



Webinar: Impact Bonds in Health

December 12, 2017

#impactbonds

B

Global Economy and Development
at BROOKINGS

Welcome and Introduction



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B | Global Economy and Development
at BROOKINGS

THE BURDEN OF HEALTH COSTS

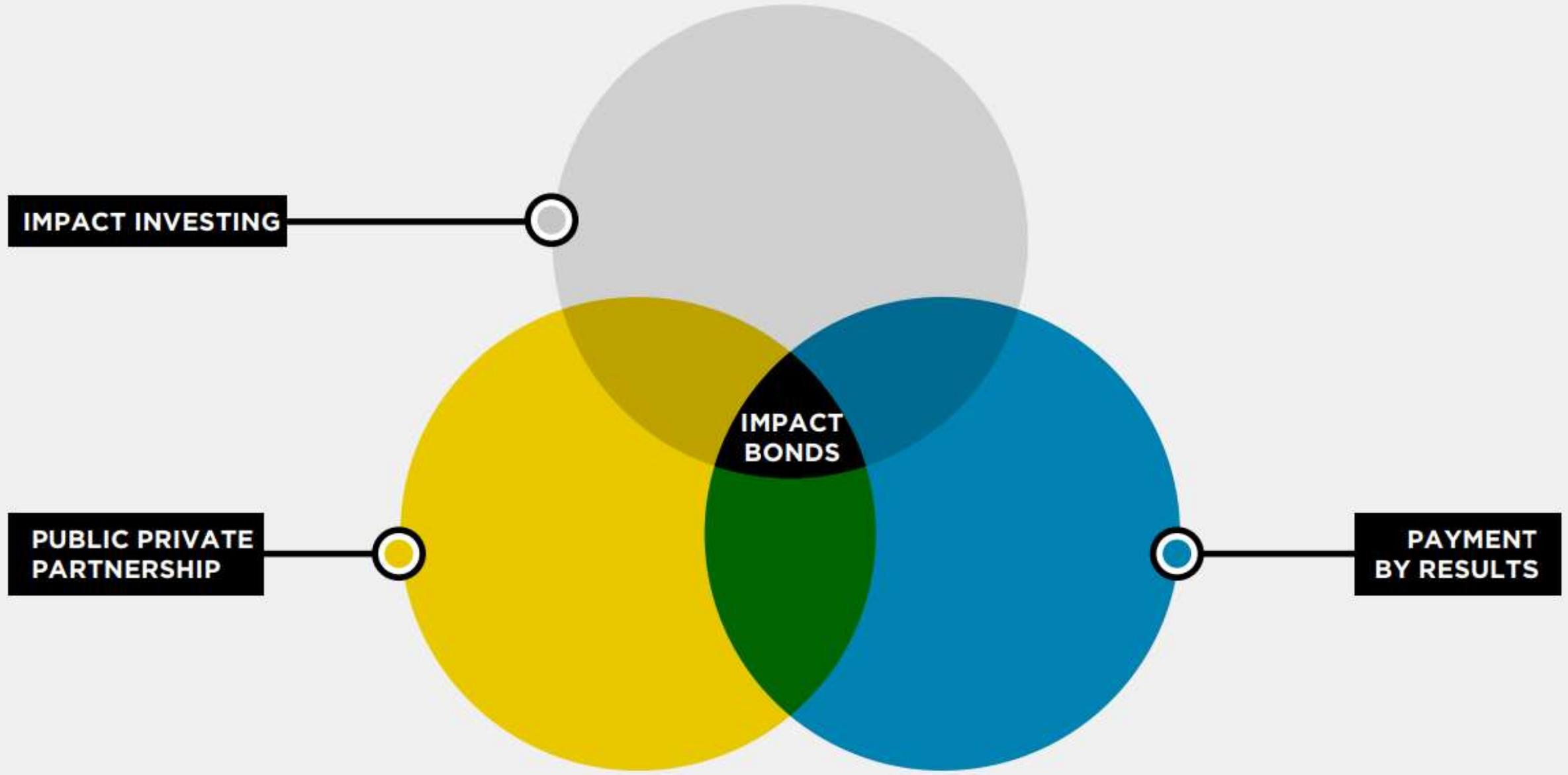
- Achieving the SDG health targets would require new investments increasing over time from US\$ 134 billion annually to \$371 billion by 2030
- By 2020, chronic disease will make up 57% of the global health burden
- In the United States: \$10,348 per person in 2016
- Absenteeism costs employers in US \$226 billion per year



INNOVATIVE FINANCING FOR HEALTH

- Wide variety of innovative financing mechanisms for health: sin taxes, solidarity levy on airline tickets, IFFIm
- Payment by Results in health: e.g. Health Results Innovation Trust Fund at the World Bank
- Social and development impact bonds (SIBs and DIBs): focusing on paying for results in the health sector

IMPACT BOND PRIMER



IMPACT BOND PRIMER

3. The outcome funder repays the investor if the metrics are achieved.

1. The investor provides upfront capital to the service provider to deliver services to a population in need.

INVESTOR

2

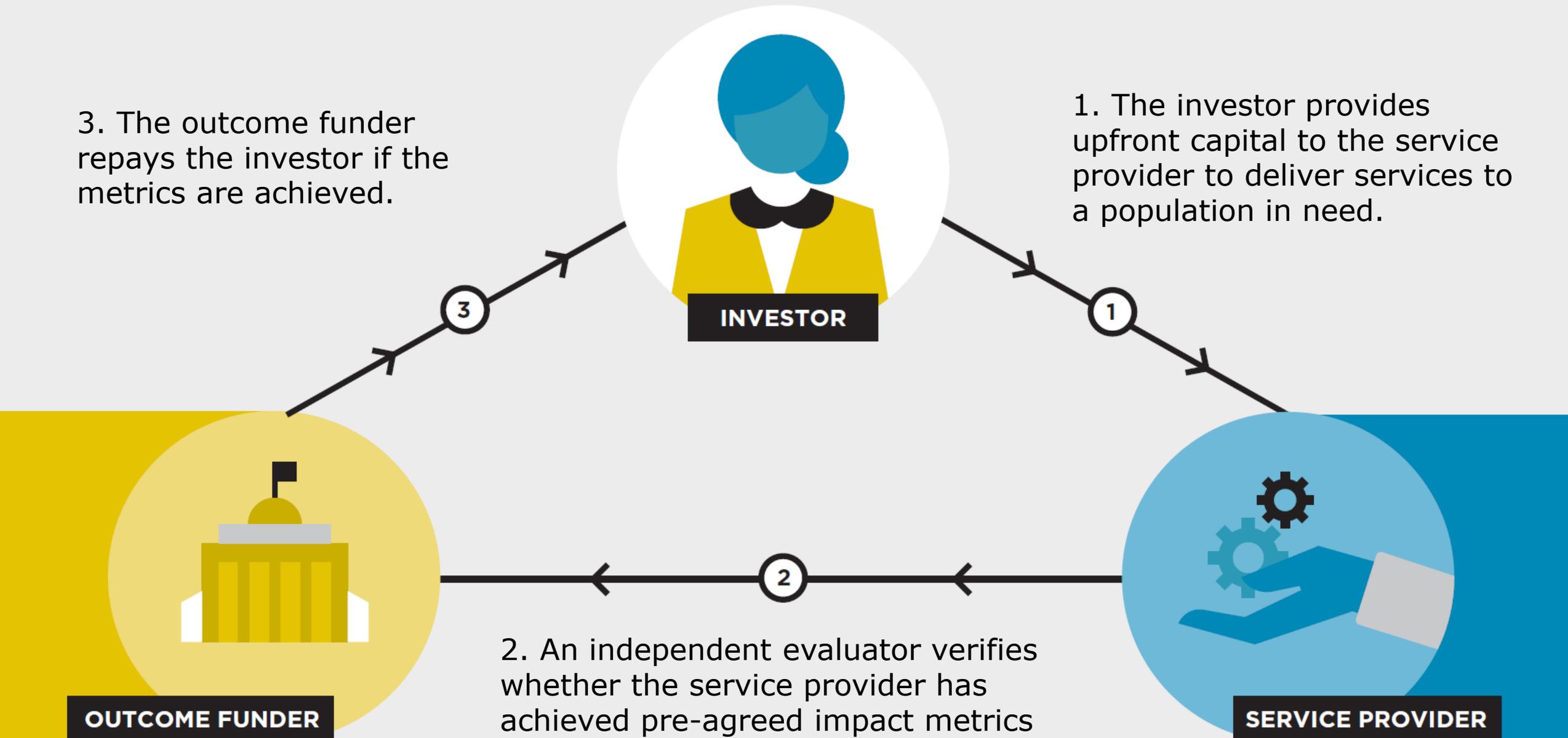
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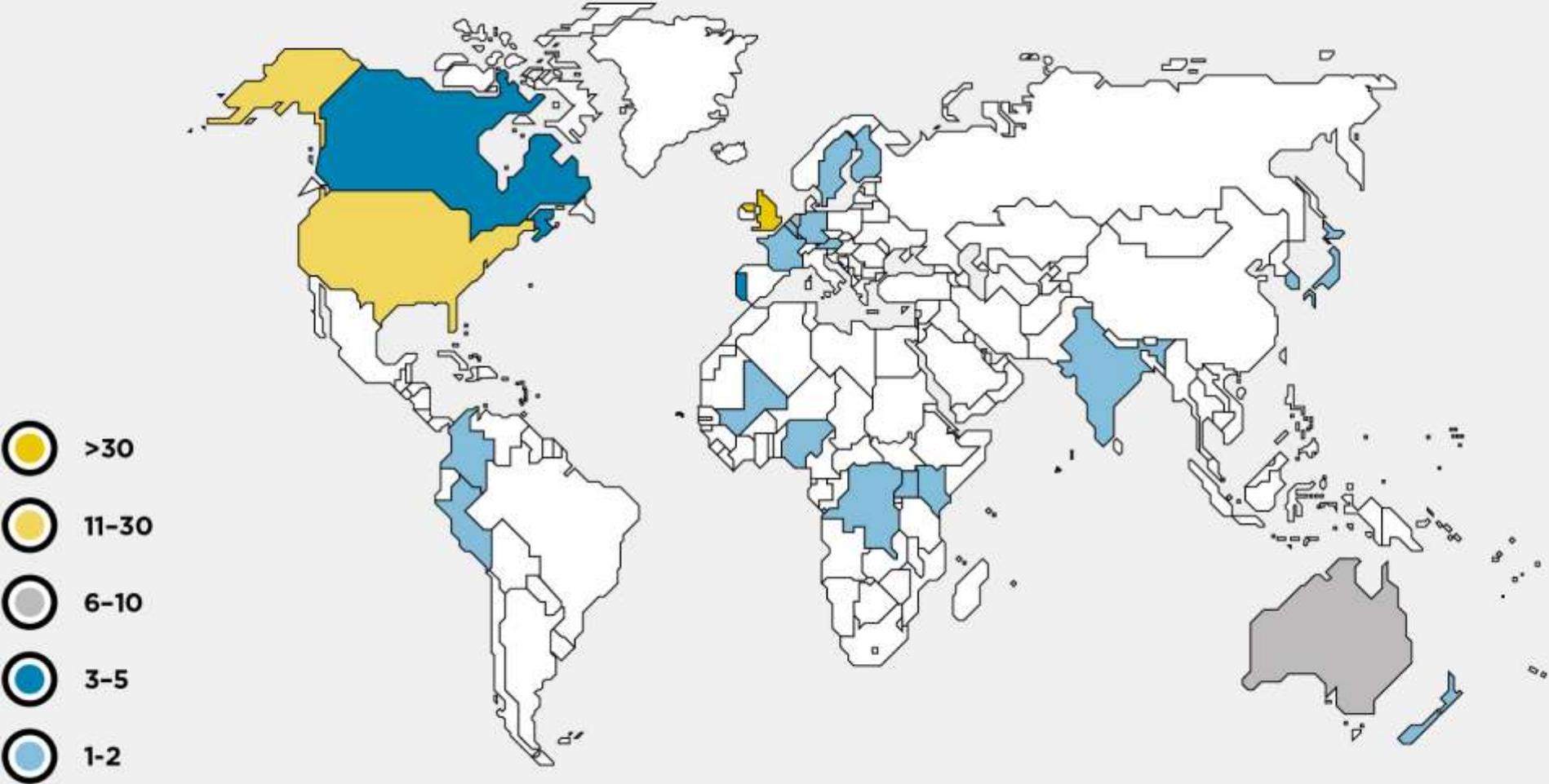
OUTCOME FUNDER

SERVICE PROVIDER

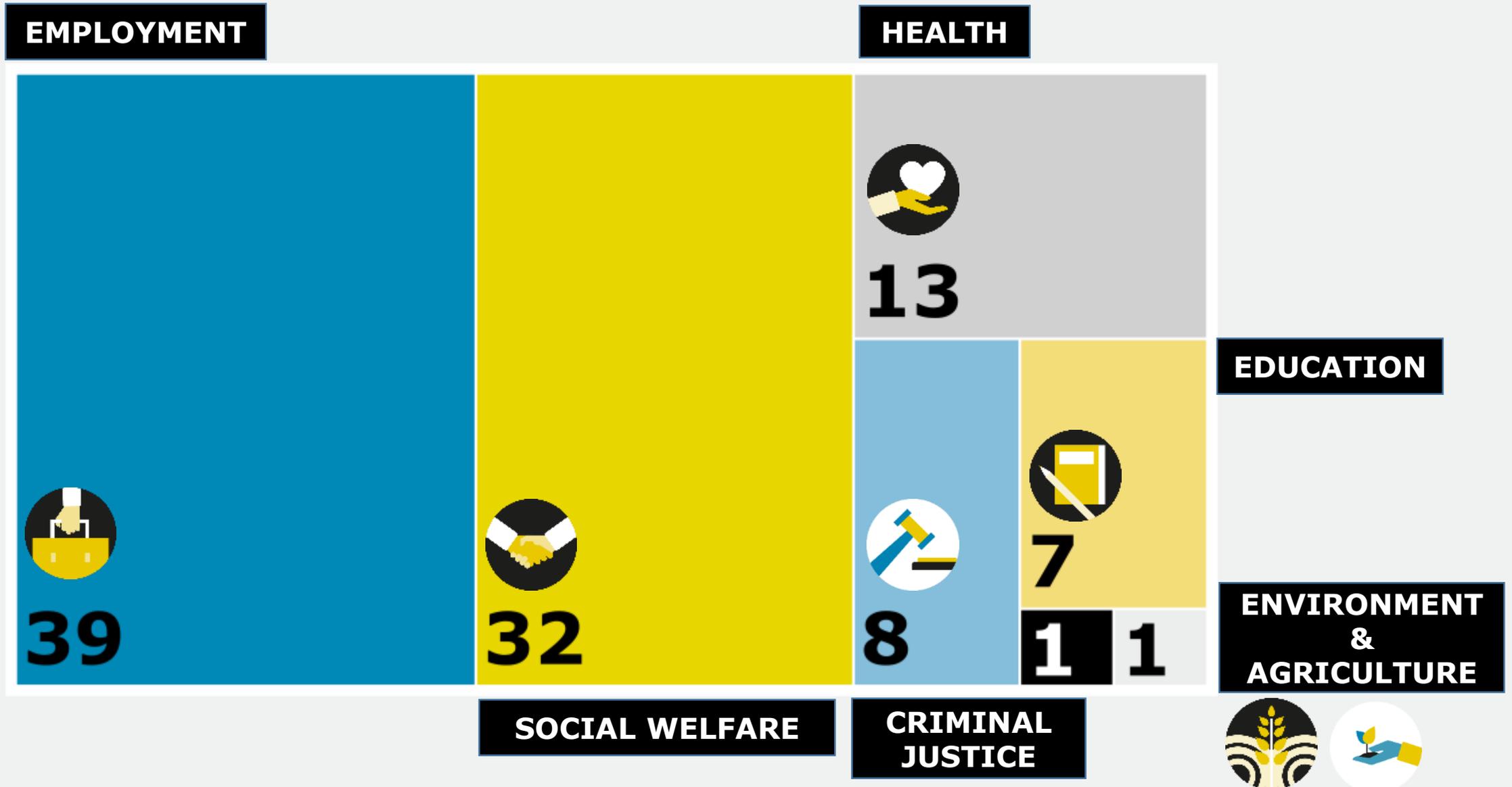
2. An independent evaluator verifies whether the service provider has achieved pre-agreed impact metrics



101 IMPACT BONDS CONTRACTED GLOBALLY



SECTORS: IMPACT BONDS CONTRACTED GLOBALLY



WHY IMPACT BONDS FOR HEALTH?

- Impact bonds in the health field have three potential goals:
 - Preventing illness –reducing direct and indirect costs
 - Reducing indirect cost (social/economic) of illness
 - Finding a cure for disease
- Most contracted impact bonds to date fall into the first category

WHAT DO WE KNOW ABOUT IMPACT BONDS FOR HEALTH?

- 13 contracted impact bonds globally
- Focus areas:
 - Preventive: hypertension, diabetes, maternal and newborn health
 - Reducing indirect costs of illness: reducing sick leave, work reintegration for cancer patients, physical rehabilitation, mental health
- 11 in High-Income, 2 in Low- or Middle-Income countries
- Average contract length of 54 months
- Sum of upfront capital: \$24 million
- A further 9 impact bonds for health in design in LMICs

IMPACT BONDS FOR HEALTH: EXAMPLES

Example: Israel Type II Diabetes SIB



Yaron Neudorfer

CEO

Social Finance Israel

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Impact Bond for Health – Potential, Applications & Tackling Type 2 Diabetes Case Study

Disclaimer: The information in this presentation is not a recommendation or an offer of any securities and is provided solely for your information purposes. While the structure of the Social Impact Bond will be as described below, the specific numbers stated below are solely as examples. Any references to securities listed in this document are not intended to constitute a current or past recommendation, investment advice of any kind, or a solicitation of an offer to buy or sell any securities or investment services. This presentation and the information in it is the sole property of SFI and it is prohibited to make any use of it, including copying, replicating, sending to a third party, without an upfront written consent from SFI.

Why don't healthcare systems focus on prevention?

Prioritizing: Important vs Urgent

- By their nature, healthcare systems are designed to deal with the most urgent problems
- Prevention programs have impacts that can be observed on the long term, and their cost effectiveness must be proven in the short term



Prevention programs are usually risky

- Prevention programs usually contain challenging behavioral change components – creating risk for healthcare providers.
- From the provider point of view, there is a high probability that resources invested in prevention would not yield the desired outcomes
- Eliminating this financial risk can improve financial results for healthcare systems



Traditional healthcare providers are not “experts” in prevention

- Healthcare providers concentrate on treatment and have developed expertise in treatment.
- Prevention is a different kind of expertise, which requires different personnel and different thinking.
- Therefore, although healthcare providers can deliver prevention programs, chances are that an “expert” organization will do a better job



Advantages of SIBs in supporting preventive medicine

Certainty and defined target population

- By definition, SIBs must incorporate rigorous measurement and a predefined target population
- Healthcare providers can prioritize specific populations and issues
- The SIB's predefined timeframe creates funding security for long term preventive programs, reducing the risk of cancellation due to policy change



Reduced risk for healthcare providers

- Healthcare providers benefit from the pooling of resources in cases where economic value is distributed among several players in the system
- Investors bear the financial risks
- Investors bear efficacy risks
- Healthcare providers can continue providing treatment without shifting resources and management attention



Drive innovative solutions and expertise

- The pay-for-success mechanism incentivizes innovative solutions
- Performance management ensures constant efficiency and learnings
- SIBs provide the flexibility to improve upon intervention components, programs or service providers and shift resources to more successful strategies
- The selected service provider has expertise in prevention programs





Considerations for a prevention SIB

Social Impact Potential



Social Need

- Is there a social need for intervention?
- How large is the potential target population?
- What would be the impact on Israeli society?

Former Knowledge

- Is there any existing knowledge in Israel?
- Are there any existing measurements of success?

SIB Compatibility

Former Knowledge & Behavioral Change

- Is there a SIB operating abroad?
- Does the intervention incorporate behavioral change?

Operability

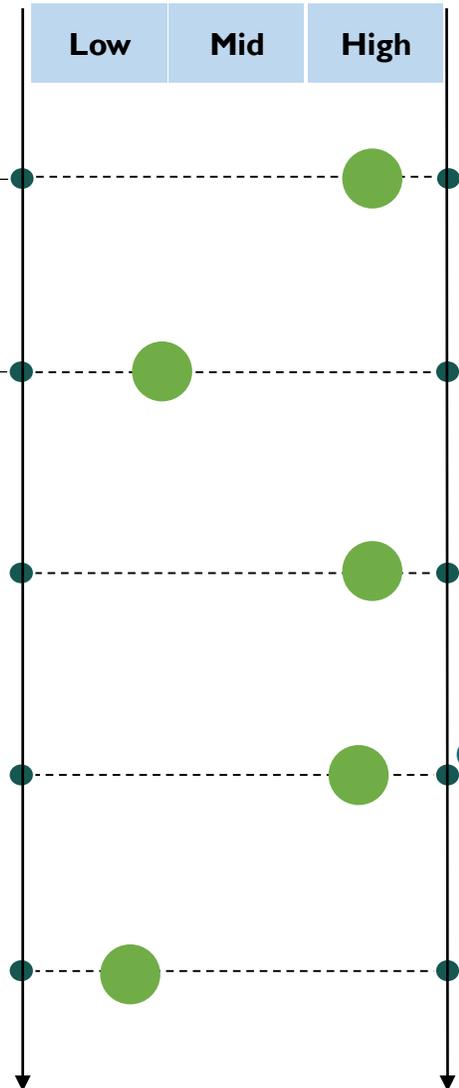
- Among how many players are the economic benefits distributed? (preferably >1)
- Is the government/ healthcare system willing to pay for success?
- Are there any potential service providers?

Compatibility with the SIB Model

- Are the economic benefits detectable and measurable?
- Are the potential results measurable?

Investors' Risk

- Has the intervention been tested before (scaling-up)?
- Is the intervention model innovative?



Tackling type 2 diabetes SIB



Impact investors

5.3\$ Million upfront capital



Treating 2,250 high risk pre-diabetics

Professional Intervention

Raising awareness, nutrition adherence, physical activity and support groups

Innovative solutions

Means and applications to monitor physical activities, E.g., mobile app, wearables, etc.

HMOs

Data, tests and ongoing monitoring

Pay for success

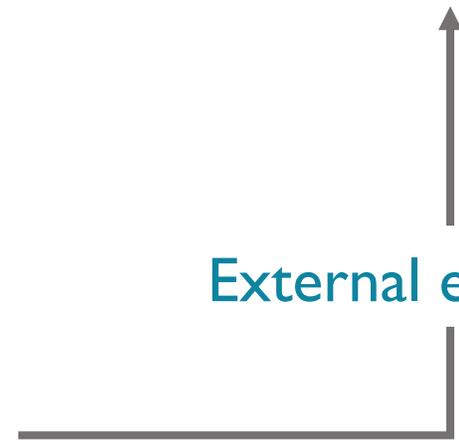


Based on reducing allowances



Based on reducing costs

External evaluation



Who are the investors?



15 Impact investors

Diverse background and motivations:

Philanthropic funds

Impact funds

Commercial bank

High net worth individuals

Family offices



50% Israelis

50% International

Tackling type 2 diabetes SIB - Intervention



High risk pre-diabetics
3 cohorts
400-1000 participants per cohort



A year of intensive intervention
A year of moderate intervention
3-5 years of measurement



The program is built on existing international experience and best practices providing personalized and culturally sensitive fitness and nutrition plans coordinated by dedicated case managers



Workshops



Motivation



Technology



Physical
activity



Nutrition

Measuring the results of the intervention group
compared to the comparison group

Reduction in transition to diabetes



Tackling type 2 diabetes SIB - Innovation and Distinctions



Pooling of Resources

- 3 different outcome payers are collaborating in this SIB:
 - 2 HMOs – Paying for direct cost of treatment, medicine, and inpatient days
 - National Insurance Institute – Paying for reduced disability allowances payments
- All the outcome payers agreed to the same measurement of outcomes
- This Social Impact Bond pools resources in order to make the intervention feasible for all of the outcome payers



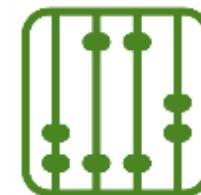
Global scale potential

- Type 2 diabetes is a global epidemic
- Many healthcare systems are looking for sustainable solutions to deal with the growing numbers of diabetics
- This SIB has the potential to prove that an intensive intervention can prevent the progression to diabetes and be more cost effective
- SIBs are attractive to governments due to the lack of financial risk they see by virtue of the **Pay for Success** model



Referral process

- Participants are chosen according to an innovative scoring system
- The scoring system was developed by the Clalit Research Institute. It predicts patient's risk of developing diabetes within the following years based on big data
- The referral process is based on collaboration between outcome payers and service providers



Example: Rajasthan Maternal and Newborn Health DIB



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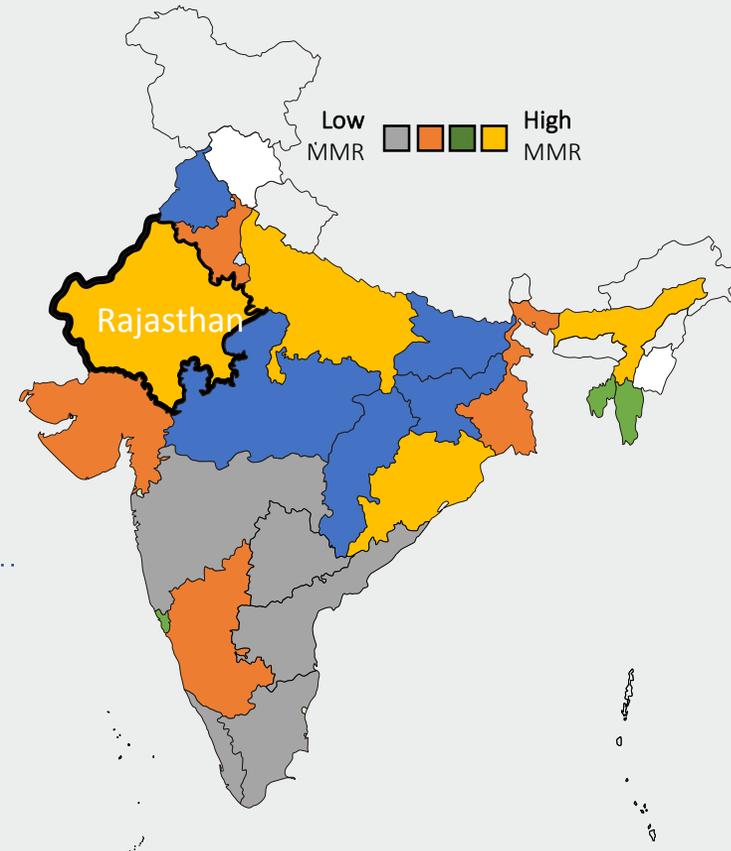
**RAJASTHAN MATERNAL & NEWBORN
HEALTH DIB**

OVERVIEW OF THE OPPORTUNITY



ISSUE

- 1) Rajasthan has one of the highest maternal and neonatal mortality rates in India.
- 2) While the Government of Rajasthan has greatly increased the number of women delivering in facilities, this has not resulted in the expected improvement in maternal/newborn outcomes.
- 3) Researchers believe that this has resulted, in part, from a lack of quality facilities in the State.¹



RAJASTHAN		INDIA
32 ₂	of every 1,000 newborns will die	28 ₂
255 ₂	of every 100,000 mothers will die due to childbirth	178 ₂
78% ₃	of women receive labor and delivery care in facilities	79% ₄

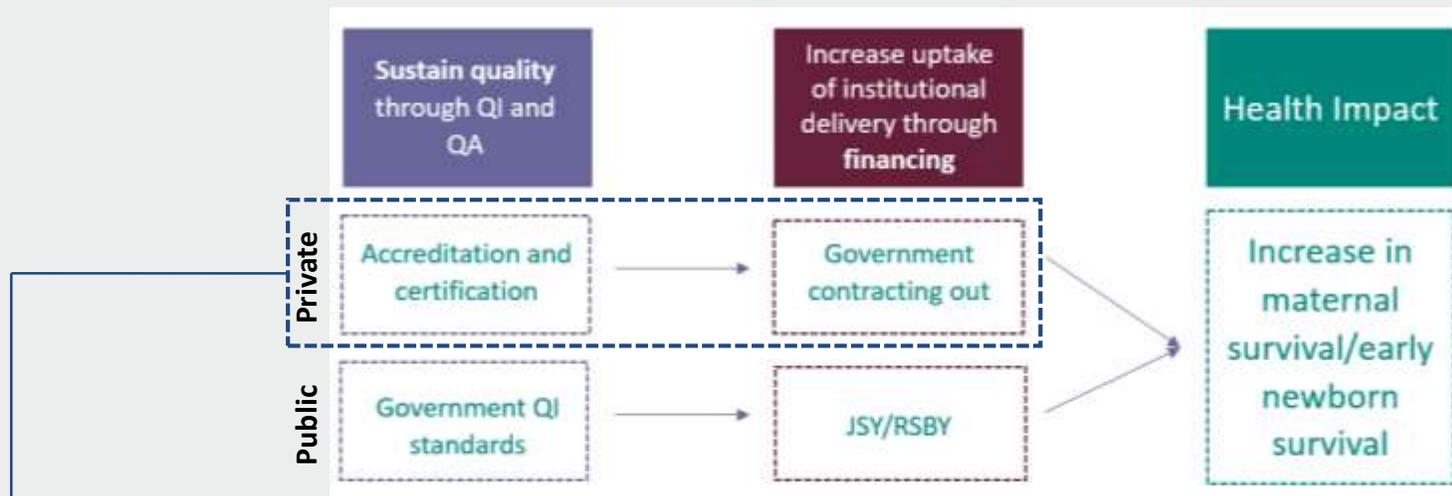
Sources: 1.Randive, B. India’s Conditional Cash Transfer Programme (the JSY) to Promote Institutional Birth (2013) 2.Sample Response Survey 2010-2012; 2013 3. Palladium Research 4. Rapid Survey on Children 2013-2014. Graphic: Social Finance UK

OVERVIEW OF THE OPPORTUNITY



TRANSFORM QUALITY OF CARE IN FACILITIES

The Government of India recognizes quality of maternity care as an essential area of investment to increase maternal and early newborn survival. While public facilities are subject to government quality standards to be considered for reimbursement programs that drive volume, **private facilities are not required to meet quality standards to access reimbursement programs.**



A standardized way to assure quality will allow the Government of Rajasthan to channel government funds to private facilities offering quality care – a cost-effective approach to saving lives.

OVERVIEW OF THE OPPORTUNITY



IDEA

What?

The partnership seeks to achieve impact at scale with a relatively small and catalytic investment.

The intervention focused on improving and standardizing the quality of maternal care in private healthcare facilities in Rajasthan. To focus on impact, they mission will utilize a pay for performance structure, with deployment of capital directly connected to the achievement of outcomes. The project will take place over three years with a total investment of up to \$9M.

How?

Through a government approved certification process, NABH-FOGSI, private facilities will be accredited based on the ability to meet specific quality standards for maternal care. The MCH implementing partners will guide facilities through quality improvements to meet this standard as well as the application process.



IMPACT

Why?

Over the course of three years, the intervention is projected to:

This intervention will be rolled out across Rajasthan, covering a geographic market of over

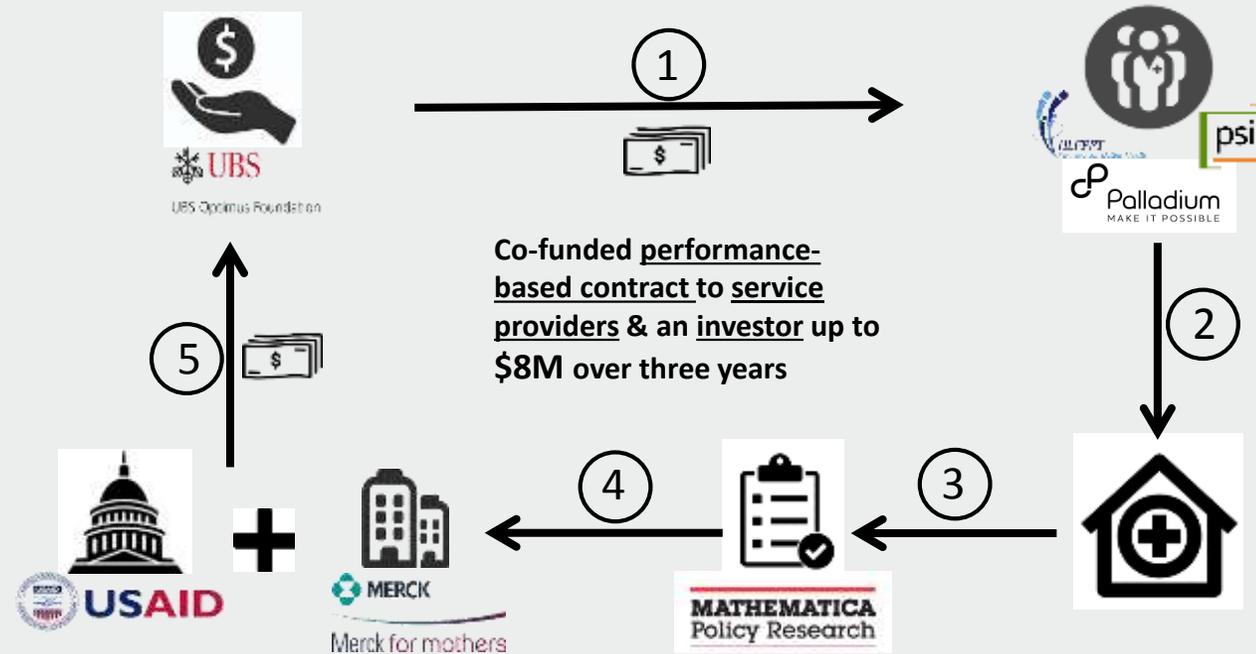
75 million people and...

Impact the lives of up to **600,000** pregnant women, allowing us to...

Save the lives of up to **10,000** women and children in Rajasthan over the next 5 years¹

¹ Determined through modeling using the Lives Saved (LiST) tool

The Rajasthan Maternal and Newborn Health Development Impact Bond



1. UBS Optimus Foundation provides PSI and HLFPPT with working capital
2. PSI and HLFPPT, under the direction of Palladium, begin working with private facilities to improve quality of maternal and neonatal care
3. Outcomes are achieved, i.e. facilities are accreditation ready
4. Mathematica verifies the achievement of outcomes
5. Verification of outcomes triggers the outcome payments from USAID and Merck for Mothers who have made up to \$8M available for outcomes funding, over three years

SUSTAINABILITY: LOOKING BEYOND YEAR THREE...

Designed to be catalytic

Should the pilot project prove successful:

1

The Government of Rajasthan has committed to finance the program with additional investments

A project MOU has already been signed between the project's performance manager and the State Ministry of Health.

2

Private insurance schemes will be attracted to accredited facilities, creating financial incentives for facilities to invest in continued self-improvement and ensure accreditation is renewed

Impact

This sustainability will lead to long-term health impacts for women and children after the MCH DIB implementation is complete. Without analysis of program expansion, through 2021 it is projected that the project will achieve the following:



Up to 10,00

women and newborns saved



**Up to
600,000**

Pregnant women impacted

Example: Nurse-Family Partnership South Carolina



Dr. Tara Jethwani

National Strategic Initiatives Manager

Nurse Family Partnership

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NFP South Carolina Pay for Success Project

Nurse-Family Partnership

- Evidence-based, community health program that helps transform the lives of vulnerable mothers pregnant with their first child.
- Four decades of research re: Nurse-Family Partnership's (NFP) favorable impact on:
 - ✓ Pregnancy Outcomes
 - ✓ Child Health and Development
 - ✓ Economic Self-Sufficiency of the Family



Nurse-Family Partnership

EXPERT:

Specially-trained nurses

PROVEN:

Extensive and compelling evidence

INTENSIVE:

Pregnancy through age 2

TIMELY:

First 1000 days



Nurse-Family Partnership

Families served since replication began in 1996:

269,311

Families currently enrolled:

33,467

Number of Nurse Home Visitors:

1,867

Number of Counties:

586

Number of States:

42 + U.S Virgin Islands and 6 Tribal communities

September 2017



NFP South Carolina PFS Project

- South Carolina and NFP launched nation's first Pay for Success (PFS) project to improve maternal and child health outcomes for low-income families
 - Pilot: January 2016; Launch: April 2016
 - Extends NFP services statewide to an additional 3,200 Medicaid-eligible first-time moms and their children over a 6-year period
 - Spans 29 of South Carolina's 46 counties
 - Includes 9 implementing agencies delivering NFP services
- Project Leverages Private and Public Funding
 - Philanthropic investment + Medicaid reimbursement via 1915(b) waiver awarded to the South Carolina Department of Health and Human Services (SCDHHS) by the federal Centers for Medicare and Medicaid Services (CMS).



NFP South Carolina PFS Project

PROJECT PARTNERS

Service Provider	Nurse-Family Partnership National Service Office (9 NFP Implementing Agencies in SC)
Philanthropic Investors	BlueCross BlueShield of South Carolina Foundation; The Duke Endowment; The Boeing Company; Laura and John Arnold Foundation; Consortium of private funders
Outcome Payor	SC Department of Health and Human Services
Intermediary	Social Finance
Technical Assistance	Harvard Kennedy School Government Performance Lab (GPL)
Evaluator	Abdul Latif Jameel Poverty Action Lab (J-PAL) North America



NFP South Carolina PFS Project

➤ Methodology

- Randomized Controlled Trial (RCT)

➤ Outcome Metrics

- Reduction in preterm births
- Reduction in child injuries
- Increase in healthy birth spacing between 1st and 2nd child
- Increase in number of first-time moms served in low-income zip codes

➤ Evaluation

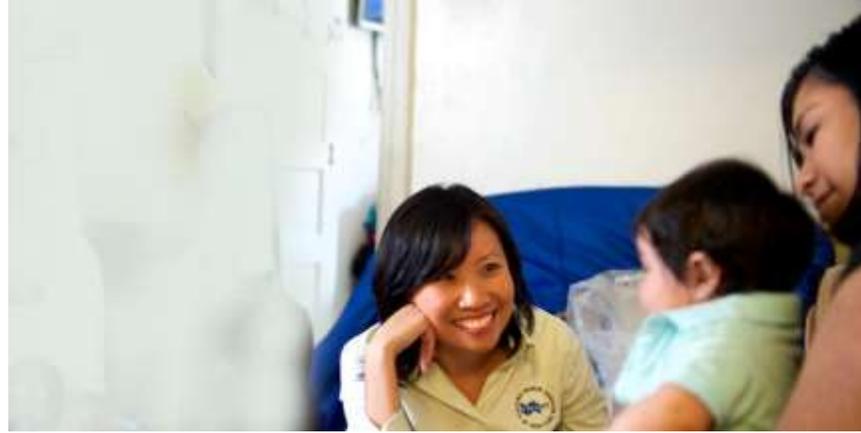
- Independent Evaluators measure level of outcomes achieved to inform outcome payments



NFP South Carolina PFS Project

Innovations

- Increase Caseloads
- Implement Telehealth
- Employ Robust Marketing and Outreach Campaigns
- Reduce Program Cost, Scale Up and Maintain NFP Model Fidelity



NFP South Carolina PFS Project

Successes:

- ✓ Closing enrollment gap
- ✓ Nurse education

Challenges:

- Locating young moms and moms in low-income zip codes
- Nurse recruitment and retention
- Conversion of Medicaid referrals to enrollment



AUDIENCE Q&A

Funding the cure for a disease - Mission:Cure



Megan Golden

Co-founder

Mission: Cure

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Mission: Cure

Mission: Cure

A NEW MODEL FOR CURING DISEASE
DRIVEN BY FINANCING BASED ON
PATIENT OUTCOMES AND IMPACT
INVESTMENT

Why Don't We Have Treatments for Debilitating, Expensive Diseases?

The Valley of Death:
insufficient resources for
promising treatments

Incentives based on profit
not patient outcomes

Stakeholders competing
rather than collaborating
to achieve results

Traditional scientific
process does not match
patients' timeframes

Mission: Cure mission-cure.org

Mission: Cure

[ABOUT US](#)

[OUR APPROACH](#)

[TARGET: PANCREATITIS](#)

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Mission: Cure

Demonstrating a new model for curing disease



Active Collaboration Among Stakeholders



Partnerships With Impact Investors



Financing Based On Patient Outcomes



Promising And Cost-Effective Methods To Cure Diseases

Our First Target: Pancreatitis



Patients are Desperate

...I run a support group for chronic pancreatitis, we have almost 2000 members and they have asked me to write to you in an effort to find out about human trials and when they might begin. We are having a tough time getting pain control these days and **many have attempted suicide because they just can't take the pain any longer.**

Most Dr's are pretty clueless on this disease, especially in E.R.'s around the country, treating many as drug seekers and humiliating them only to turn them away with no help. We NEED help with this disease....

Many of us are willing to volunteer as test subjects, if not to help us to help future patients and the kids who get this horrible disease....

Chronic Pancreatitis is Costly

122,000 outpatient visits & 56,000 hospitalizations/year in the US

- > 90% of US CP patients hospitalized for pain

Analysis of children shows \$40,589 in medical costs/year; for 150,000 chronic pancreatitis sufferers = **\$6.09 billion/year**

Chronic pain care in US costs \$32,000 per person/year; for 150,000 chronic pancreatitis sufferers = **\$4.8 billion/year**

How the Financing Will Work

Outcome Payors

Agree to pay for specific patient outcomes over 10 years



Impact Investors

Finance
Mission: Cure for returns based on patient outcomes and market



Mission: Cure

Invests in & manages coordinated therapy development efforts



In 10 Years...

Patients improve through new therapies; impact investors receive return

Possible Patient Outcomes to Determine Payment



**Emergency room visits/days
in hospital**



**Time absent from work or
school**



Pain (validated measure)



Survival

In **8-10** years

Strategies to Develop Effective Treatments

Advanced genetic testing & precision medicine

Test promising already-approved drugs using efficient, innovative trial designs

Incentives to move new molecules through the development process efficiently

Convene experts and innovators to problem-solve

Using Impact Investing To Cure Disease: An Idea Catching On

PHARMACEUTICALS

Wall Street's next bet: Cures for rare diseases

FORTUNE

Andrew W. Lo

Updated: Jun 20, 2014 11:24 AM PDT | Originally published: Jan 21, 2014



Impact Investing and Healthcare: Millennials Lead the Trend

By Diane Gallagher - February 22, 2017





Venture
Philanthropy &
Disease-
Specific
Investing
Examples

Results

Patients and those at risk for chronic pancreatitis

- live longer, healthier, less painful, more productive lives

Impact investors

- help cure a disease and also received a financial return

Scientists and clinicians

- have funding and support for their efforts to help patients and cure disease

Healthcare and life insurance payors

- invest in new technologies that reduce their long-term costs, while demonstrating commitment to clients' wellbeing

Venture philanthropists who pay for patient outcomes

- engage in risk-free outcome-based philanthropy: they do not pay unless they have cured a disease

Partners



The
National Pancreas
Foundation



Cures**Within**Reach



NATIONAL INSTITUTE OF
DIABETES AND DIGESTIVE
AND KIDNEY DISEASES



APA AMERICAN PANCREATIC
ASSOCIATION

**Consortium for the Study of Chronic
Pancreatitis, Diabetes, and Pancreatic Cancer**

Innovative Financing for Health: Expert Response



Ambassador (ret.) John Simon
Vice-Chair of the Board
The Global Fund to Fight AIDS,
Tuberculosis and Malaria
& Founder and Managing Partner of Total Impact Capital

The logo for The Global Fund, featuring a stylized 'G' icon composed of three curved lines in red, blue, and green.

The Global Fund

AUDIENCE Q&A

Thank you!

For more information on Brookings
impact bonds research:
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