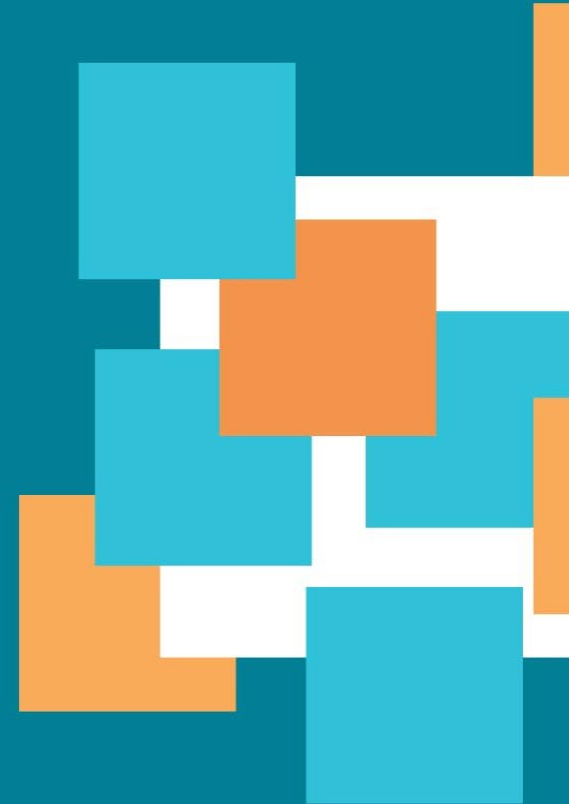


# Applying the ROI Calculator for Partnerships to Address Social Determinants of Health

May 19, 2022, 2:00-3:00 pm ET

*Made possible with support from the Seven Foundation Collaborative — Arnold Ventures, The Commonwealth Fund, The John A. Hartford Foundation, the Milbank Memorial Fund, Peterson Center on Healthcare, the Robert Wood Johnson Foundation, and The SCAN Foundation.*

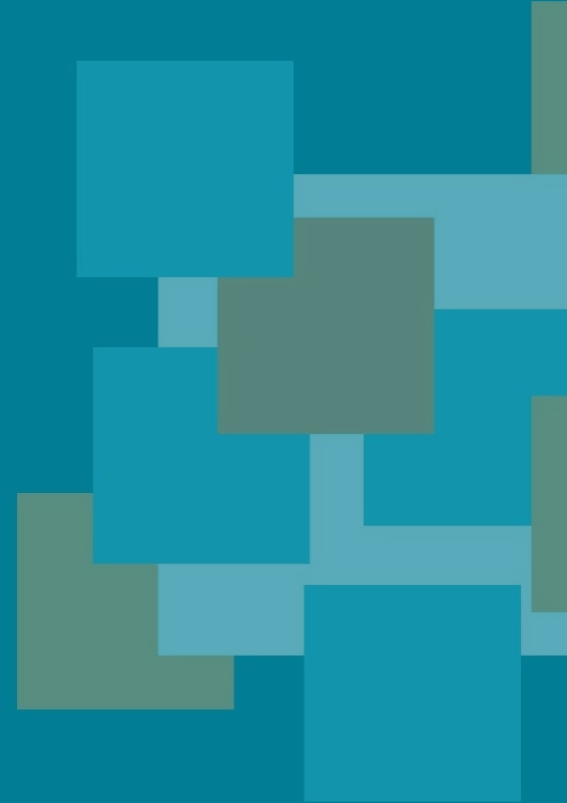


# Questions?

- To submit a question, click the Q&A icon located at the bottom of the screen.



# Welcome & Introductions



# About the Better Care Playbook



**Find information.** The Playbook is an online resource center for evidence-based and promising practices for people with complex health and social needs.



**Learn about first-person perspectives.** Read case studies and join webinars highlighting the real-world experiences of providers, payers, community-based organizations, and policymakers to improve care.



**Apply the evidence.** Find practical implementation tools to inform providers, payers, policymakers, community-based organizations, and others on strategies to improve care.

# About the Better Care Playbook

The Playbook is coordinated by the Center for Health Care Strategies through support from seven leading national health care foundations — Arnold Ventures, The Commonwealth Fund, The John A. Hartford Foundation, the Milbank Memorial Fund, Peterson Center on Healthcare, the Robert Wood Johnson Foundation, and The SCAN Foundation.

[BetterCarePlaybook.org](https://BetterCarePlaybook.org)



# Agenda



- Welcome and Introductions
- Douglas McCarthy, The Commonwealth Fund: How to Use the ROI Calculator
- Corinne Lewis and Tanya Shah, The Commonwealth Fund: Understanding the Evidence Behind the ROI Calculator
- Lori Peterson and Victor Tabbush, Collaborative Consulting: How a Community-Based Organization Used the ROI Calculator to Contract with a Health Plan
- Moderated Q&A

# Today's Presenters



**Douglas McCarthy, MBA**  
Senior Research Advisor  
The Commonwealth Fund



**Tanya Shah, MBA, MPH**  
Strategic Advisor  
The Commonwealth Fund



**Victor Tabbush**  
Collaborative Consulting



**Corinne Lewis, MSW**  
Program Officer  
The Commonwealth Fund



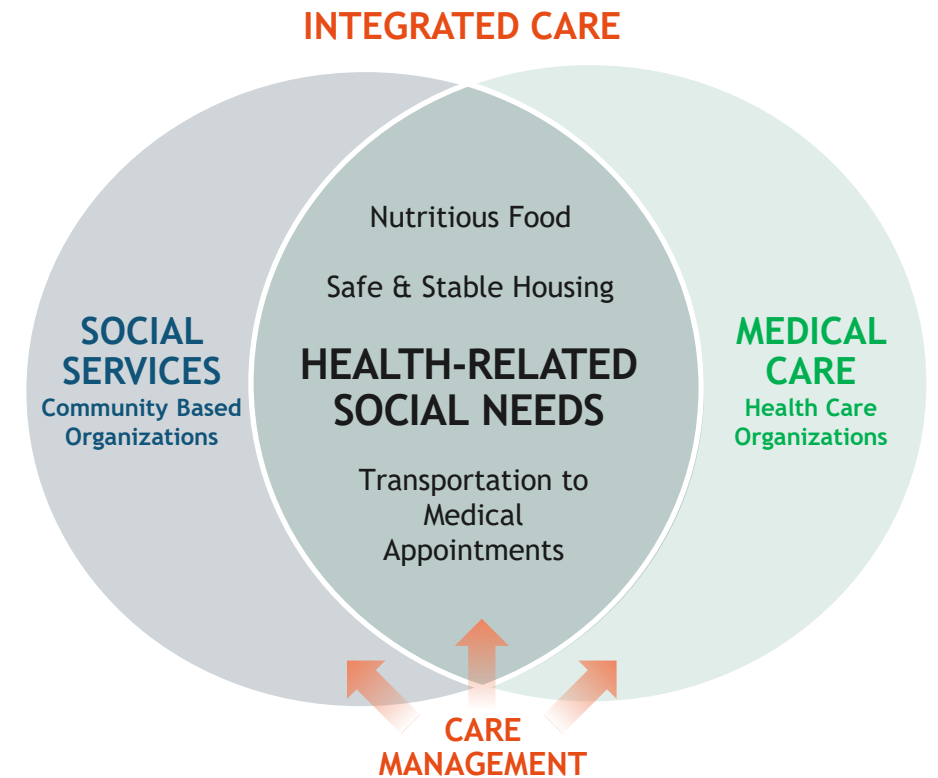
**Lori Peterson**  
Collaborative Consulting

[www.commonwealthfund.org/roi-calculator](http://www.commonwealthfund.org/roi-calculator)



# The U.S. Urgently Needs to Integrate Social Services and Medical Care

- Policymakers and practitioners are increasingly looking “upstream” to address root causes of poor health and high health care spending.
- Growing awareness that health-related social needs strongly influence health care access, utilization, costs and outcomes among vulnerable high-need and high-cost populations.
- New value-based payments models and benefit designs allow health care organizations more flexibility to invest in meeting social needs.



# How Can an ROI Calculator Help?

## Pitching



A community-based organization (CBO) quantifies the value of its services and develops a persuasive business case for a partnership in a way that a health care organization (HCO) can recognize.

## Planning



CBO and HCO negotiate and implement effective partnership agreements by 1) defining a target population and scope of services to achieve intended benefit, and 2) agreeing on an equitable payment arrangement.

## Evaluating



The partners adjust the parameters of their agreement as needed to sustain and grow their partnership based on understanding the actual impact of their arrangement in practice.

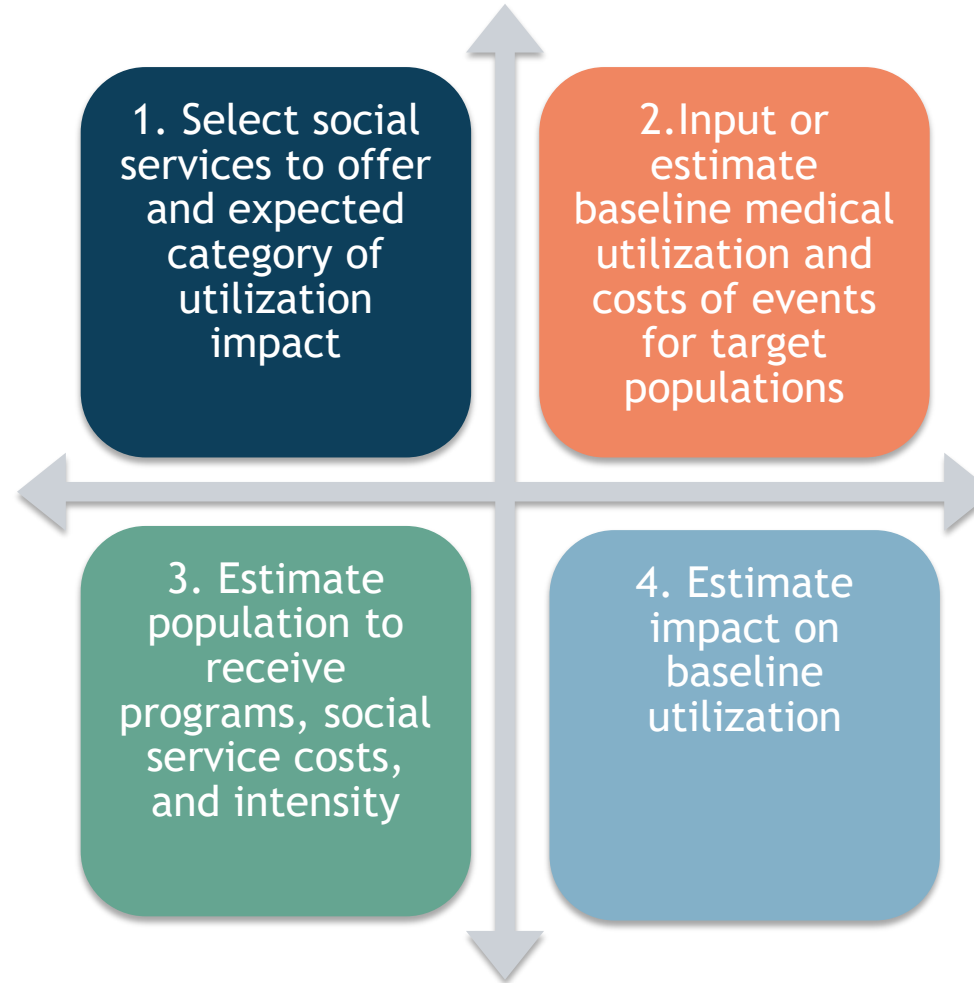


# Examples of Partnership Development

Partnership Stage	Community Partner	Healthcare Partner	Location	Target Population	Payment Source	Social Services*	Potential ROI
Pitching	Health Care Access Now	Medicaid managed care plans	Cincinnati, Ohio	Vulnerable adults with chronic illness and social needs	Medicaid and others	Pathways Care Coordination (multiple social service needs)	Up to 172%
Planning	Community Housing Solutions	Cone Health System (ACO)	Greensboro, North Carolina	Older adults at risk of falls and housing insecurity	Medicare and Medicaid	Safe Housing (home repairs and care coordination)	Up to 291%
Evaluating	Project Angel Heart	Denver Health Medical Plan	Denver, Colorado	Low income hospitalized adults at risk of readmission	Medicare and Medicaid	Nutrition (home-delivered medically tailored meals)	108% COPD 126% Diabetes 268% CHF

\* Goals of providing social services and care coordination may include eliminating barriers to timely care and promoting effective disease management by addressing food insecurity, unsafe/unstable housing, lack of transportation, medication adherence, etc.

# Basic Steps to Using the ROI Calculator



# ROI Calculator Help Documents & Guides

ROI Calculator for Partnerships to Address  
the Social Determinants of Health

## The Calculation Guide

For more information contact Dr. Victor Tabbush at [victor.tabbush@anderson.ucla.edu](mailto:victor.tabbush@anderson.ucla.edu).

Equations	Page	Output	Explanation
1	High-Need, High-Cost Population	Calculation of baseline PMPM cost	Baseline means the expense for each medical event for which services were not offered. The calculation identifies each specific medical event by its unit cost per month (PMPM) basis. For hospital admissions, the unit cost is the projected cost of that admission (length of stay). The total cost is across all the selected medical events.

ROI Calculator for Partnerships to Address  
the Social Determinants of Health

## Data Checklist

### Baseline Utilization Rates

The tool's basic algorithm calculates the financial impact of social services from the financial benefits of avoided

USE CASE / MARCH 2020

ROI Calculator for Partnerships to Address  
the Social Determinants of Health



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Affordable, quality health care. For everyone.

## Homage: Calculating the ROI of a Partnership to Meet the Health-Related Social Needs of Medicare Advantage Plan Members

Victor Tabbush and Douglas McCarthy

This case study is part of a series describing how health care and social service organizations can use a return-on-investment (ROI) calculator to develop mutually beneficial contractual partnerships that address the social determinants of health and improve outcomes for high-need, high-cost patient populations.

ROI Calculator for Partnerships to Address  
the Social Determinants of Health

## Average Cost & Utilization Data

Updated August 2020

ROI Calculator for Partnerships to Address  
the Social Determinants of Health

## Review of Evidence for Health-Related Social Needs Interventions

Mekdes Tsega, Corinne Lewis, Douglas McCarthy, Tanya Shah, and Kayla Coutts

USER GUIDE / October 2020

ROI Calculator for Partnerships to Address  
the Social Determinants of Health



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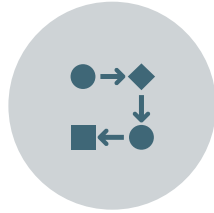
## When You Don't Have Input Data: A Step-by-Step Guide to Using Research Evidence and National Data in the Return-on-Investment Calculator



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<https://www.commonwealthfund.org/roi-calculator>

# Benefits of Using the ROI Calculator Tool



Creates awareness of the opportunity to integrate care.



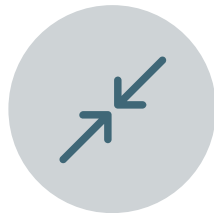
Offers a structured approach for partnership development.



Provides a common financial language.



Drives data collection and analysis for the business case.







Promotes an equitable and sustainable division of returns.



Reduces uncertainty by identifying the extent of financial risk.



# Lessons for Cross-Sector Partnership Formation

 Trust	 Mechanics	 Synergy	 System
Cultivate trust through shared language and a whole-person perspective	Use available data to demonstrate value with a realistic understanding of constraints	Draw on the strengths of each partner and cultivate indirect benefits of partnership	Consider a systems perspective when developing ROI scenarios

Learning Report: *Using the ROI Calculator to Measure Return on Investment in Addressing Health-Related Social Needs*

# Acknowledgements



## Participants in ROI Calculator Use Cases and Learning Collaboratives

- Homage (with support from Collaborative Consulting)
- Health Care Access Now
- Project Angel Heart and Denver Health
- Community Housing Solutions and Cone Health
- Denver Regional Council of Governments
- Southern Alabama Regional Council on Aging
- North Central Texas Council of Governments and Aetna



# Understanding the Evidence Behind the ROI Calculator

Corinne Lewis, MSW, Program Officer, The Commonwealth Fund

Tanya Shah, MBA, MPH, Strategic Advisor, The Commonwealth Fund



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# We reviewed the evidence on the impact of social services on health care utilization and costs

## HOUSING



## NUTRITION



## TRANSPORTATION



## HOME MODIFICATIONS



## CARE MANAGEMENT



## COUNSELING



ROI Calculator for Partnerships to Address the Social Determinants of Health

## Evidence Review

### HOUSING

There is strong evidence that providing people who are homeless, or at risk of becoming homeless, with supportive housing can significantly lower expensive forms of health care, thereby reducing costs. We found several studies that provided supportive housing — both with and without case management services — to homeless individuals with a medical need like a chronic condition or behavioral health problem. These studies consistently found that housing reduces ED visits, admissions, and inpatient days and results in large decreases in health care costs. Some studies also found significant increases in the receipt of preventive primary care services among those provided housing compared to their counterparts.

A few studies looking at the impact of providing housing to the elderly found — in addition to reductions in hospitalizations and ED visits — large decreases in skilled nursing facility and long-term-care days, which resulted in significant cost savings to Medicare and Medicaid.

Several of the studies found housing can generate an ROI. For example, one study estimated an ROI of \$2,249 per person per month, and another estimated for every \$1 spent, savings of \$1.57.

Study	Target population	Intervention summary	Type of evidence	Intervention cost	Results on utilization and costs of care
Basu et al., 2012	Homeless adults with chronic medical illnesses in Chicago	The housing and case management intervention was based on the Housing First model and offered three components: interim housing at a respite center after hospital discharge, stable housing after recovery from hospitalization, and case management based in study hospital, respite, and housing sites. Study participants were followed for 18 months.	Randomized control trial (n=201 intervention group, 206 usual care group) Strong evidence	Not given	Compared to usual care, the intervention group generated an average annual cost savings of \$6,307 per person. Chronically homeless participants in the intervention group generated the highest per person annual cost savings (\$9,809).
Sadowski et al., 2009	Homeless adults with chronic medical illnesses in Chicago	Study looked at the effectiveness of a case management and housing program. Intervention group was offered transitional housing after hospital discharge followed by placement in long-term housing. Case management was offered on-site at primary study sites, transitional housing, and stable housing sites. Usual care participants received standard discharge planning from hospital social workers.	Randomized control trial (n=201 intervention group, 206 usual care group) Strong evidence	Not given	For every 100 homeless adults offered the intervention, the expected benefits over the next year would be 49 fewer hospitalizations, 270 fewer hospital days, and 116 fewer ED visits. After adjusting for baseline covariates, intervention group, compared to usual care group, had relative reductions of 29% in hospitalizations, 29% in hospital days, and 24% in ED visits.

- Synthesized peer-reviewed and grey literature: target populations, study description and design, intervention cost, impact on utilization and cost
- Nationally representative service cost and utilization benchmarking data (demographics forthcoming)
- Provides input values for ROI calculations
- Supplements your own patient or program data

# Inclusion Criteria

- **Intervention:**

- Study of an intervention related to one of the six SDoH of focus

- **Population:**

- Study targeted people with complex health and social needs (e.g. older adults, people dually-eligible for Medicare and Medicaid, people with multiple chronic conditions, etc.)

- **Results:**

- Study reported outcomes for health care costs, utilization, or ROI

- **Date:**

- Summarizes literature from 2000-Present

# Overview of Evidence by SDoH

## SERVICE

## BRIEF SUMMARY OF EVIDENCE

## EXAMPLE COST SAVINGS OR ROI



### Nutrition (Home-Delivered Meals)

Moderate to strong evidence that ensuring people have access to healthy food can significantly lower health care utilization and costs. One study found that medically tailored meal delivery yielded greater net cost savings than nontailored meal delivery (\$220 vs. \$10 per participant, per month).

Estimated ROI of 387% for home-delivered meals as part of a Community-Based Care Transition Program for Medicare beneficiaries



### Non-Emergency Medical Transportation

Mixed evidence of cost savings. Some studies have found NEMT can increase receipt of outpatient care and reduce health care costs, which could yield an ROI for specific high-need populations. Others have found no evidence of reduced utilization or costs.

Potential per-patient savings by offering NEMT:

- \$333 for asthma
- \$927 for diabetes
- \$2,743 for heart disease



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Source: Mekdes Tsega, Corinne Lewis, Douglas McCarthy, Tanya Shah, and Kayla Coutts, *Review of Evidence for Health-Related Social Needs Interventions*, The Commonwealth Fund, July 2019  
[www.commonwealthfund.org/sites/default/files/2019-07/ROI-EVIDENCE-REVIEW-FINAL-VERSION.pdf](http://www.commonwealthfund.org/sites/default/files/2019-07/ROI-EVIDENCE-REVIEW-FINAL-VERSION.pdf)

# Overview of Evidence by SDoH

## SERVICE

## BRIEF SUMMARY OF EVIDENCE

## EXAMPLE COST SAVINGS OR ROI



### Supportive Housing

Moderate to strong evidence of cost savings for people who are—or at risk of becoming—homeless. Several studies found reductions in hospital admissions, ED visits, SNF and long-term-care days. A systematic review reported median health care savings of \$11,248 per person, per year.

\$4,334 PMPM net savings among dually eligible health plan members who transitioned home from a SNF or nursing home or were at risk of becoming institutionalized



### Home Modification

Moderate to strong evidence that the CAPABLE model (which offers home modifications among other home-and-community-based services) can reduce health care utilization among older adults versus a comparison group and result in substantial cost savings.

Annual per-patient savings of \$10,404 to Medicaid and \$11,060 to Medicare, representing >600% combined ROI on \$2,825 intervention cost



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Source: Mekdes Tsega, Corinne Lewis, Douglas McCarthy, Tanya Shah, and Kayla Coutts, *Review of Evidence for Health-Related Social Needs Interventions*, The Commonwealth Fund, July 2019  
[www.commonwealthfund.org/sites/default/files/2019-07/ROI-EVIDENCE-REVIEW-FINAL-VERSION.pdf](http://www.commonwealthfund.org/sites/default/files/2019-07/ROI-EVIDENCE-REVIEW-FINAL-VERSION.pdf)

# Overview of Evidence by SDoH

## SERVICE

## BRIEF SUMMARY OF EVIDENCE

## EXAMPLE COST SAVINGS OR ROI



### Care Management

Several rigorous studies have found that a variety of care management models – which link high-risk patients to needed medical and nonmedical community supports – reduce utilization of costly health care services, lower costs of care, and produce an ROI of 104% to 292%.

A CHW-led care management program connecting Medicaid beneficiaries with disabilities to long-term services and supports demonstrated an ROI as high as \$2.92 for every \$1 spent.



### Counseling

Case studies show that providing legal/financial counseling to complex or at-risk patients can reduce readmissions, ED visits, hospitalizations, and cut costs. However, there is a lack of rigorous evidence on these approaches.

Financial counseling for uninsured patients following an acute-care hospitalization collectively paid for \$17,660 of \$25,775 in average hospital costs per patient.



# Summary: What does the evidence tell us?

- Growing body of evidence that meeting health-related social needs can have benefits for patients and reduce health care utilization and costs -- particularly for people with complex health and social needs, the elderly, and dually eligible populations.
- These data can be used by health care organizations and CBOs to estimate potential ROI, help determine strategy, and develop partnerships.
- **Targeting:** Identifying needs and defining an intervention population — is key to generating a return on investment.
- **Caveats:** Social service linkage was often part of a bundle of services. Achieving positive ROI may require “ramp-up” time to reach program efficiency.
- **Rigor:** We need more rigorous mixed-methods studies of impact and ROI: health care organizations and CBOs can contribute to building the evidence base.

# APPLYING THE ROI CALCULATOR FOR PARTNERSHIPS TO ADDRESS SOCIAL DETERMINANTS OF HEALTH

May 19, 2022

Lori Peterson, Collaborative Consulting  
Victor Tabbush, Collaborative Consulting



CREATIVE

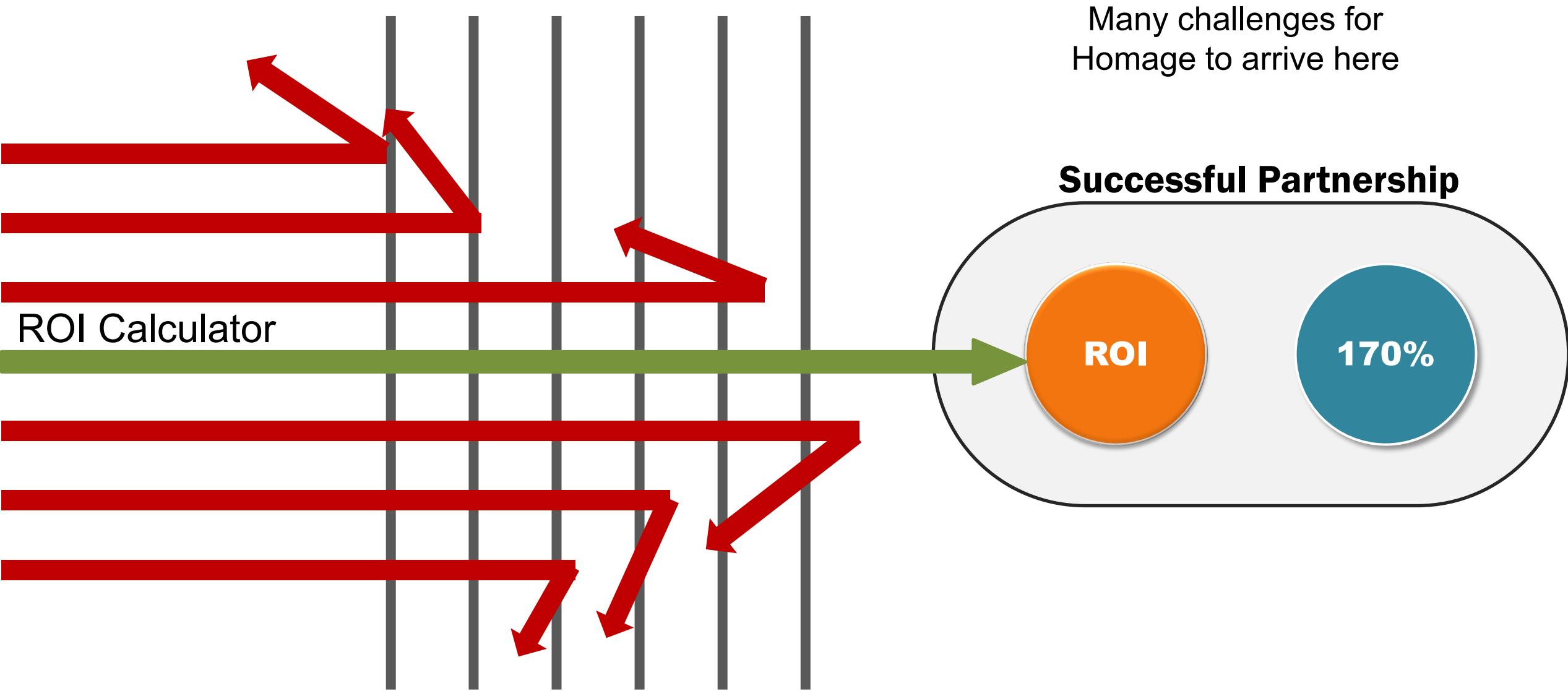
IDEAS TO ACTION

RESULTS





- 
- Who is Homage?
  - Why did they target an MA Plan?
  - What motivated the cross-sector partnership?



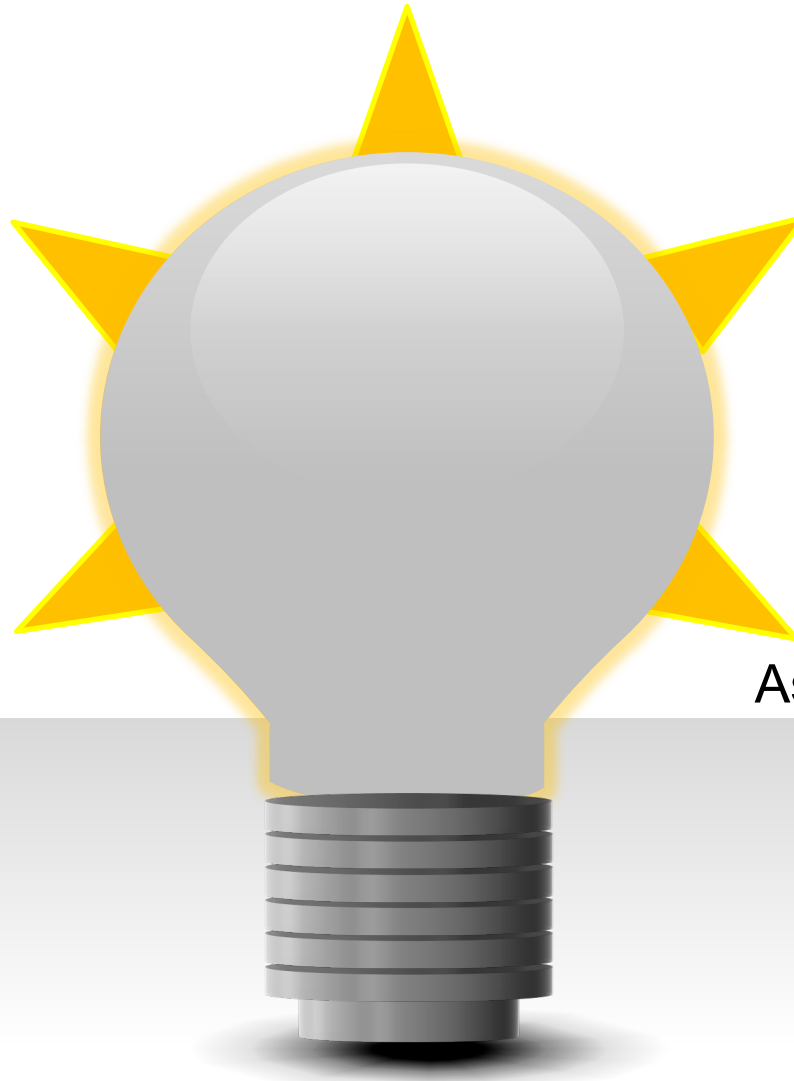
Conduct threshold analysis

Categorize costs for  
decision-making

Consider multiple  
pricing systems

Adopt the partner perspective

Assess risks as well as returns





What Matters

Partner’s Costs

Partner’s Revenue Potential

Medical Utilization Menu

Select the medical utilization domain(s) that you expect the social service(s) you selected will affect. For example, home modifications might reduce falls. (We suggest you do not select utilization domains that will only affect third parties that are not part of the partnership agreement.)

- ☒ Hospital Admissions
- ☒ Hospital Readmissions
- ☐ Skilled Nursing (SNF)/Rehab Facility Admissions
- ☐ Emergency Department (ED) Visits
- ☐ Falls
- ☐ Outpatient Visits
- ☐ Other

2 Estimated Cost of Each Medical Event ?

Please enter a cost estimate for each medical event. When multiplied by how often each event occurs, the total costs are calculated and reported on a PMPM basis to establish the baseline expenses for a typical HNHC member before social services are added.

Hospital Day	\$	1,350.00
SNF/Rehab Day	\$	n/a
ED Visit	\$	n/a
Falls	\$	n/a
Outpatient Visits	\$	n/a
Other	\$	n/a

1 Possible Revenue Increases

Monthly revenue enhancements received by the health sector partner (for example, stipend or care coordination fee.)

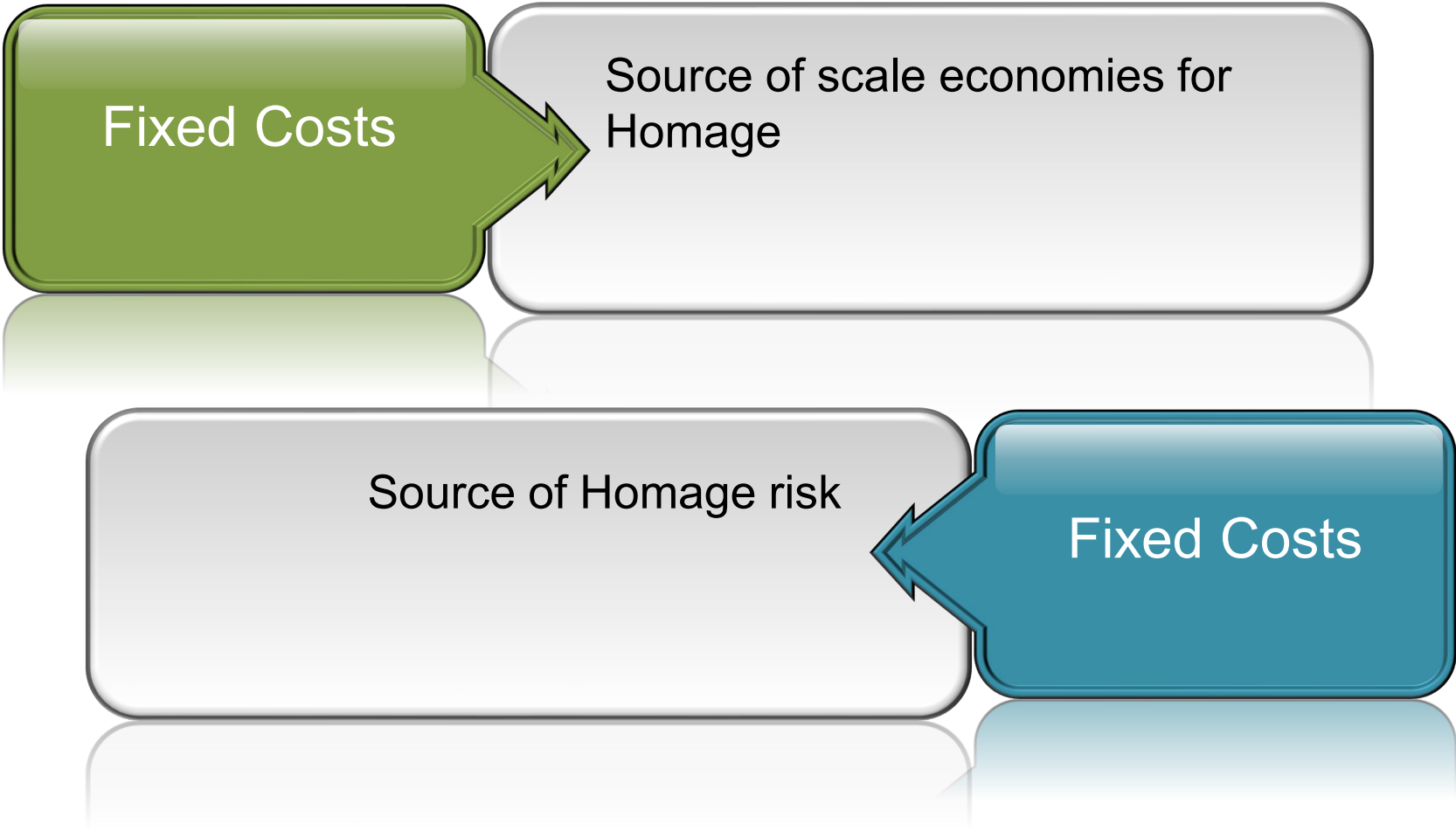
Additional Revenues (for example, from quality scores, shared savings, reduced penalties, etc.)

Total Additional Revenues

PMPM

\$ 0.00

\$0.00

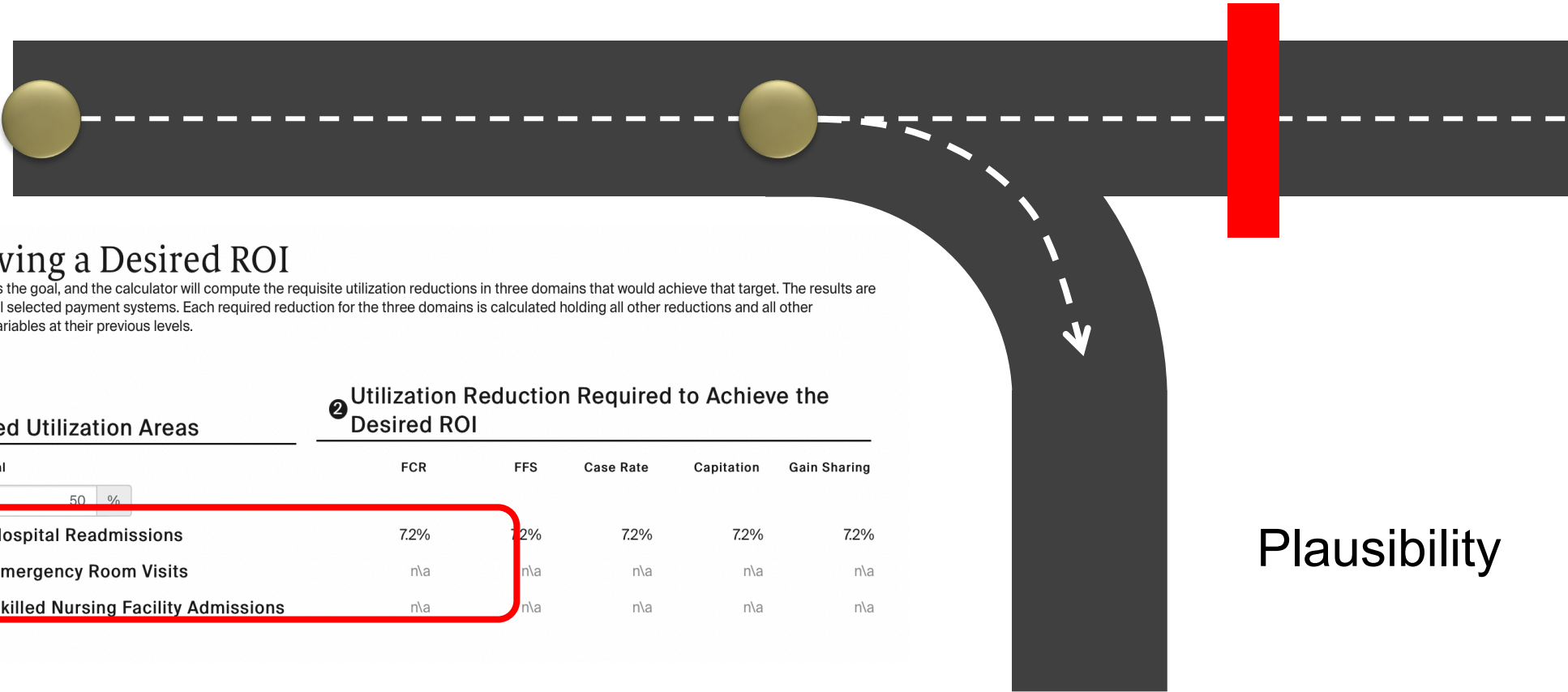


## 1 Service Costs

	Metric	Total Annual Health Sector Partner Fixed Cost	Total Annual CBO Fixed Cost	CBO Unit Variable Cost
Nutritional Support	(Meal)	\$ n/a	\$ n/a	\$ n/a
Transportation	(Ride)	\$ n/a	\$ n/a	\$ n/a
Home Modifications	(Homes)	\$ n/a	\$ n/a	\$ n/a
Housing	(Bed Night)	\$ n/a	\$ n/a	\$ n/a
Counseling: Legal, Financial and Social Support	(Hour)	\$ n/a	\$ n/a	\$ n/a
Overall Care Management	(Call, Visit)	\$ 0.00	\$ 50,000.00	\$ 1,000.00

Lack of  
data

Proof



Achieving a Desired ROI

Enter an ROI as the goal, and the calculator will compute the requisite utilization reductions in three domains that would achieve that target. The results are displayed for all selected payment systems. Each required reduction for the three domains is calculated holding all other reductions and all other independent variables at their previous levels.

1 Targeted Utilization Areas

Select ROI Goal






%

2 Utilization Reduction Required to Achieve the Desired ROI

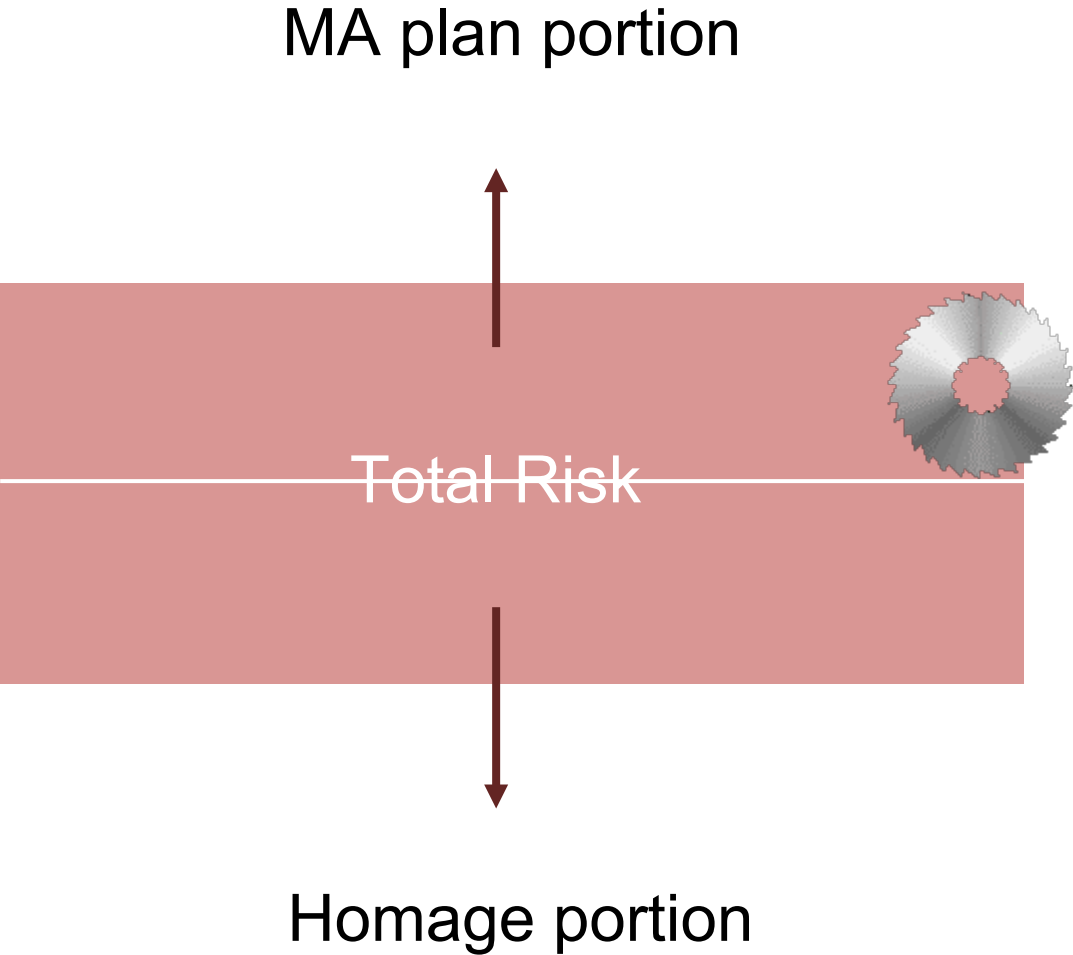
	FCR	FFS	Case Rate	Capitation	Gain Sharing
<input checked="" type="checkbox"/> Hospital Readmissions	7.2%	7.2%	7.2%	7.2%	7.2%
<input type="checkbox"/> Emergency Room Visits	n/a	n/a	n/a	n/a	n/a
<input type="checkbox"/> Skilled Nursing Facility Admissions	n/a	n/a	n/a	n/a	n/a

Plausibility

- 1 Full Cost Recovery
- 2 Fee for Service
- 3 Case Rate
- 4 Capitation
- 5 Gain Sharing

	Full Cost Recovery (FCR):	CBO receives payments that equate to its costs
	Fee for Service (FFS):	CBO receives payments for each service unit
	Case Rate:	CBO receives payments to provide a specified social service for a given period
	Capitation:	CBO receives PMPM payments to provide an array of social services
	Gain Sharing:	CBO receives a combination of FFS payments and a share of the financial gains





# FIVE PAYMENT OPTIONS – EACH DISTRIBUTES RISK DIFFERENTLY

## Full Cost

Homage gets paid its actual costs.

## Fee-for-Service

Homage receives a fixed rate from the MA plan for each unit of service (meal, visit etc.) that is provided.

## Case Rate

Homage receives a fixed rate from the MA Plan for each month that someone is receiving services.

## Capitation

Homage receives a flat rate for each referral from the MA plan.

## Gain Sharing

Homage receives a fixed case rate from MA plan to cover expected costs, plus a negotiated share of resulting financial benefits to the MA plan.

## Optional Tool: Accounting for Uncertainty in the ROI

The two remaining pages allow a simulation to assess the financial risks to the partners that stem from two types of uncertainty: 1) cost uncertainty surrounding the expenses of providing social services, and 2) uncertainty regarding the effectiveness of social services. There is a risk that financial returns are not forthcoming at the expected levels because of a lack of accurate information about the impact of some key determinants or the inability to predict impact with full certainty. The simulation systematically recognizes this uncertainty and displays a probable and reasonable range of results for the financial returns rather than a single, deterministic value. [Read More](#)

[← Previous](#)[Next →](#)

### Simulation Steps ?

#### 1 Inclusion

Select those independent variables from the checkboxes below that you believe are subject to variability

#### 2 Set Spread

Lowest Estimate

10% ↕

Highest Estimate

10% ↗

#### 3 Run Simulation

▶ Run Simulation

CBO			Health Sector Partner							
	FCR	FFS	Case Rate	Capitation	Gain Share	FCR	FFS	Case Rate	Capitation	Gain Share
Current Value	\$0.00	\$14.33	\$17.92	\$34.40	\$12.24	\$122.40	\$108.06	\$104.48	\$88.00	\$110.16
Minimum Value	\$0.00	\$2.67	\$7.75	\$27.56	\$10.35	\$103.53	\$85.89	\$85.86	\$71.88	\$93.17
Maximum Value	\$0.00	\$25.19	\$29.48	\$41.43	\$14.17	\$141.66	\$134.20	\$125.30	\$104.87	\$127.49
<b>Average</b>	<b>\$0.00</b>	<b>\$14.32</b>	<b>\$18.05</b>	<b>\$34.45</b>	<b>\$12.25</b>	<b>\$122.54</b>	<b>\$108.22</b>	<b>\$104.49</b>	<b>\$88.09</b>	<b>\$110.29</b>
Standard Deviation	\$0.00	\$3.93	\$3.43	\$2.59	\$0.64	\$6.41	\$7.67	\$6.93	\$5.76	\$5.77

- Continuing to focus on decreasing readmission rates.
- Analyzing data around LOS reduction.
- Exploring how best to refine the service package to serve beneficiaries with mental health challenges.
- Deploying strategies to increase engagement via outreach to provider groups and hospitals, in collaboration with the MA plan leadership.
- Designing and building a community integrated health network to provide social services across the region.
- Starting 2023 contracting discussions.

*“It has felt as close to a 50-50 partnership as we ever could have hoped for.”*

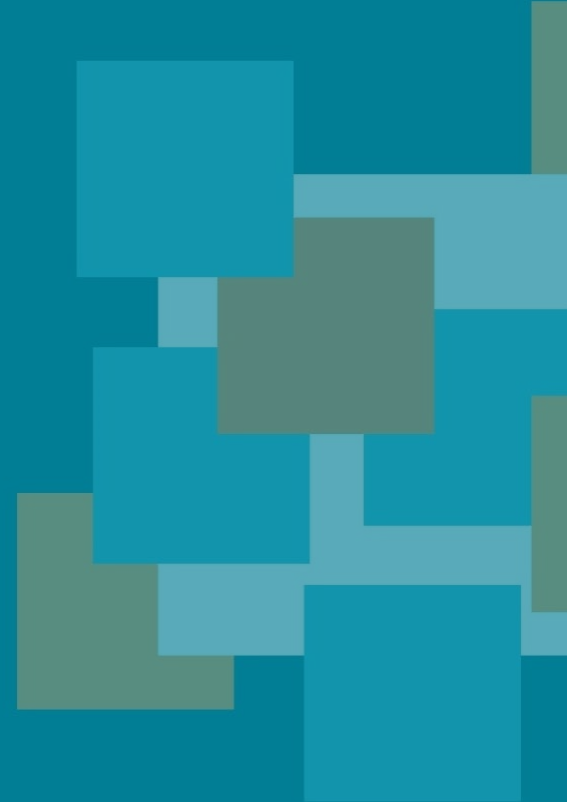
*Homage Program Director*

- 12 years working at the intersection of health and social care.
- Our projects have been made possible through a variety of client types within the system of health and social care such as foundations, national member associations, county health departments, federal agencies, health systems, payers, and community-based organizations.
- Our project work takes shape in a variety of ways, including strategy and positioning, cross-sector partnership design and implementation, capacity, skill and leadership building, market assessment and research, and the creation of community-based networks.

**THANK YOU FOR THE OPPORTUNITY TO HIGHLIGHT ONE OF OUR PROJECTS!**

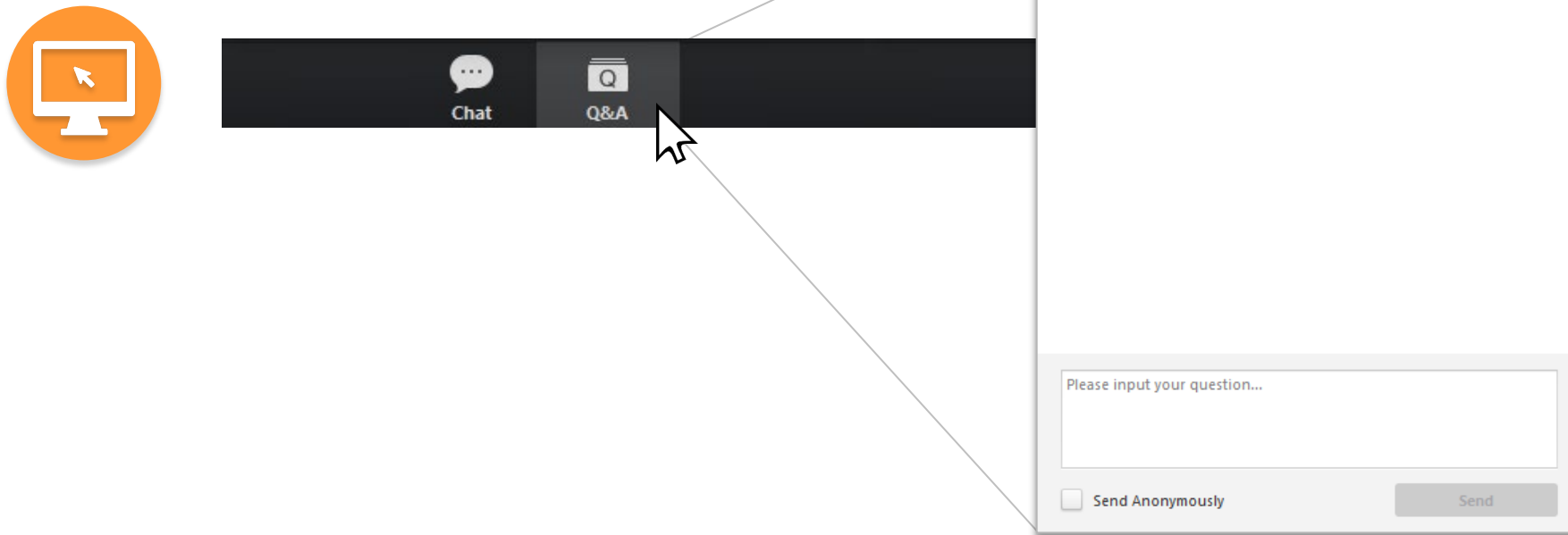
<https://collaborativeconsulting.net/about/>

# Question & Answer



# Questions?

- To submit a question, click the Q&A icon located at the bottom of the screen.





# Share Your Successes on the Playbook

**Have you established a promising practice?  
Published a study about your complex care  
program?**

The Playbook welcomes content submissions  
to help spread best practices in complex care.

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# Thank you!

Please submit your evaluation survey.

