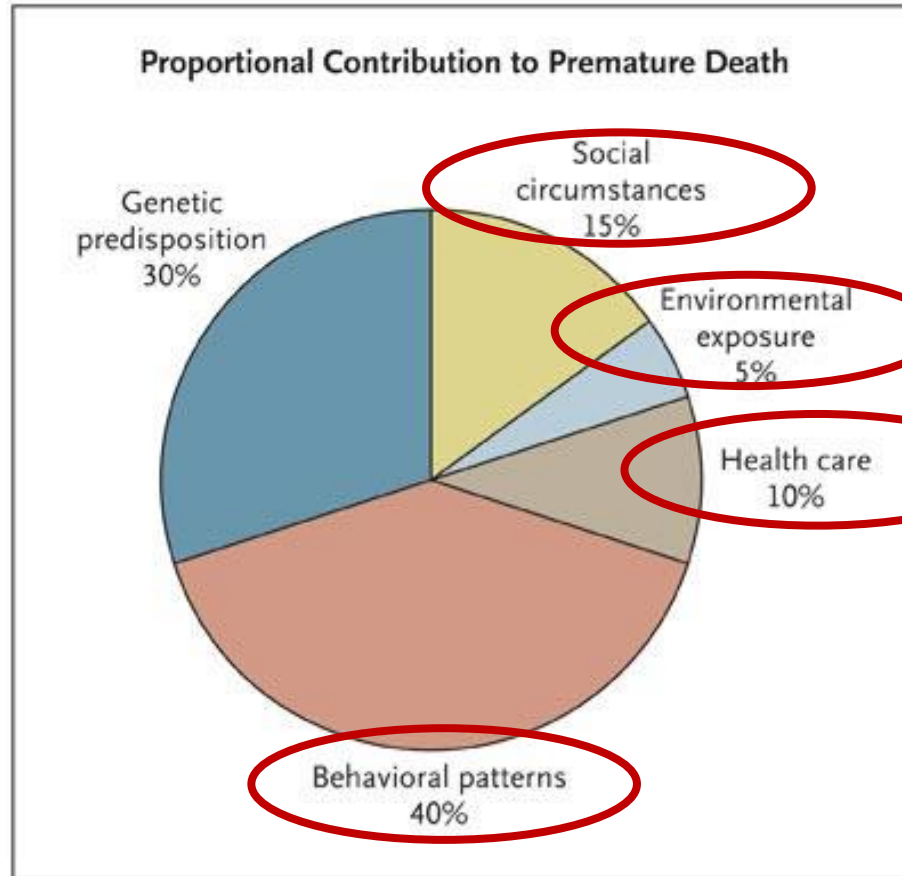


# Equity in Action: Mapping Public Health Networks to Accelerate Change

2021 Public Health at the Rockies Panel  
August 25<sup>th</sup> | 4-5pm

# Multiple systems & sectors drive health...

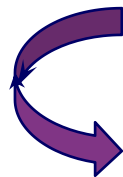


# ...But existing systems often fail to connect

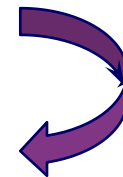
Medical Care ↔ Social Services & Supports ↔ Public Health

- Fragmentation
- Duplication
- Variability in practice
- Limited accessibility
- Episodic and reactive care
- Insensitivity to consumer values & preferences
- Limited targeting of resources to community needs

- Fragmentation
- Variability in practice
- Resource constrained
- Limited reach
- Insufficient scale
- Limited public visibility & understanding
- Limited evidence base
- Slow to innovate & adapt

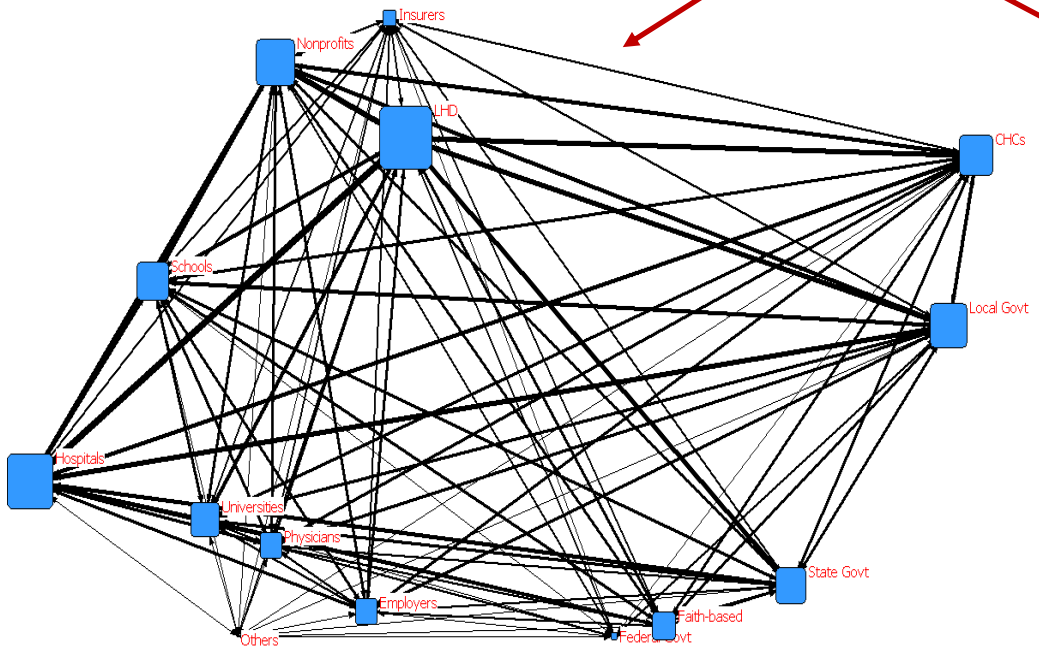


*Waste & inefficiency*  
*Inequitable outcomes*  
*Limited population health impact*



# Strong public health systems are networks, not just government agencies

Public health agencies  
as catalysts &  
force multipliers



Over 10 years, strong & connected public health systems produce:

- 8.0% ↓ preventable mortality
- 2.3% ↓ healthcare costs
- 3.1 year ↓ life expectancy disparity

Mays GP et al. Understanding the organization of public health delivery systems: an empirical typology. *Milbank Quarterly*. 2010;88(1):81-111.  
Mays GP et al. Preventable deaths fell where communities expanded population health activities through multisector networks. *Health Affairs* 2016;35(11):2005-13.

# What do we know about multi-sector work in population health?

## National Longitudinal Survey of Public Health Systems

- Cohort of ~600 communities across the U.S.
- Followed over time since 1998\*
- Local public health officials report:
  - **Scope**: implementation of 20 nationally recommended public health activities
  - **Network**: organizations contributing to each activity
  - **Centrality of effort**: contributions by public health agencies
  - **Quality**: perceived effectiveness of each activity

\*\* Expanded sample of rural communities added in 2014 wave

# Testing **new mechanisms** for aligning systems across sectors to improve health:

- New alliances and partnerships
- Inter-governmental and public-private ventures
- New financing and payment arrangements
- Incentives for individuals, organizations & communities
- Cross-sector governance & decision-making structures
- Information exchange and decision support
- Community engagement & deliberation
- New workforce and staffing models

**Systems for Action**

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

[www.systemsforaction.org](http://www.systemsforaction.org)

# Local Public Health Systems' Efforts in Addressing Disparities in Community Health

Presented by:  
Elleni Mehari, MA  
PhD student in Health Services Research

# Community Health

- Barriers to equitable outcomes
- Preventable differences closely linked to determinants of health
  - housing and transportation
  - schools and workplaces
  - social network composition



Image: John Hopkins Bloomberg School of Public Health



# Local Public Health Systems

- Public health systems' efforts in improving community health
  - Capital (breadth and depth of connections)
- Inequities in efforts across the United States
- Health initiatives and action plans

# Objective

What is the relationship between public health system capital and the proportion of community health initiatives and action plans aimed at reducing health inequities/disparities?

# Data/Methods

- 2018 National Longitudinal Survey of Public Health Systems (NALSYS)
- Nationally representative cohort of 316 U.S. communities
- Measures implementation and impact of 20 multi-sector population health activities
- Logistic regression model

# Predictors of Interest

- Primary: composite score of local public health system capital
  - Capital: limited, conventional, comprehensive
- Multi-sector engagement
- County-level demographics

# Outcome

Proportion of community-driven health initiatives and action plans aimed at reducing health inequities/disparities

- above or below 50% effort

# Significant Associations with Increased Efforts Toward Targeting Inequities/Disparities

- Comprehensive public health systems
  - Increased probability of 15 percentage points compared to both conventional and limited systems
- Involvement of public health agency, employers, support services for older adults, transportation services
- Rise in uninsured and nonwhite populations

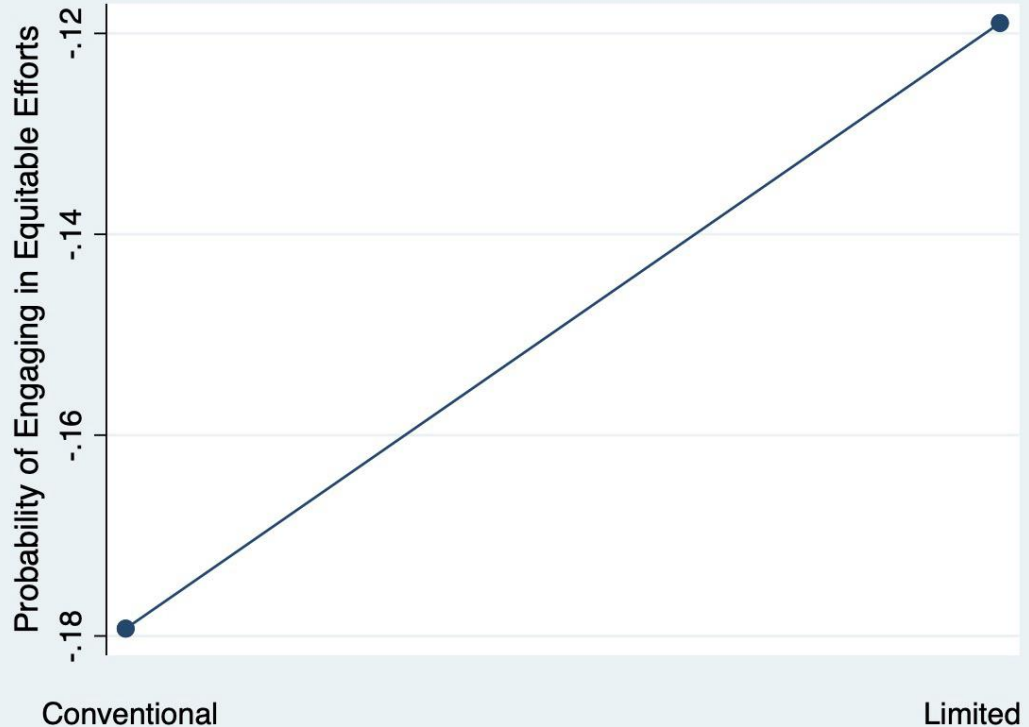
# Compared to Comprehensive Health Systems

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**Conventional:** 18 percentage points lower\* in efforts toward inequities/disparities

**Limited:** 12 percentage points lower in efforts toward inequities/disparities

Conventional and Limited Public Health System Capitals Compared to Comprehensive



\* indicates  $p < .05$

## Conclusion



## Implication

Strongest public health systems were more likely to engage in equity-driven efforts

Prioritize partnerships with community members and multi-sector organizations



# Conclusion



# Implication

Limited public health systems more likely than conventional to target inequities/disparities

Limited systems may be more intentional with distribution of resources

## Conclusion



## Implication

Community health initiatives and action plans can help identify whether inequities/disparities are being addressed

Community-based efforts can be leveraged to improve population health

# Collaborations Across Health

- Importance of cross-sector relationships
- Patterns/trends in communities
  - Connectedness and influence of community organizations over time

# WHAT KIND OF PUBLIC HEALTH NETWORKS ARE BEING INCLUSIVE?

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Kyla L. Bauer, PhD Student

Co-Authors: Kelsey Owsley; Dr. Glen Mays

# 2018: TRIBAL ORGANIZATIONS

Inclusivity Important for:

- AI/AN Health Disparities
- National Indian Health Board Multi-Sector Partnership Goals

### 33 Sectors & Social Services

1. Local Public Health Department
2. Local Government Agency
3. State Health Department
4. Other State Agency
5. Federal Government Agency
6. Hospitals
7. Physicians
8. Community Health Centers
9. Universities
10. K-12 Schools
11. Health Insurance
12. Employers
13. Faith-Based Organizations
14. Other Non-Profits
15. Tribal Organizations
16. Cash Assistance
17. Transportation
18. Food
19. Housing
20. Veteran's
21. Land
22. Agriculture
23. Justice
24. Disability
25. Arts
26. Child Services
27. Economics
28. Environment
29. Parks
30. Job
31. Legal
32. Corrections
33. Older

# DEFINING INCLUSION

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Two sectors both  
conducting essential  
public health activity

No defined relationship

HOW MANY COUNTIES?

OUT OF 1,048 COUNTIES  
& 48 STATES

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# MODEL PREDICTORS

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1

Self-Identified  
AI/AN > 1%

2

TRIBAL-LED HEALTH  
FACILITY

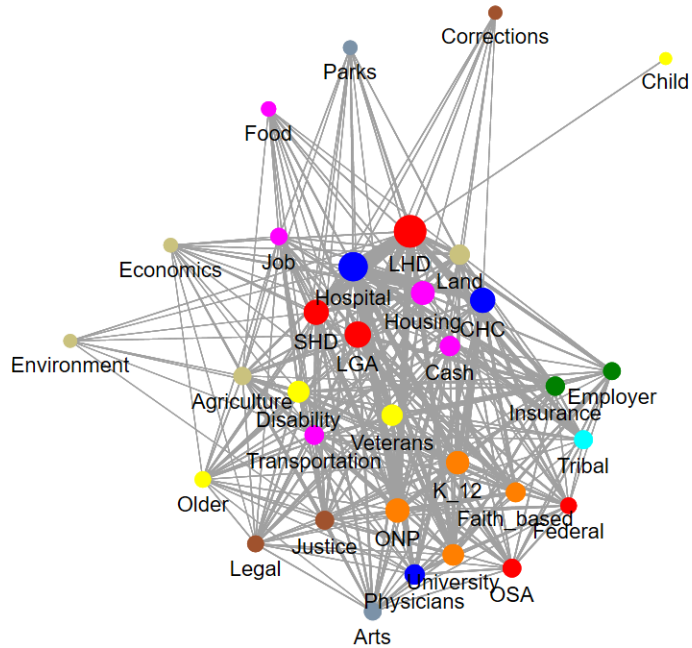
3

PROXIMITY TO  
TRIBAL LANDS



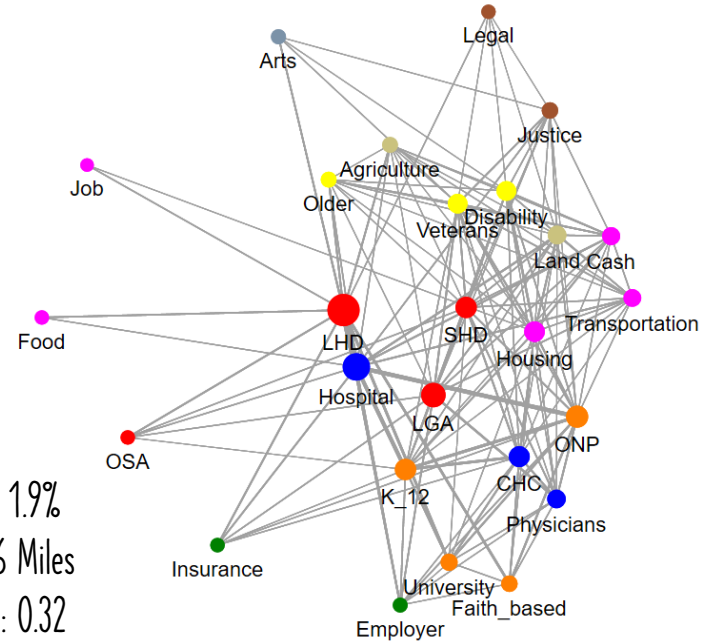
# WHY IS IHS NOT A GOOD PREDICTOR?

IHS in Region, Tribal Engagement (n=70)



AI/AN: 6.2%  
Land: 26 Miles  
Density: 0.75

IHS in Region, No Tribal Engagement (n=180)

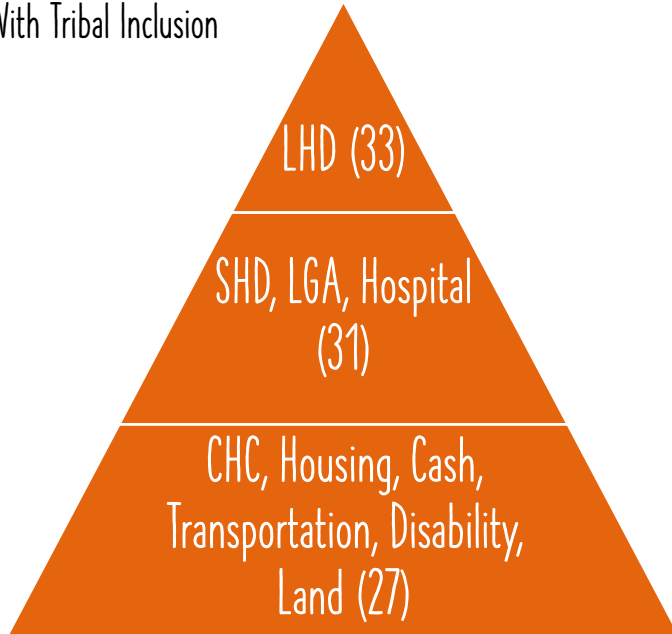


AI/AN: 1.9%  
Land: 46 Miles  
Density: 0.32



# DIFFERENT HIERARCHIES OF ACCESS

IHS With Tribal Inclusion



IHS With Tribal Exclusion



# DIFFERENT HIERARCHIES OF ACCESS

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No IHS With Tribal Inclusion

30 Sectors & Social Services (33)

Tribal Organizations, Child Services, Job Assistance (31)

No IHS With Tribal Exclusion

LHD (28)



Hospitals (26)



Housing, LGA (25)



# Aligning Health and Social Systems to Expand Evidence-Based Home-Visiting

Greg Tung, PhD, MPH

**Health Systems, Management & Policy**  
colorado school of public health



Department of Pediatrics  
SCHOOL OF MEDICINE  
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS



**Nurse-Family  
Partnership**  
*Helping First-Time Parents Succeed®*

# PROJECT TEAM & COLLABORATORS

- Principal Investigator and Co-Investigators
  - Venice Ng Williams, PhD, MPH
  - Greg Tung, PhD, MPH
  - Mandy Allison, MD, MSPH, MA
- Project Team
  - Mike Knudtson, MS
  - Connie Lopez, BSN, RN, MA
  - Carol Franco, MA
- Collaborators/Advisory Committee:
  - David Olds, PhD
  - Chris Arestides, BSN, RN, MPH
  - Jade Woodard, MPA



**Health Systems, Management & Policy**  
colorado school of public health



Department of Pediatrics  
SCHOOL OF MEDICINE  
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

# OUR PROJECT

- Study Purpose
  - To examine the effects of *multi-sector financing and delivery strategies* in expanding the *reach and impact* of the Nurse-Family Partnership® (NFP) program across the United States using a *mixed-methods* approach



# Nurse-Family Partnership

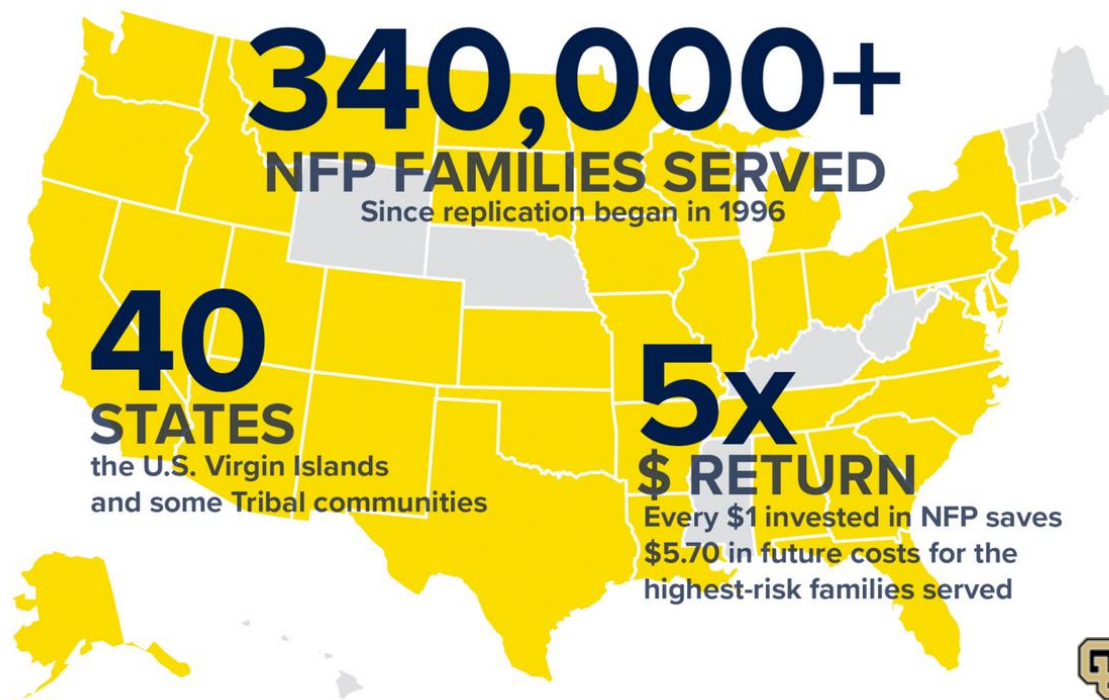
*Helping First-Time Parents Succeed*™



University of Colorado  
Anschutz Medical Campus



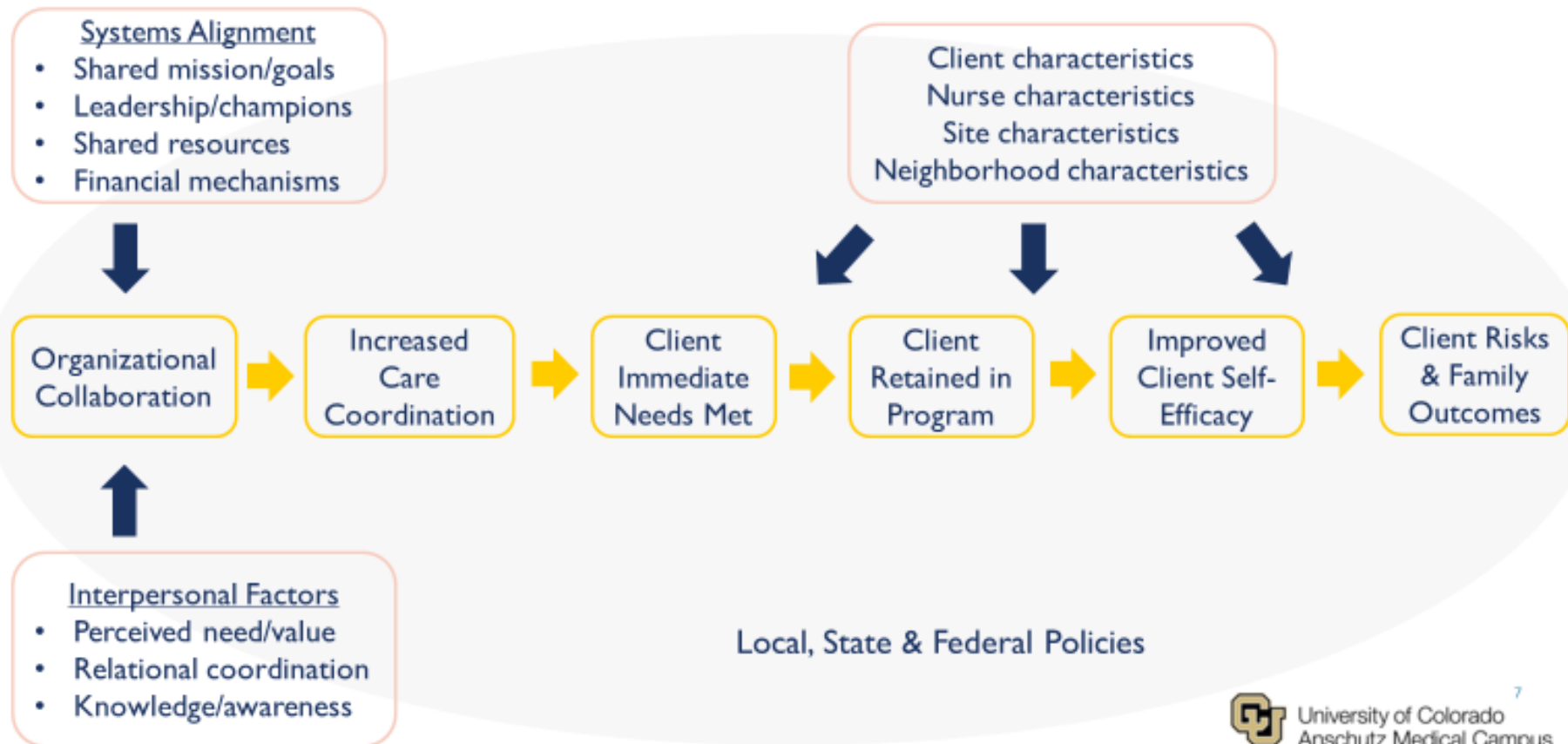
NURSE-FAMILY PARTNERSHIP® IS A COMMUNITY HEALTH PROGRAM THAT TRULY CHANGES LIVES – FOR GENERATIONS TO COME.



# OUR PROJECT

- Aim 1. Assess degree of collaboration by site between NFP and cross-sector providers including healthcare systems and social services
- Aim 2. Estimate the relationship between site-level collaboration and program outcomes
- Aim 3. Identify and disseminate best practices of successful collaboration with health systems and social services

## Conceptual Model/Theory of Change

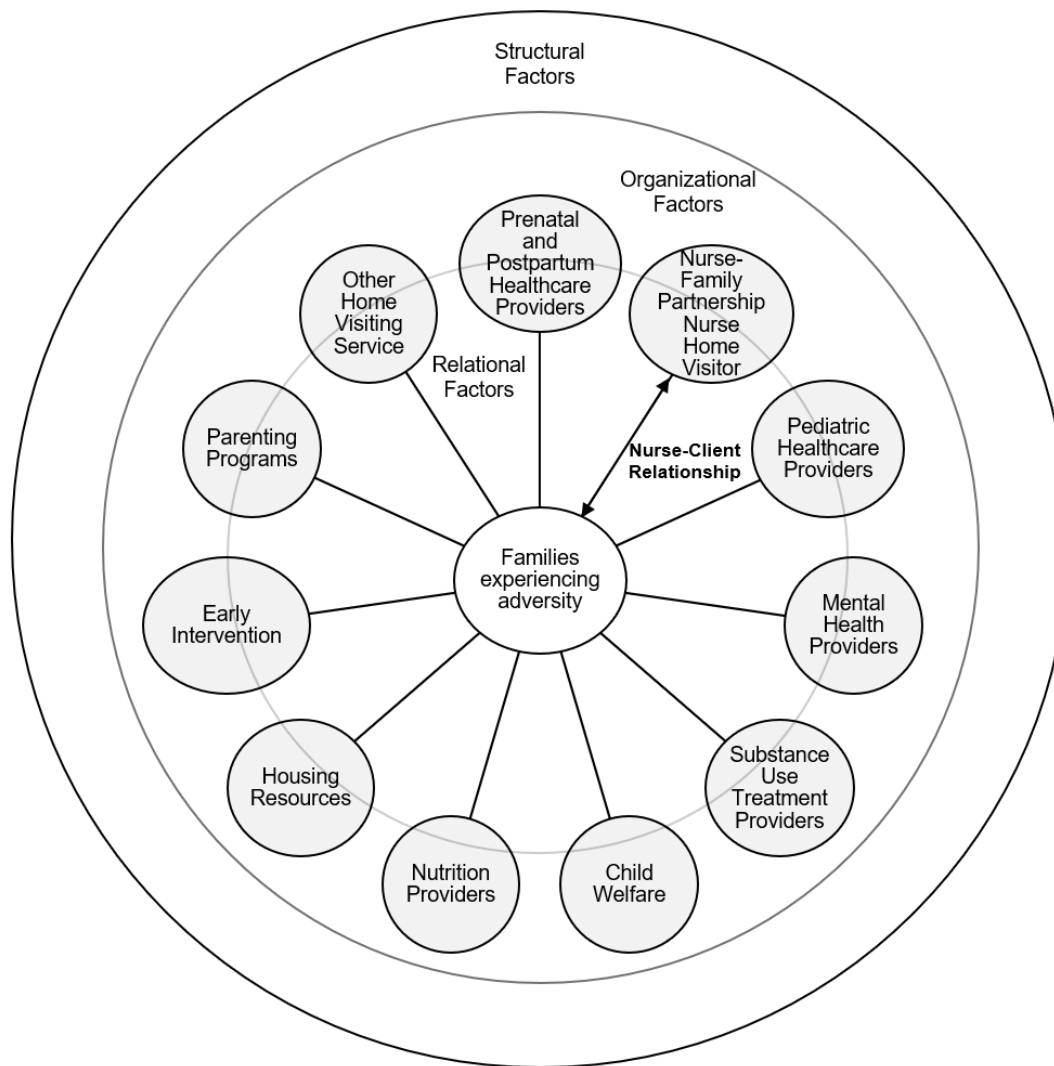


## AIM I: COLLABORATION CHANGES OVER TIME

Research Question: ***Has systems-level collaboration between NFP and other cross-sector providers changed in response to “naturally-occurring” efforts to facilitate enhanced collaboration?***

- Longitudinal survey methodology
- NFP nurse collaboration with other healthcare and social service providers
- Measures relational coordination and structural integration

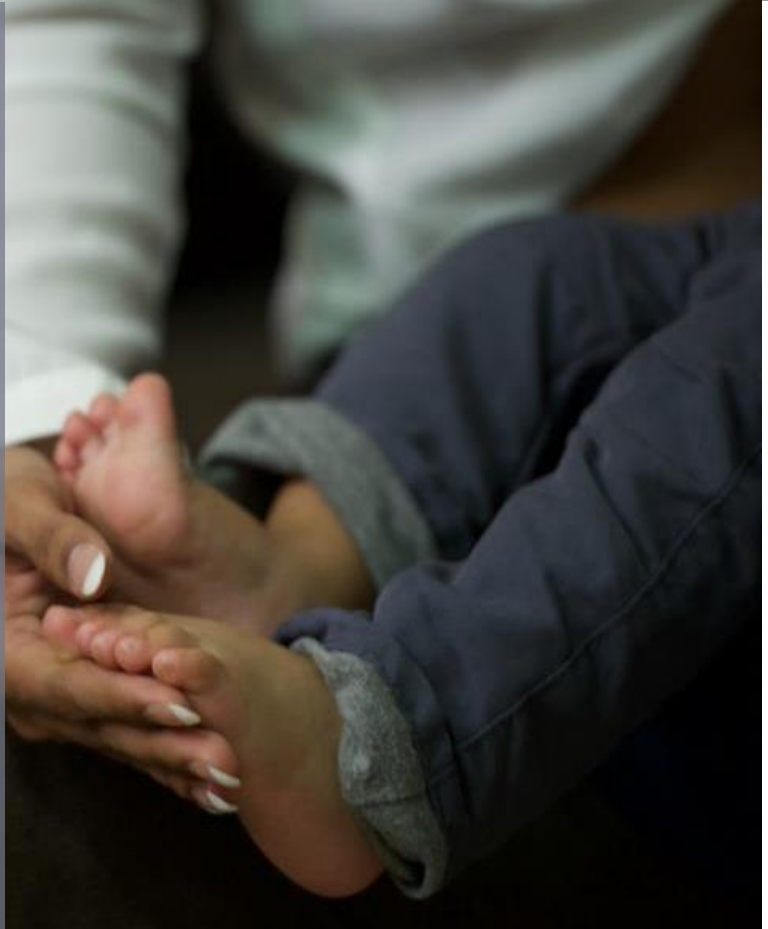
**RELATIONAL  
COORDINATION**  
measures Relational  
Factors



**STRUCTURAL  
INTEGRATION**  
measures Structural  
and Organizational  
factors

## 2018 TO 2020 CHANGES

- Improved coordination with Women's Care
- Decreased coordination with WIC & parenting programs
- Less integration with parenting programs

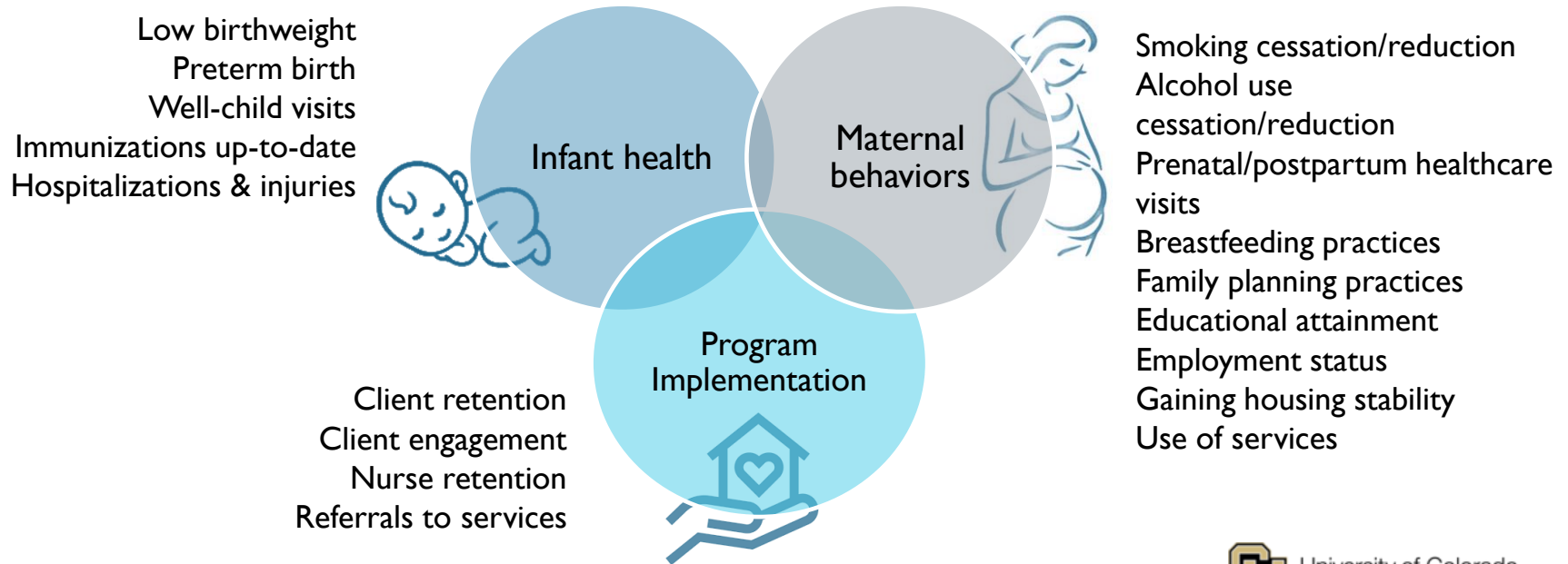


## AIM 2: COLLABORATION & OUTCOMES

Research Question: ***What is the relationship between improved NFP-community provider collaboration and program outcomes?***

- Random effect (mixed) models with client-, nurse-, and site-level factors
- Compare healthcare-financed sites vs. social service-financed sites

# OUTCOMES





## EARLY RESULTS

**Collaboration matters but the exact dynamics are challenging and complicated to interpret**

- Positive associations between coordination with pediatrics and client retention postpartum
- Negative associations between coordination with WIC and CPS and client retention
- Agency type may play role in retention



## AIM 3: BEST PRACTICE MODELS

Research Questions: *Which highly collaborative NFP sites are the top performers based on identified program outcomes in Aim 2?*

*What are the best practices, activities, and dynamics to collaboration among high-performing NFP sites?*

- Positive deviance approach to identify high-performers
- Conduct qualitative case studies
- Create best practice models of collaboration (including financing mechanisms)

# Impact of COVID-19 on Systems Alignment in Sarasota

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Assessing increased referrals from  
**health care to public health and  
social services** during the pandemic

Danielle Varda, PhD of Visible Network Labs

# Project Partners



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CEO/EXECUTIVE DIRECTOR



**Charlene Altenhain**  
CHIEF OPERATING OFFICER



**Sarah Glending**  
COMMUNICATIONS & DEVELOPMENT SPECIALIST

**VisibleNetwork**Labs

[www.visiblenetworklabs.com](http://www.visiblenetworklabs.com)



**Dr. Danielle Varda,**  
CEO & Founder



**Dr. Amanda Beacom,**  
VP of Research &  
Data Science



**Dr. Rose Hardy,**  
Network Data  
Scientist

# Methods

Timeline: May-July 2021 by The Glasser/Schoenbaum Human Services Center and Visible Network Labs

PARTNER Survey Administration: SRQ Clinic to Community Survey assessed how the greater Sarasota/Manatee area network was activated to address the increasing social service referrals in the community during the COVID-19 pandemic.

- 88 organizations were invited to participate in the survey
- 67 members responded, for a 76% response rate.
- Those that responded reported that they collectively had 1,572 partnerships, and described the resulting “network” of partnerships.

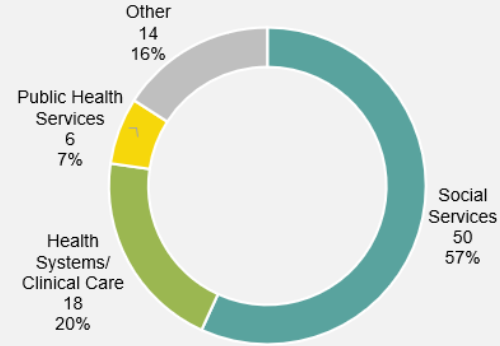
This was compared to the Sarasota/Manatee organizational network assessed in 2018.



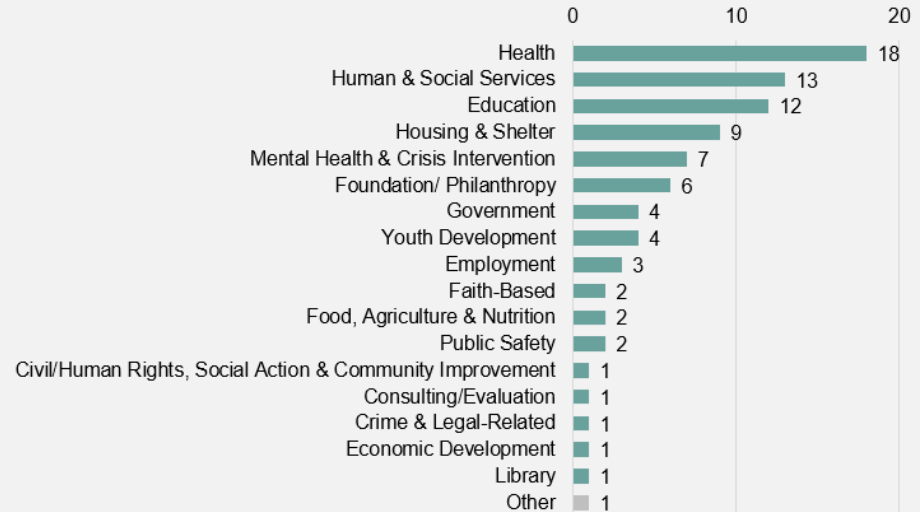
# Survey Results

# Members of the Network

**Service Type**  
*n = 88 members*



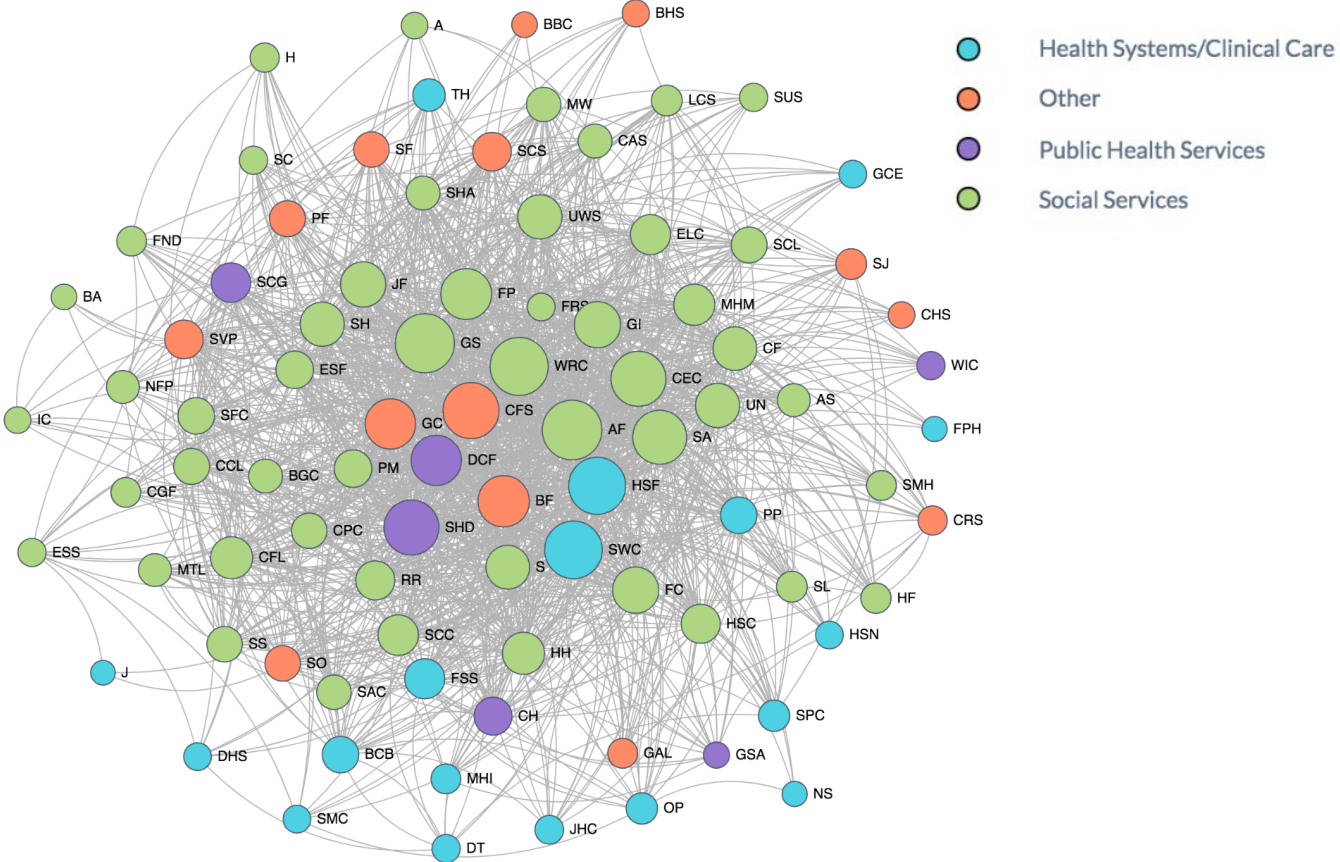
**Primary Organizational Function**  
*n = 88 members*





# Whole Network during Pandemic

SRQ Clinic to Community Network (n = 88 members)



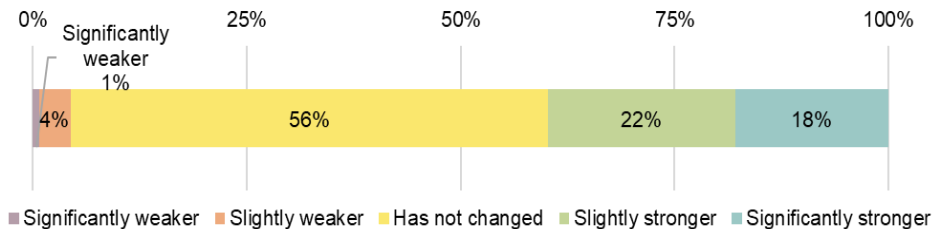




# Strength of Partnerships During Covid

**Q25: To what degree has your relationship with this organization changed since the COVID-19 pandemic began?**

*n = 1463 relationships*



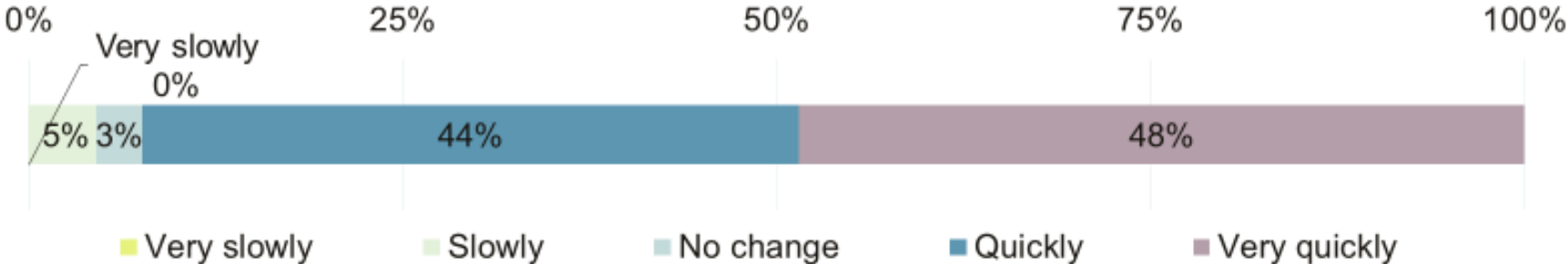
**Q26: During the COVID-19 pandemic, this partnership has (select all that apply):**

*n = 1463 relationships*

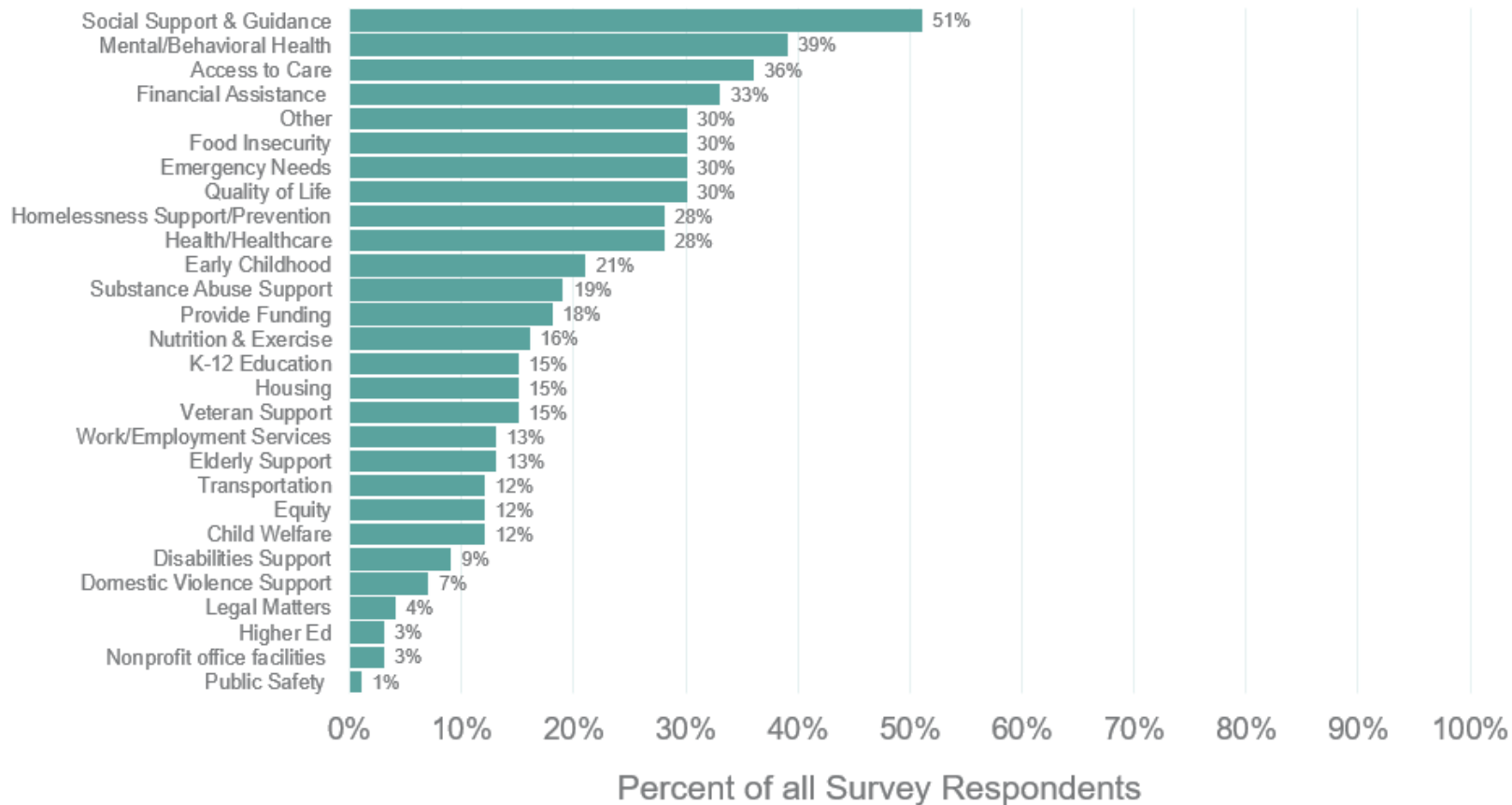


# Activating an Existing Network

- In 2021, to see how the network was actually able to activate in a time of need, organizations were asked with what speed they were able to respond to COVID-19 specific service changes
- 48% of organizations said they were able to respond very quickly



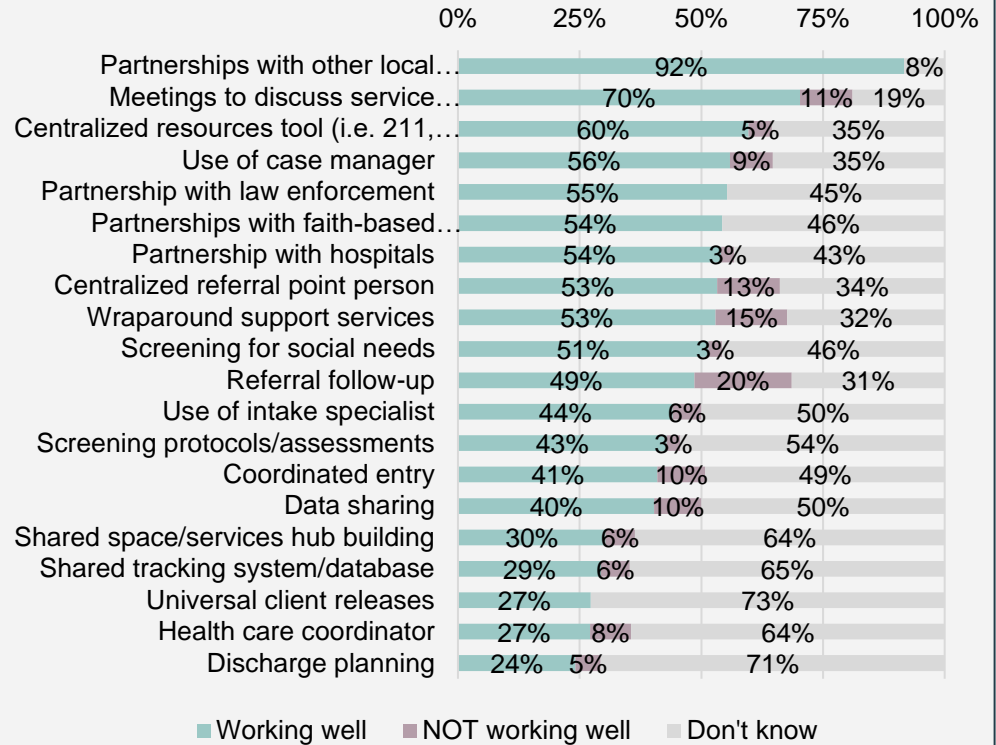
# Primary Services during COVID-19 Pandemic



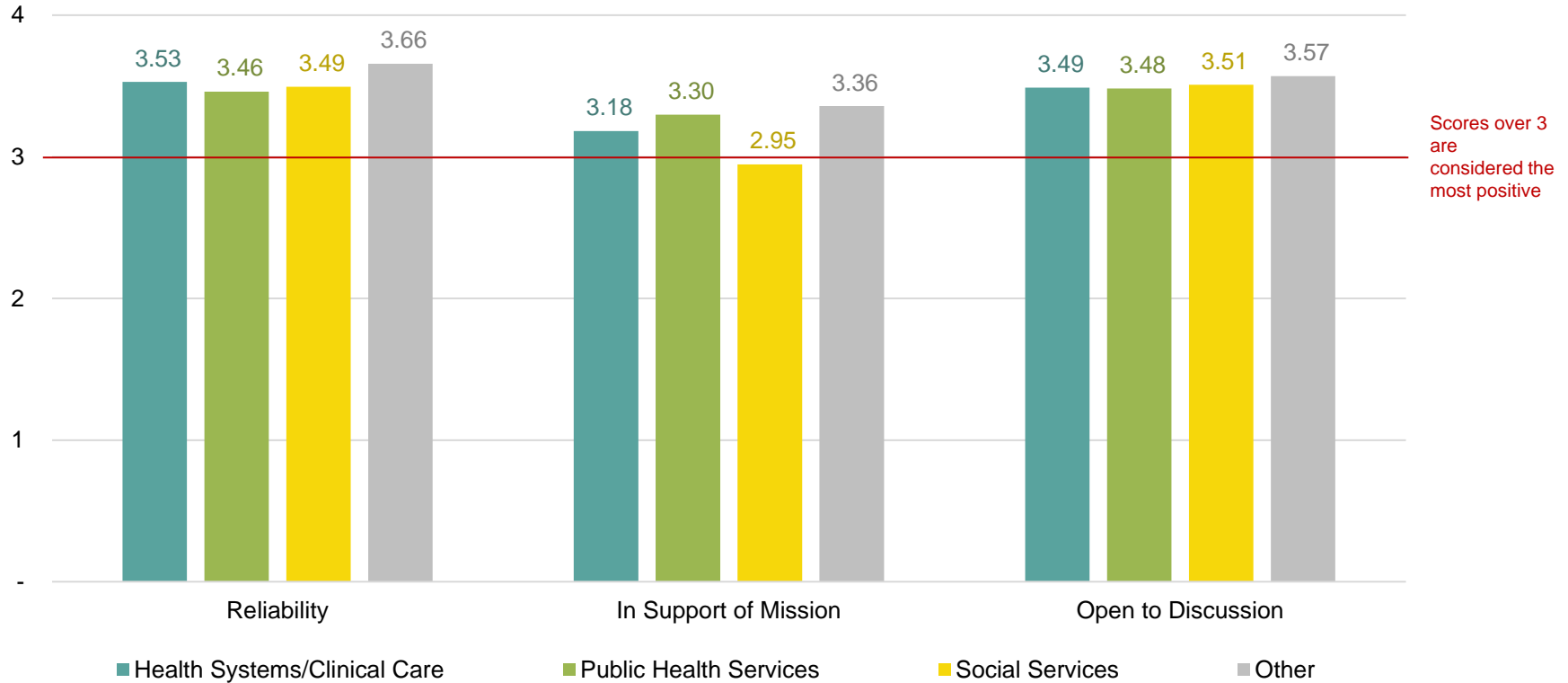
# Referral Process Success During Covid

**Q15: During the COVID-19 pandemic, what aspects of the referral process listed below have been working well or not working well?**

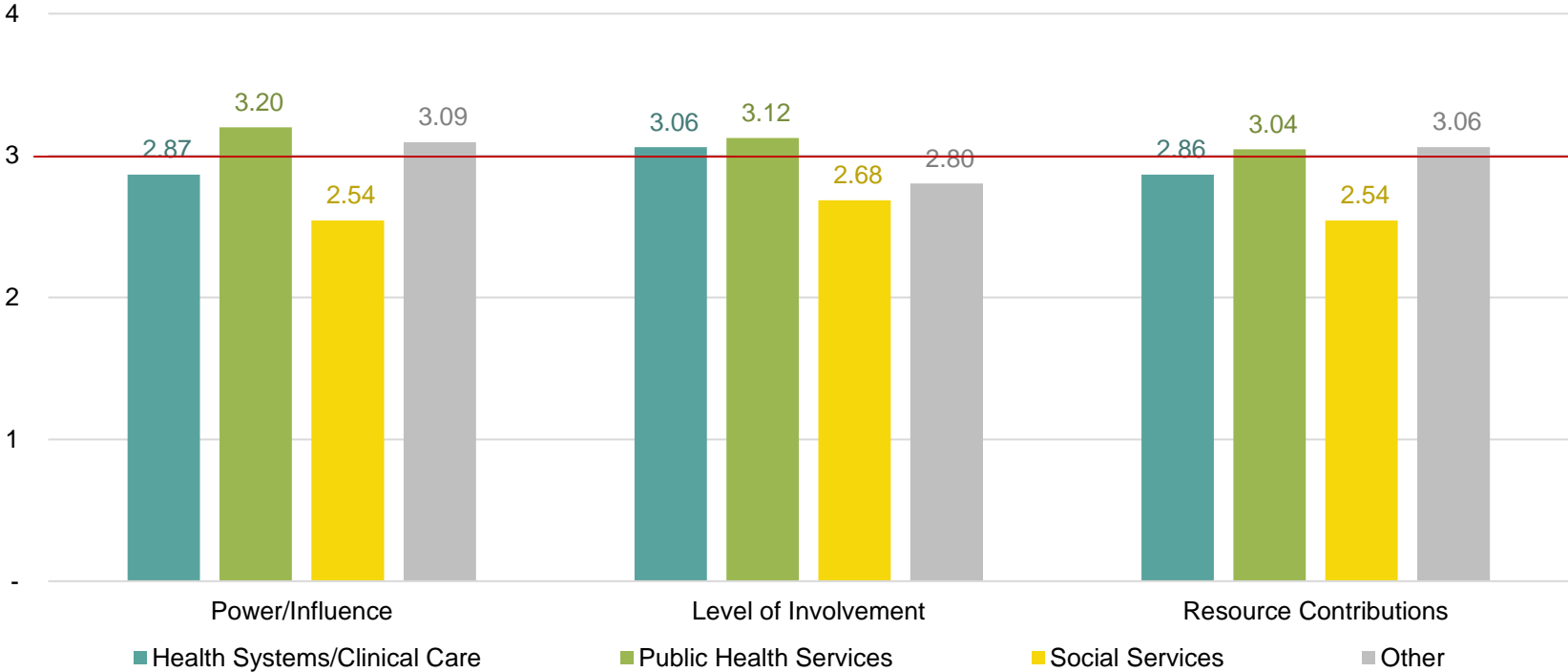
*n = 63 responses*



# Trust Scores



# Value Scores



Scores over 3 are considered the most positive

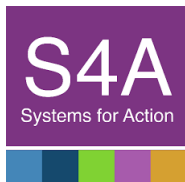
# Summary

- The pre-existing network perceived that they could activate quickly and that was seen when the COVID-19 pandemic began
- While health systems and clinical care organizations are important to this referral system, they appear to be on the periphery of the network which could be problematic
- Organizational trust was high among all network partners while the social service organization partners tended to have lower value scores than other partners
- Social services and emergency services have increased in the Sarasota/greater Manatee region during the COVID-19 pandemic
- Given this increase in social service need during the pandemic, it is slightly surprising that the value of social service organizations was so low

- 
- Next Steps: Qualitative Interviews, Comparative Analysis
  - How we use the data? Data Tracking and Learning System [PARTNER CPRM]



# For More Information



***Systems for Action*** is a National Program Office of the Robert Wood Johnson Foundation and a collaborative effort of the Colorado School of Public Health, Health Systems, Management & Policy Department in Aurora, CO.

**Health Systems, Management & Policy**

colorado school of public health

[www.systemsforaction.org](http://www.systemsforaction.org)



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