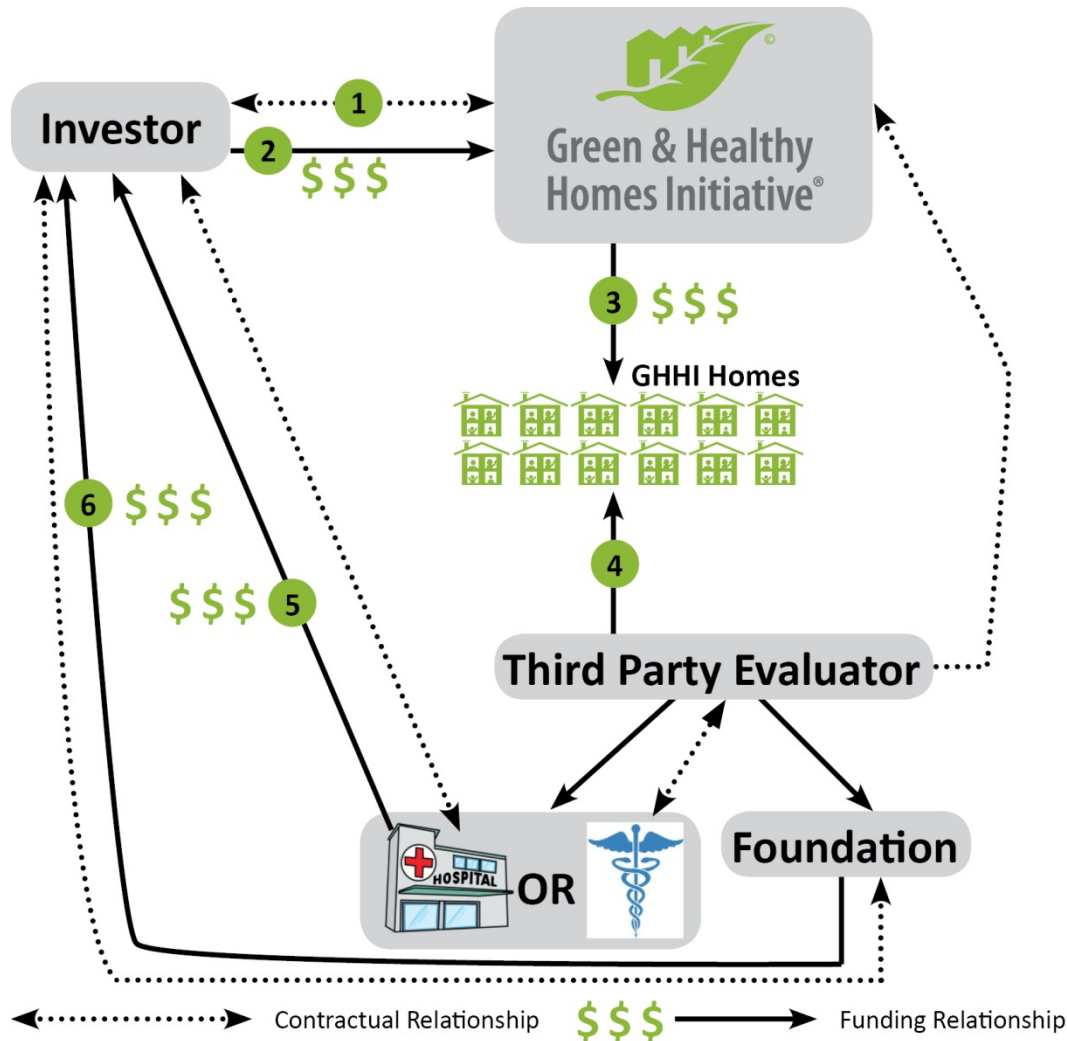
# Interventions

Health & Safety	Green
Asthma Trigger Reduction	Energy Audit
Lead Hazard Reduction	Weatherization
Health & Safety Assessment	Insulation
Integrated Pest Management	Reducing Air Infiltration & Leakage
Trip & Fall Risk Reduction	Energy Efficiency Measures
Fire & Injury Prevention Measures	Remediating Gas Leaks & CO
Health & Safety Education	Energy Efficiency Education

# Impact on asthma

- 66% reduction in asthma hospitalizations
- 28% reduction of emergency room visits
- 67% reduction in home-based asthma triggers
- 62% increase in no missed school days
- 88% increase in asthma not interfering with work

# GHHI's Pay for Success Model



## Structure & intervention

- 1** All involved parties sign agreements to support the structure
  - Investor & GHHI
  - Investor & Hospital
  - GHHI and Evaluator
  - Hospital & Evaluator
  - Investor & guarantor
- 2** Investor provides GHHI with the first tranche of the financing (three draws)
- 3** GHHI provides services to 1/3 of the total homes in year 1, 1/3 in year 2, and 1/3 in year 3
- 4** The third party evaluator assesses the program's effectiveness and determines if savings targets are met

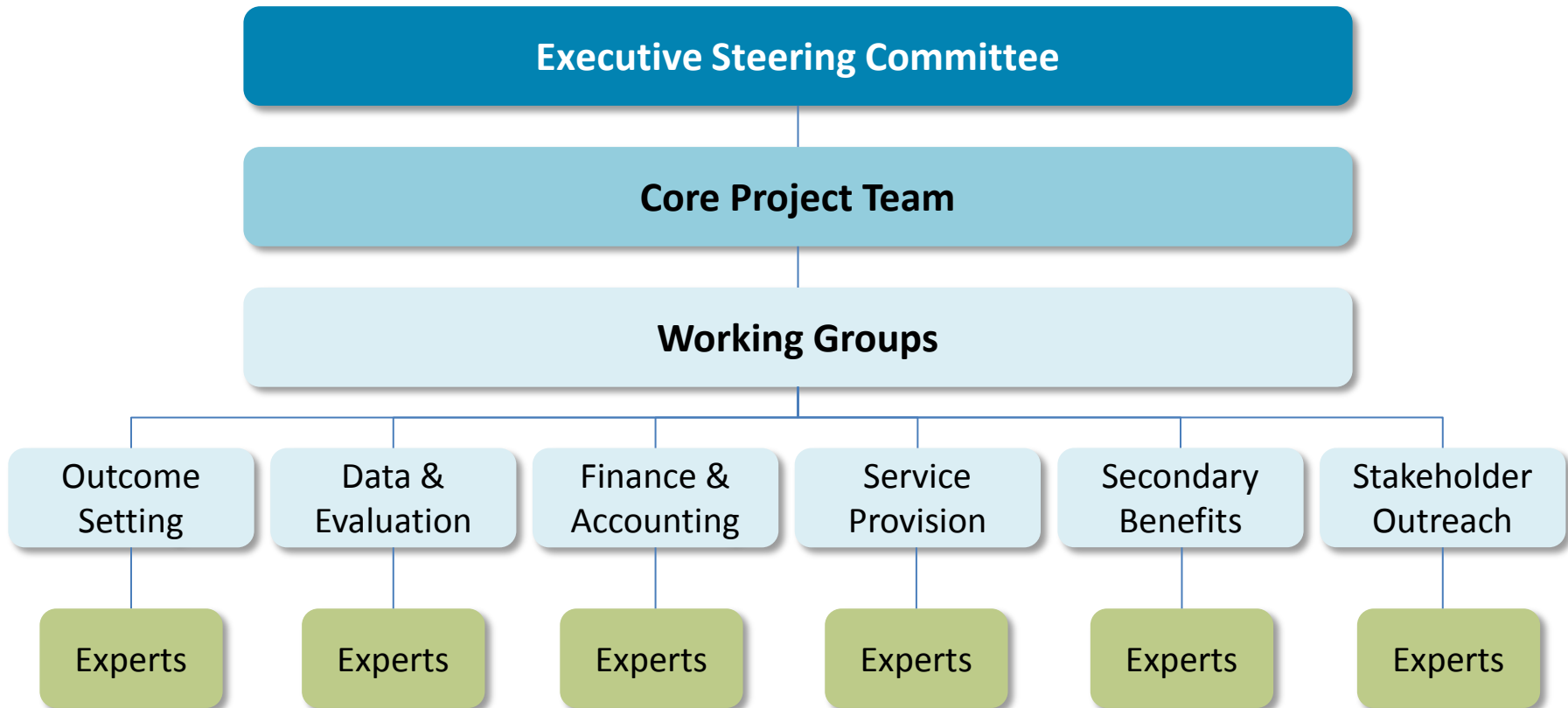
## If the targets are met...

- 5** The hospital / payor repays the Investor's principal and the interest that has accrued

## If the targets are not met...

- 6** The investor's guarantee is called, repaying the Investor at a set %; Investor loses the balance

# Project development structure



# Innovations

- The first pay for success structure that **engages a private institution as the payor** instead of the government
- **Multiple secondary benefits will be tracked** beyond the savings to the healthcare entity – impact on Medicaid, school and work attendance, energy consumption, and neighborhood stabilization
- The first time **retail investors will be able to participate in a pay for success contract** for as little as \$20

# Questions?

**Ruth Ann Norton**

President & CEO

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# Alameda County Pay For Success Asthma Initiative

## *SETTING THE STAGE FOR COLLECTIVE IMPACT*



Alameda County Public Health Department  
Celebrating Healthy People in Healthy Communities

# Coordinating for Collective Impact

## **Alameda County Healthy Homes Department**

- Project Management
- Intervention Implementation

## **Alameda County Department of Public Health**

- Project Management
- Intervention Implementation

## **Better Health East Bay— Sutter Health Foundation**

- Invest financial support for community engagement
- Provide in-kind assistance with medical “hot-spotting” for high utilizers

## **Turner Consulting and Actuarial Services, LLC**

- Review patient utilization data

## **Third Sector Capital Partners**

- Review our application of PFS strategy and
- Guide preparation for securing private investors in Phase 2, if appropriate

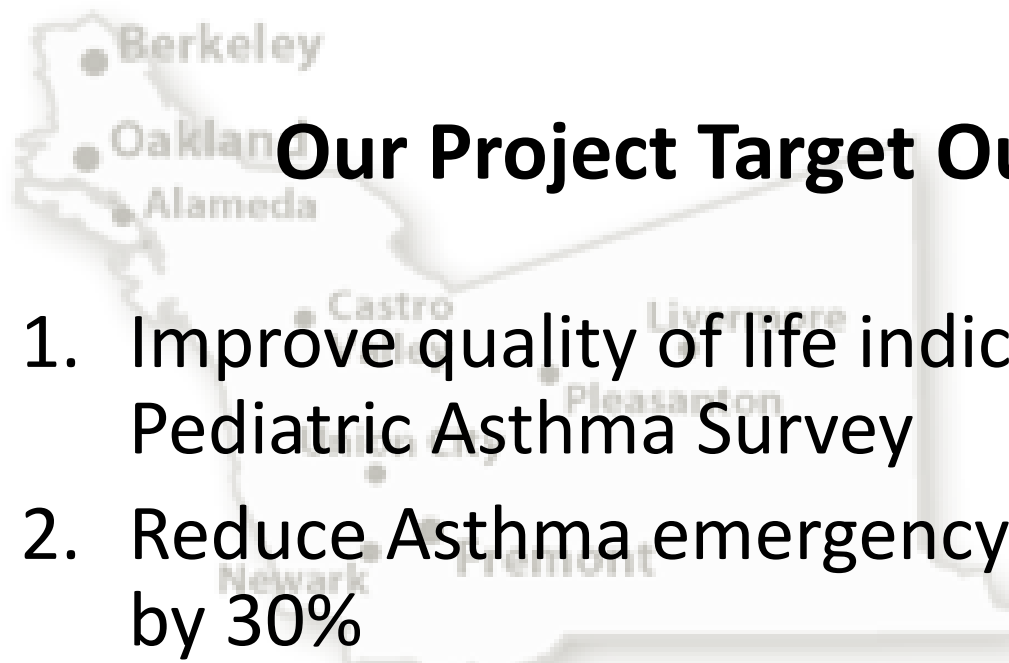
## **UC Berkeley School of Public Health/Research for Action Institute**

- Review intervention design
- Evaluate results

## **Impact4Health, LLC**

Project Facilitation, Coordination & Technical Support





## Our Project Target Outcomes

1. Improve quality of life indicators based on Pediatric Asthma Survey
2. Reduce Asthma emergency department visits by 30%
3. Reduce Asthma related hospitalization days by 50%
4. Reduce missed days of school by 30%
5. Improve housing conditions through occupant education and technical assistance



# Bringing Together Successful Interventions:

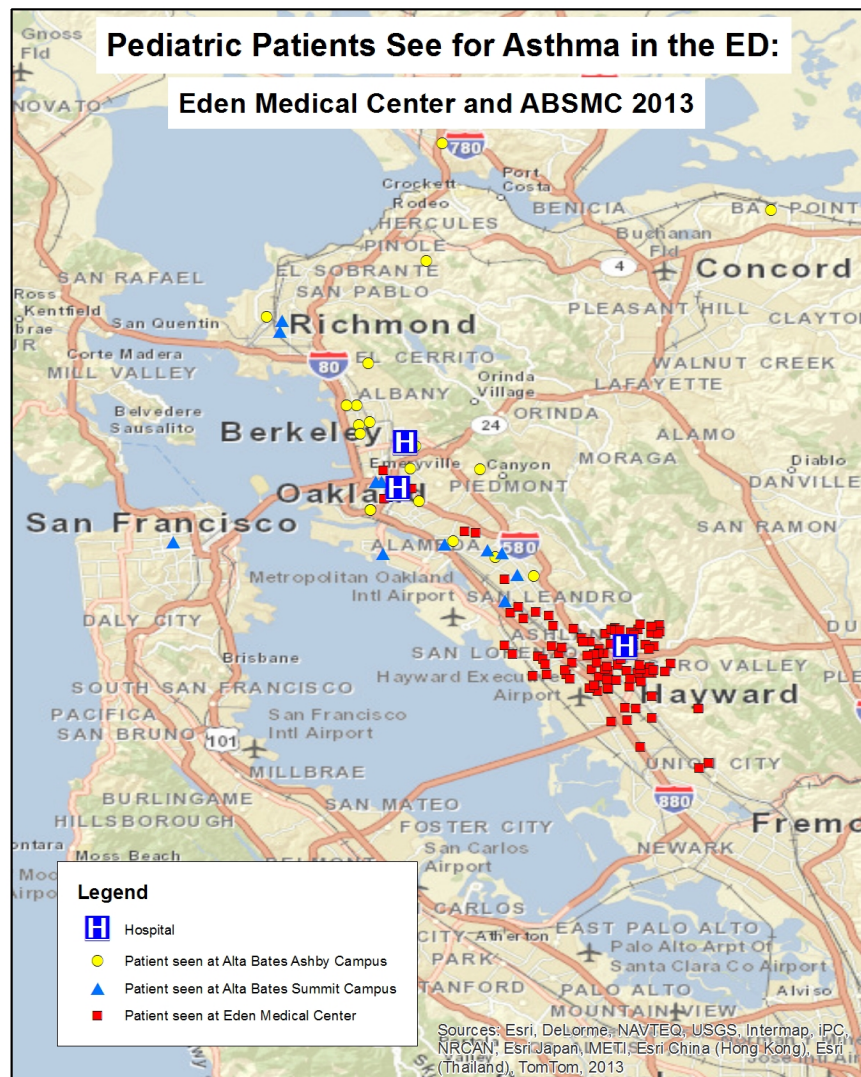
## Asthma START

- Conduct psycho-social assessment of health needs
- Provide health education
- Insure Asthma management plan is in place
- Check-in to affirm behavior changes
- Refer to Healthy Homes for environmental and home remediation

## Department of Healthy Homes

- Conduct behavioral health assessment of needs
- Healthy home visual assessment
- Conduct environmental treatment and removal of known asthma triggers
- Address safety issues, provide technical assistance to property owner and refer to
- Use code enforcement, as necessary

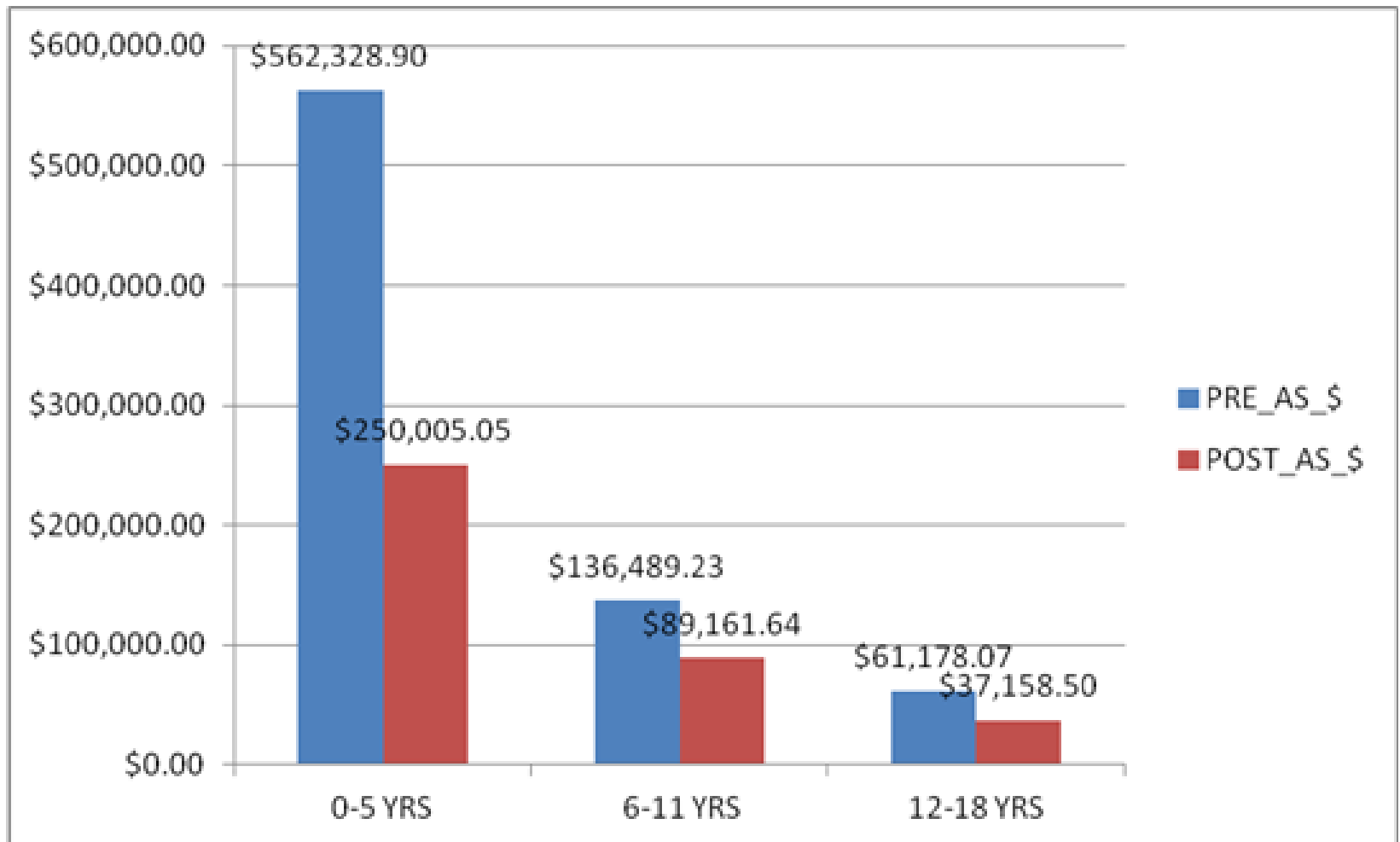
# Leveraging Unique Opportunity to Identify High Utilizers



***For One Hospital Only***  
( Primary Diagnosis Only)

Diagnosis	Number of Encounters
Total Number of Encounters in ED	109,514
Total Number of Encounters with Dx as Asthma	1,812
Total Number of Encounters Peds Asthmatics	180

# Building on Existing Success



**There was as much as a 56% difference in cost of care for pediatric patients (0 – 5 yrs) at Alameda Alliance during the 12 months after receiving Asthma START services.**

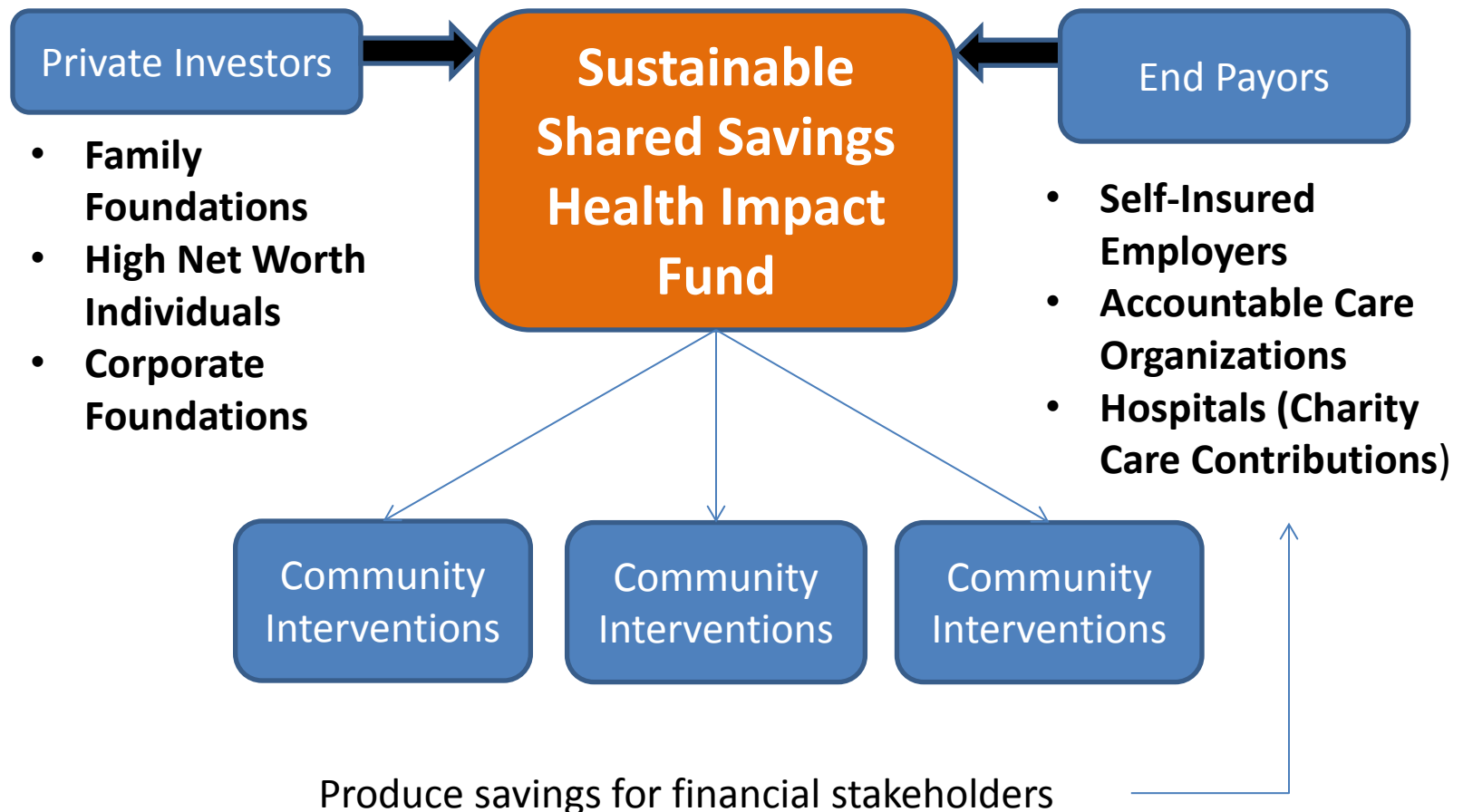
# The Potential ROI

- 65% of the children in Asthma START visited the ED during the 6 months prior to starting the program (average cost: **\$3,500**)
- 45% of the children in Asthma START had been hospitalized (average cost **\$16, 585**)

Pilot Project Budget Components	Program costs Per Participant	Healthcare Interventions	Estimated Treatment Costs	ROI
Intervention Alone	\$2,500	1 hospitalization and 1 ED visit	\$20,085	7.03
Intervention and Direct Costs	\$3,432	1 hospitalization and 1 ED visit	\$20,085	4.85

# Engaging a Local Community Foundation

## Community Foundation as Financial Intermediary



# For More Information

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Please join the Pay For Success  
Innovations Community

# Questions?

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