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National Coordinating Center
Systems and Services Research to Build a Culture of Health

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Social Bonds as a Pooled Financing Mechanism to Address Social Drivers of Health Equity

Strategies to Achieve Alignment, Collaboration, and Synergy across Delivery and Financing Systems

Research-in-Progress Webinar
March 2, 2022
12-1pm ET

Agenda

Welcome: Glen Mays – S4A Director

Presenters: Pinar Karaca-Mandic, PhD • University of Minnesota

Rahul Koranne, MD • Minnesota Hospital Association

Commentary: Nathan Chomilo, MD • Minnesota Department of Human Services

Q&A: Glen Mays – S4A Director

Presenter

Pinar Karaca-Mandic, PhD
Professor, Department of Finance
C. Arthur Williams Jr. Professor of Healthcare Risk Management
Founding Director, Business Advancement Center for Health (BACH)
Carlson School of Management

Professor Pinar Karaca-Mandic teaches healthcare marketplace and medical technology evaluation at the Carlson School of Management, University of Minnesota. She is the C. Arthur Williams Jr. Professor in Healthcare Risk Management in the Department of Finance, and the Founding Director of the Business Advancement Center for Health (BACH). Prior to that, she served as the Academic Director of the Medical Industry Leadership Institute (MILI) from 2017 to 2021.

Dr. Karaca-Mandic is a Research Associate at the National Bureau of Economic Research (NBER), in Health Economics and Healthcare programs. She also serves as an Associate Editor of Forum for Health Economics and Policy, and an Editorial Board Member for the International Journal of Health Economics and Management.

As a health economist, her vision is to improve "value" in healthcare. Guided by this vision, her research made contributions to the literature in four key areas to understand: 1) Value and diffusion of medical technologies; 2) Uptake of clinical guidelines and response to evidence on safety and effectiveness; 3) Access and affordability of healthcare and role of health insurance marketplace; 4) Assessing competition, frictions and their impact in quality and costs. Her research examines interactions between these components and examines the impact of regulation and market incentives. Dr. Karaca-Mandic's research has been published in leading economics, medical and health policy journals.

CARLSON SCHOOL OF MANAGEMENT
UNIVERSITY OF MINNESOTA

Business Advancement Center for Health

Presenter

Rahul Koranne, M.D., MBA, FACP
President & Chief Executive Officer
Minnesota Hospital Association

Rahul Koranne, M.D., MBA, FACP, is president and CEO of the Minnesota Hospital Association. Dr. Koranne joined MHA in 2015, as SVP of clinical affairs/CMO and was named president and CEO in 2020. Before joining MHA, Dr. Koranne was a VP with HealthEast Care System. From 2000 to 2005, he served as a primary care physician at the smallest critical access hospital in Minnesota in Starbuck.

Dr. Koranne is a faculty member at the University of Minnesota Carlson School of Management, where he received his MBA in 2008. He earned his medical degree at the University of Delhi in India and completed his residency in internal medicine at the State University of New York, Brooklyn, and his fellowship in geriatrics at the University of Minnesota.

Minnesota Hospital Association

Commentator

Nathan T. Chomilo, MD
Medical Director, Medicaid & MinnesotaCare, *Minnesota Department of Human Services*
Pediatrician, *Park Nicollet Health Services / HealthPartners*

Dr. Nathan T. Chomilo is Medical Director for the State of Minnesota's Medicaid & MinnesotaCare programs and practices as a General Pediatrician with Park Nicollet Health Services/HealthPartners. He served as the State of Minnesota's COVID-19 vaccine equity director and is a Senior Advisor on Equity to the Minnesota Commissioner of Health.

He graduated from the University of Minnesota Medical School. He completed his combined residency in Internal Medicine and Pediatrics at the University of Minnesota and was the Pediatric Chief Resident at the University of Minnesota Children's Hospital.

He is an Adjunct Assistant Professor of Pediatrics at the University of Minnesota Medical School, cofounded the organization Minnesota Doctors for Health Equity, serves on the board of directors of Reach Out and Read and serves on the steering committee of the Minnesota Perinatal Quality Collaborative. His work has been recognized by Reach Out and Read National which awarded him the 2018 Medical Champion Achievement Award, the City of Minneapolis Department of Civil Rights which recognized him as a 2019 History Maker at Home recipient, Minnesota Physician which named him a one of the 100 most influential health care leaders in 2020 and the Minnesota Medical Association which awarded him the President's Award in 2021.

Project Goal

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To investigate whether a novel type of a financial instrument, a social bond, can pool resources across multiple competing health plans and create stable, long-term financing for interventions that address social drivers of health (SDH)

Key Features:

- Focus on Medicaid population
- Allow multiple health plans participating in Minnesota's Medicaid program to collectively issue and administer the bond
  - Also consider public-private partnership allowing the state Medicaid agency to participate
- Funds raised from investors will finance community-based interventions targeting social issues such as food insecurity, housing instability, transportation, and structural racism
- These interventions result in healthcare cost savings, which are then used to pay investors back (with interest)

The Problem

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- Social Drivers of Health (SDH): includes structural racism, food insecurity, housing instability, education, transportation, safety, employment and other socioeconomic and environmental factors
  - Shape the well-being and health of individuals
  - Impact racial and health equity
  - Drive a large fraction of avoidable adverse health outcomes and healthcare costs

- Community-based, social services organizations, and public health programs are well positioned to address the SDH needs of their communities.
  - However, they are **underfunded** and **lack sustainable funding**
  - As a result, it is **difficult to scale** SDH interventions and **difficult to offer continuity** of access to social care

Why focus on Medicaid?

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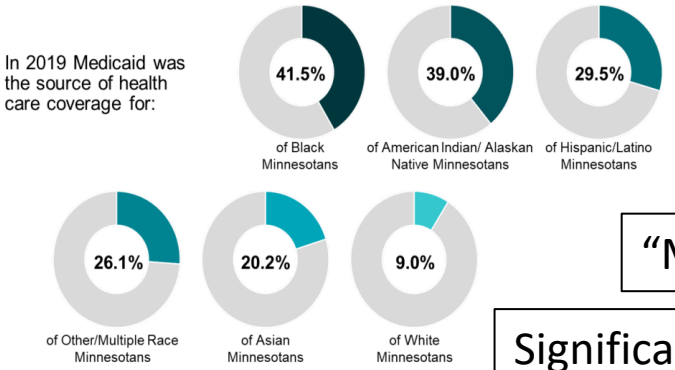
1. Complex and extreme SDH complications that interfere with patients' ability to adhere to care
2. The impact of addressing these needs to improve racial and health equity is elevated.
3. State Medicaid programs have actionable policy levers and flexibility to address SDH needs of their communities.
   - Based on 2019 data, about 40 states are working to address social needs with a wide range of activities through Section 1115 demonstration waivers and managed care contracts (DeSalvo & Leavitt, 2019)

Medicaid

Medicaid and Minnesota

New Report from MN Department of Human Services "*Building Racial Equity into the Walls of Minnesota Medicaid: A focus on U.S.-born Black Minnesotans*" – February 2022



Medicaid is an important source of access for Black, American Indian/Alaska Native, Hispanic/Latino Minnesotans

"Minnesota paradox" – Dr. Samuel Myers

Significant racial disparities – income inequality, home ownership, education access, food insecurity, employment loss, mortality

Minnesota Medicaid Program has the key levers to address and ensure racial equity

The wrong-pocket problem

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- SDH interventions result in health improvements over a long period of time
- The return on SDH investments by Medicaid Managed Care Organizations (MCOs) are largely realized in the long-run as “costs savings” (for example, avoided ED visits, readmissions)
- However, a given MCO is not guaranteed to realize these future returns given the volatility in Medicaid enrollment primarily because:
    1) Medicaid enrollment has a high churn rate with month-to-month eligibility changes, entry, exit, and plan switching; and
    2) Through the competitive bidding process for Medicaid contracts, the MCO may lose their contracts and enrollees before full benefits of their SDH investments are realized.

Result: Inefficiently Low SDH Investments

How about…MCOs jointly invest in SDH?

One approach would be to have each MCO invest $X today

- Implementation? How large is X? Enrollee MCO switching, churn?
- We have not yet solved the wrong pocket problem!

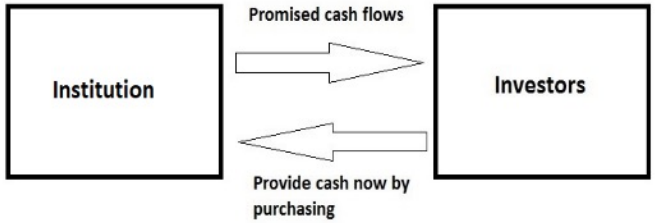
Our proposed idea:

We could raise funds in the market through a savings bond jointly issued by multiple MCOs.

How does a bond work?

A bond is a financial contract that is sold by an institution (company, government, etc) to investors

Promised cash flows back to investors are split between MCOS: will be calculated based on share of cost savings that would accrue to each, addressing the "wrong-pocket" problem

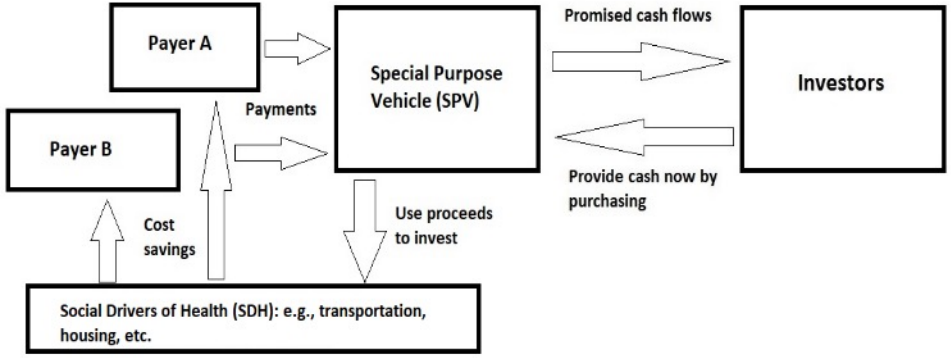


But not just any bond: A Social Bond

The bond would be issued jointly by multiple MCOs (Special Purpose Vehicle-SPV), sold to individual investors

Investors buy the bond for a certain price → funds are raised

- Funds used for investments into Social Drivers of Health (SDH) programs
- In exchange, the MCOs promise to pay investors some money (principal and interest) in the future
- Enrollees have improved health outcomes, cost savings are realized
- MCOs pay back investors proportional to estimated cost savings



What problems does the bond solve?

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1. **Harnesses the power of broader capital market**
   Engaging socially minded individual investors directly, and allowing funds to be raised quickly to be allocated to SDH projects rather than asking MCOs to put in large sums of money up front

2. **Diversification and Risk Pooling**
   Pooling of funds and ability to invest across multiple SDH projects for a large group of individuals reduces financial risks

3. **Risk Sharing across MCOs**
   Joint issuance with multiple MCOs enables risk-sharing coupled with future cost-savings benefits

4. **Continuity and Patient access**
   Allowing access to programs even if the person moves from one program to the other (all MCOs issuing the bond would support the same SDH programs)

5. **Bond payment follows patient**
   Allows for tracking beneficiaries of SDH programs, and thus provides a mechanism to calculate what percent of the outstanding bonds need to be paid by each MCO

6. **Role for public-private partnership**
   State Medicaid agency for example may want to subsidize in exchange for supporting SDH project that may not have large financial return, but large health equity, racial justice impact

Our Study Aims

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Aim 1

Design and prototype the social bond

Identify key parameters and features of the bond (i.e. maturity)

- Stakeholder engagement

Environmental scan of the ROI on SDH programs, assessing returns in two domains:

- Economic returns in terms of costs savings
- Health equity and racial equity impact

Aim 2

Evaluate the performance of the SDH interventions funded by the social bond using simulation methods

Examine whether the social bond will be attractive to investors, thus allowing funding to flow to SDH interventions, and allow cost savings for MCOs providing an incentive for them to participate

- Simulate a hypothetical portfolio of SDH interventions (informed by Aim 1) under alternative scenarios

Both the design and evaluation of the social bond will incorporate racial and health equity impact as well as financial returns

Methodology Overview

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Community participatory approaches

Engage local health and social service stakeholders in the design of the bond instrument.

Literature Search, key informant interviews, and focus groups

Assess the returns from SDH initiatives:

1. Economic returns in terms of cost savings.
2. Health equity & racial equity impact.

Methodology

Monte Carlo simulation methods are used to estimate the bond's impact on health and social outcomes for racial and ethnic minority populations over time, while also estimating economic returns to health plans, Medicaid and other investors.

Create a taxonomy of the type of SDH initiatives to create a hypothetical portfolio of SDH initiatives that the proceeds from the bond can fund.

Stakeholder Engagement in Design

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Bond Design: How do we set up the social bond?

- What are some technical features that need to be decided on (i.e. Special Purpose Vehicle), legal framework, standards?
- How do we decide on key bond features such as maturity, price, coupon rate, interest rates etc
- What are implementation challenges?

SDH Initiatives: What do we know about the types of SDH initiatives?

- How long was the implementation period?
- Whom did they serve and what was the impact on health equity and racial equity?
- What outcomes were measured (i.e. rates of food insecurity, hospitalizations)?
- Was there a change in outcomes?
- How does the change in outcomes translate to cost savings?

Preliminary Literature Review

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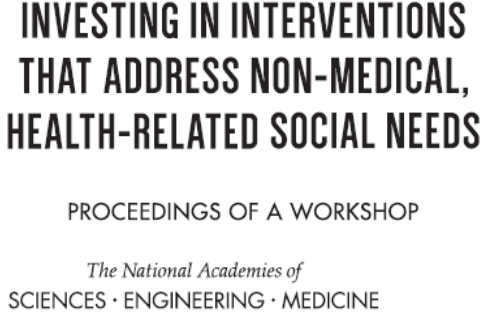
- Pubmed and SIREN (https://sirenetwork.ucsf.edu/tools/evidence-library)

	Food & Hunger	Housing Stability	Transportation
Peer reviewed	333	290	158
Utilization and cost	56	80	45
2019	10	6	5
2018	11	14	7
2017	5	8	5
2016	7	8	2
2015	1	3	1
2014	2	1	1
2013 and before	9	20	15
Total, 2019 and before	45	60	36



Various payer & provider driven programs

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An Rx for Good Health: Geisinger Launches Fresh Food Pharmacy

Low-income, diabetic patients treated in pioneering pilot program

NEWS PROVIDED BY
Geisinger Health System →
Nov 10, 2016, 10:16 ET

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DANVILLE, Pa., Nov. 10, 2016 /PRNewswire-USNewswire/ -- Hippocrates, hailed as the father of modern medicine, is credited as being the first to propose "food as medicine and medicine as food."

Bloomberg Businessweek

Businessweek Feature

America's Largest Health Insurer Is Giving Apartments to Homeless People

A radical fix for the U.S. health-care crisis.

By John Tozzi
November 5, 2019, 3:00 AM CST

How Payers Scale Social Determinants of Health Goals

Humana's Bold Goal program highlights ways that payers can scale their social determinants of health strategies across lines of business and demographics.

Source: Getty Images

By Kelsey Waddill

KHN

Why Hospitals Are Getting Into The Housing Business

DENVER — One patient at Denver Health, the city's largest safety net hospital, occupied a bed for more than four years — a hospital record of 1,358 days.

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Published: May 20, 2019

Featured Content

Creating a taxonomy of programs

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Through stakeholder engagement and focus groups, sort the SDH projects along two dimensions:

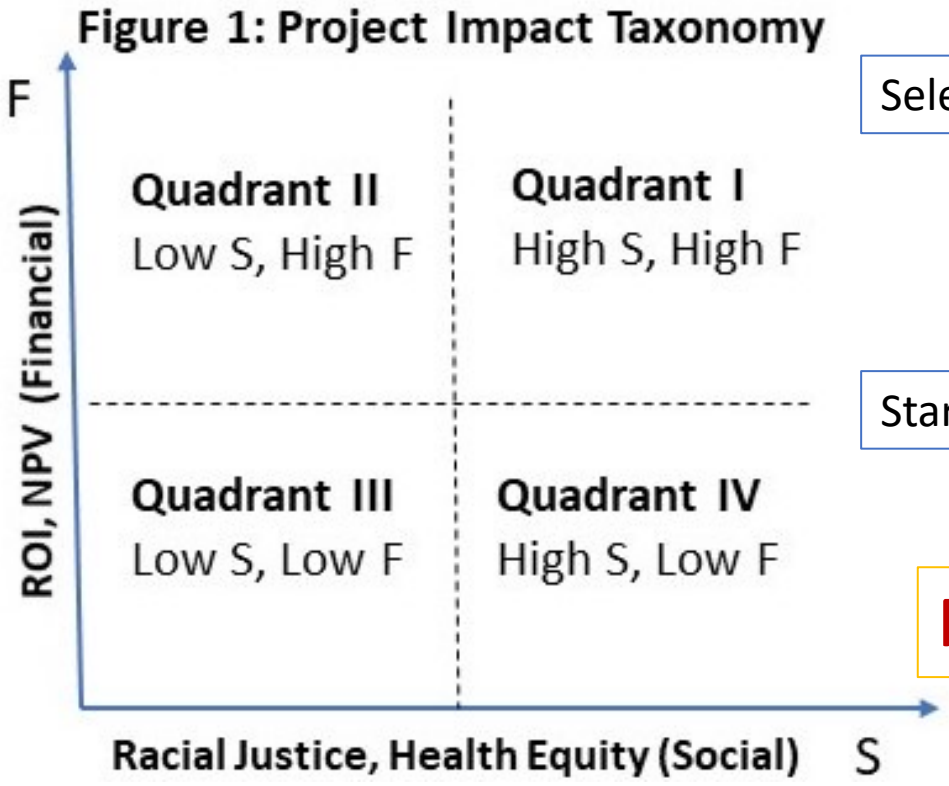
Financial Return

- Assess the likelihood of success and the size of the NPV and ROI associated with each SIH project
- Convert outcomes (i.e reduced food insecurity) to $ (i.e. cost savings) using literature and data analyses (i.e. MEPS)

Racial Justice & Health Equity

- Assess the extent to which the SDH project will impact different racial and ethnic groups and its potential to reduce health inequities broadly
- Several toolkits available
  - Racial Equity Impact Assessment (REIA) Toolkit
  - Government Alliance on Race & Equity (GARE) toolkit

Selecting SDH projects for simulation



Select a set of projects from Quadrant I

Estimate the performance of portfolio using Monte Carlo simulations
- ROI and Social ROI (SROI)

Start blending projects from Quadrant IV

Estimate the performance of portfolio

Public-Private Partnership

Alternative Bond Features and Structures

- Informed by stakeholder engagement, consider alternative bond features and funding structures
- Vary the maturity structure (3 years, 5 years, etc), coupon payments (pay returns annually, how much) and other structural elements (call features)
- Our baseline considers a purely private structure with multiple MCOs
  - Vary the number of participating MCOs, and their enrollee population
  - Public-private partnership model, for example, a government-backed social bond in which a portion of the losses may be covered by a public entity may attract more investors
  - Risk-sharing with investors – returns are paid only if certain outcomes are achieved (similar to social impact bonds)

Relatively new, emerging area of finance

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- Increasing attention to Environmental, Social and Governance (“ESG”) strategies for investments over the last decade
- Initially referred to as the Green Bond Market (specific to environmental issues); evolving variations of bonds
  - *Green Finance*
  - *Sustainable Finance*
  - *Social Finance*
  - *Sustainability-Linked*
- For the full year 2021, a total of $1.6 trillion of bonds or loans were issued across all different market types, up from $148 billion in 2016
- Since 2020, with the pandemic, Sustainability-linked Bonds have been the fastest growing segment of the market (primarily through European government agencies)
- New Bond Principles and Guidelines are being developed

Next Steps

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- Continue peer-reviewed and gray literature reviews
- Start key informant interviews
- Review social bond principles/standards/frameworks
- Review simulation methodologies and start building numerical exercises for bond returns
- Stakeholder engagement
  - Assessing SDH projects based on financial, racial and health equity returns
  - Bond features
- Build simulation models
- Manuscript preparation and dissemination

Project Team

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Partnerships

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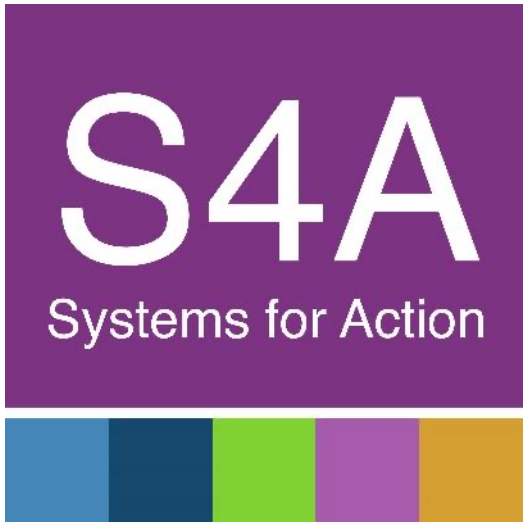
Questions?



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March 16th: Integrating Health and Social Services through a Novel Independent Practice Association - *Stanford University School of Medicine*

April 13: Collaborative Approach to Public Good Investments with the Urban Institute - *Urban Institute*

Register at:
https://systemsforaction.org/research-progress-webinars

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