Asthma Impact Model for Fresno (AIM4Fresno)
Building the Foundation for Health Impact Investing

Community Action to Fight Asthma • 2013 Annual Meeting
May 15, 2013
Health Impact Bond®

Raise capital to address the underlying social and environmental causes of disease, in exchange for a share of future health care cost savings (shared savings model)

- Developed by Collective Health in 2011 with support from The California Endowment and UC Berkeley
- First-ever HIB to launch in Fresno – focus on asthma
- Pursuing asthma bonds in additional markets and expansion to other diseases
Health Impact Bond®
How It Works

1. Where are the hot spots – and who is paying?

2. What is the investment and risk/return?

3. What intervention and service providers are evidence-based?

4. Can the savings be validated, shared and reinvested?

ongoing learning • iterative/adaptive • sustainable reinvestment

financial stakeholders

share-of-savings contract

investors

Health Impact Bond®

identify

invest

improve

return

validated savings

independent evaluators

public/private insurers
employers
HC providers

insurance/financial actuary

health, lower costs

service providers

foundations
individuals
institutions

capital to pay for intervention

track record of results

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Health Impact Bond®
Potential Applications

• Asthma and COPD
• Diabetes prevention
• Mental illness (especially with comorbidity), addiction/recovery
• Superutilization/ED/readmission reduction
• Onsite/location-based clinics and telehealth
• At-risk prenatal/maternal
Philanthropy as a Bridge to Health Impact Investing

**AIM4Fresno: An Asthma Demonstration Project**

- **Build the business case** for health-focused impact investment
  - Advance health policy: Better health outcomes at lower costs

- **Minimize risk** while creating a pathway to scale
  - Capture the “right” data for impact investment strategies
    - Investors: Optimize risk allocation by quantifying risk/return with medical claims
    - Payers of Outcomes: Mapping allocation of risk among various health care payers (public and private)
  - Prepare service providers for outcomes-based financing
    - Identify key operational drivers for successful outcomes achievement
    - Standardize operations to prepare for scale-up
  - Build government support early
    - Navigate legislative and budgetary process
    - Eliminate potential perverse incentives
    - Design for sustainability
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 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

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

http://pediatrics.aappublications.org/content/129/3/465.abstract
**AIM4Fresno Project Components**

1. **Target Population & Savings Analysis**

   Medi-Cal plans
   Self-insured employers

   → Lower ED (30%) & hospital (50%)
   → Save $7,773 per person per year

2. **Funding & Investment**

   Phase I: 200 individuals

   Phase II: 3,500 individuals

3. **Intervention Design & Implementation**

4. **Savings Methodology & Validation**

   Actuarial-based savings methodology using insurance claims data:
   - Randomized control study
   - Baseline/lookback period
   - Trend analysis post-intervention

   Validation: third-party actuary
AIM4Fresno: Potential Scale Up
Projections – 1,100 children

1 **identify** opportunity
- Reduce ED visits (30%) and hospital stays (50%)
  - Medi-Cal health plans
  - Self-funded employers

$8.5M savings opportunity

2 **invest** in prevention
- Bond investors provide upfront capital
- Agreed interest rate and payback period

$3M upfront investment

3 **improve** outcomes
- Evidence-based intervention by qualified service providers

Home-based multi-trigger, multi-component asthma intervention

4 **return** on investment
- Payers share validated savings

$3M principal + interest repaid to bond investors
- Intermediary/infrastructure costs
- Most of savings is retained/re-invested by financial stakeholders (plus ongoing savings after first year)

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4 return on investment

- Payers share validated savings

Per Person Per Year

Emergency and Hospital Costs

Pre-intervention: $16,371
Post-intervention: $8,598
Savings: $7,773

Program Investment and Infrastructure

$2,728

Net Savings

$5,045

Net ROI

1.8

Assumptions

Unit Costs

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<th></th>
<th>ED visit</th>
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<tr>
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Avg # of Units

Pre-Intervention: 1.50
Post-Intervention: 0.75

Reduction

Due to Intervention: 30%, 50%

Intermediary/infrastructure costs

Most of savings is retained/re-invested by financial stakeholders (plus ongoing savings after first year)
Impact Investing to Scale
Beyond the Demonstration Project

• **Validate existing evidence-base** with rigorous evaluation design
  – Coupling asthma education with home remediation significantly reduces asthma-related health care expenditures
  – Asthma-related cost savings are greater than the intervention cost

• **Confirm risk/return proposition** will attract impact investors (philanthropy to commercial investors)
  – Variance analysis indicates consistent outcomes achievement
  – Articulate operational risk and mitigating strategies through active performance management

• **Identify payer(s) of outcomes** (e.g., state, county, or managed care organization) for scale-up phase
  – Articulate value proposition: health care savings and social value (e.g., reduce school absences and increase worker productivity)
  – Develop roadmap to transition from demonstration to scale-up
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