



Aligning Systems to Expand Evidence-Based Home Visiting



ACCORDS

ADULT AND CHILD CENTER FOR OUTCOMES
RESEARCH AND DELIVERY SCIENCE

UNIVERSITY OF COLORADO
CHILDREN'S HOSPITAL COLORADO

Venice Ng Williams, MPH, PhD

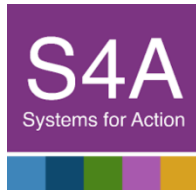
Assistant Professor

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- Practice Partners

- Changent (previously National Service Office for Nurse-Family Partnership & Child First)
- Local NFP teams



- Advisory Committee:

- Chris Arestides, MPH, BSN, RN
- Jade Woodard, MPA
- David Olds, PhD



- Research Team

- Greg Tung, MPH, PhD
- Mandy Allison, MD, MSPH
- Michael Knudtson, MS
- Connie Lopez, BSN, RN, MA
- Carol Franco-Rowe, MA
- Amanda Skenadore, MPH

Health Systems, Management & Policy
colorado school of public health



Department of Pediatrics
SCHOOL OF MEDICINE

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Aligning Systems to Support Families Facing Adversities

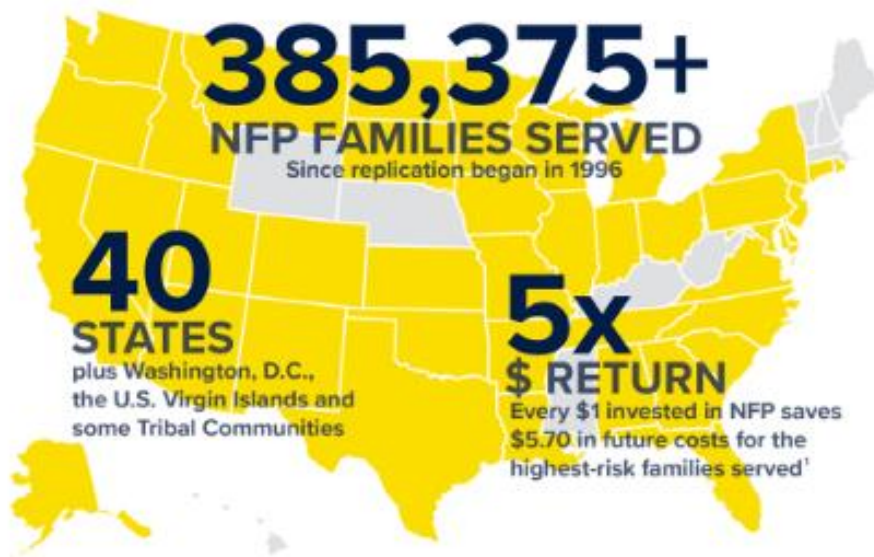
- Child poverty is greater in the US than in most other well-resourced countries (Gitterman et al. 2016)
- Public health programs use home visiting (HV) to help families achieve economic self-sufficiency and prevent adverse outcomes associated with poverty
- HV programs are part of the broader system of care to improve family well-being
- Families facing adversities often interact with multiple systems (Miller et al. 2022) that are not designed to function cohesively (Campbell et al. 2020)
 - Infrequent communication
 - Little alignment in purpose

Aligning the delivery and financing systems for public health/prevention, social supports/community services, and medical/health care **can create broader systems of care** to improve the health of young children and their families



Nurse-Family Partnership

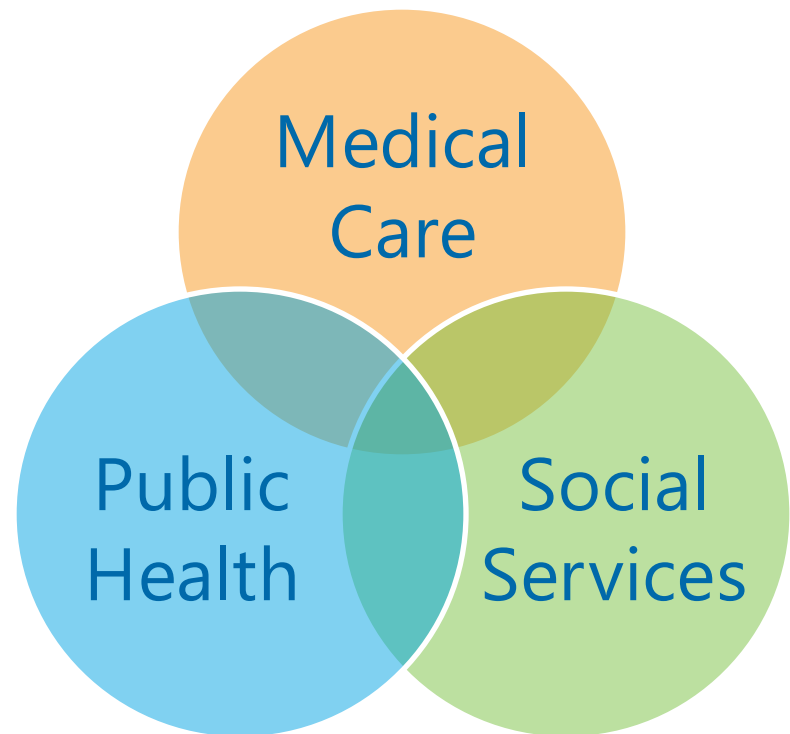
- Evidence-based, voluntary, intensive nurse home-visiting program
- Goals:
 - Improve pregnancy outcomes
 - Improve child health and development
 - Improve families' economic self-sufficiency





Study Aims (2020-2023)

- **Aim 1.** Assess degree of collaboration by site between Nurse-Family Partnership (NFP) and partners across sectors
- **Aim 2.** Estimate the relationship between site-level collaboration and program outcomes
 - Examine differences by financing sector
- **Aim 3.** Identify and disseminate best practices of successful collaboration with health systems and social services





Theory of Change

Systems Alignment

- Shared mission/goals
- Leadership/champions
- Shared resources
- Financial mechanisms

Client characteristics
Nurse characteristics
Site characteristics
Neighborhood characteristics

Organizational
Collaboration

Increased
Care
Coordination

Client
Immediate
Needs Met

Client
Retained in
Program

Improved
Client Self-
Efficacy

Client Risks
& Family
Outcomes

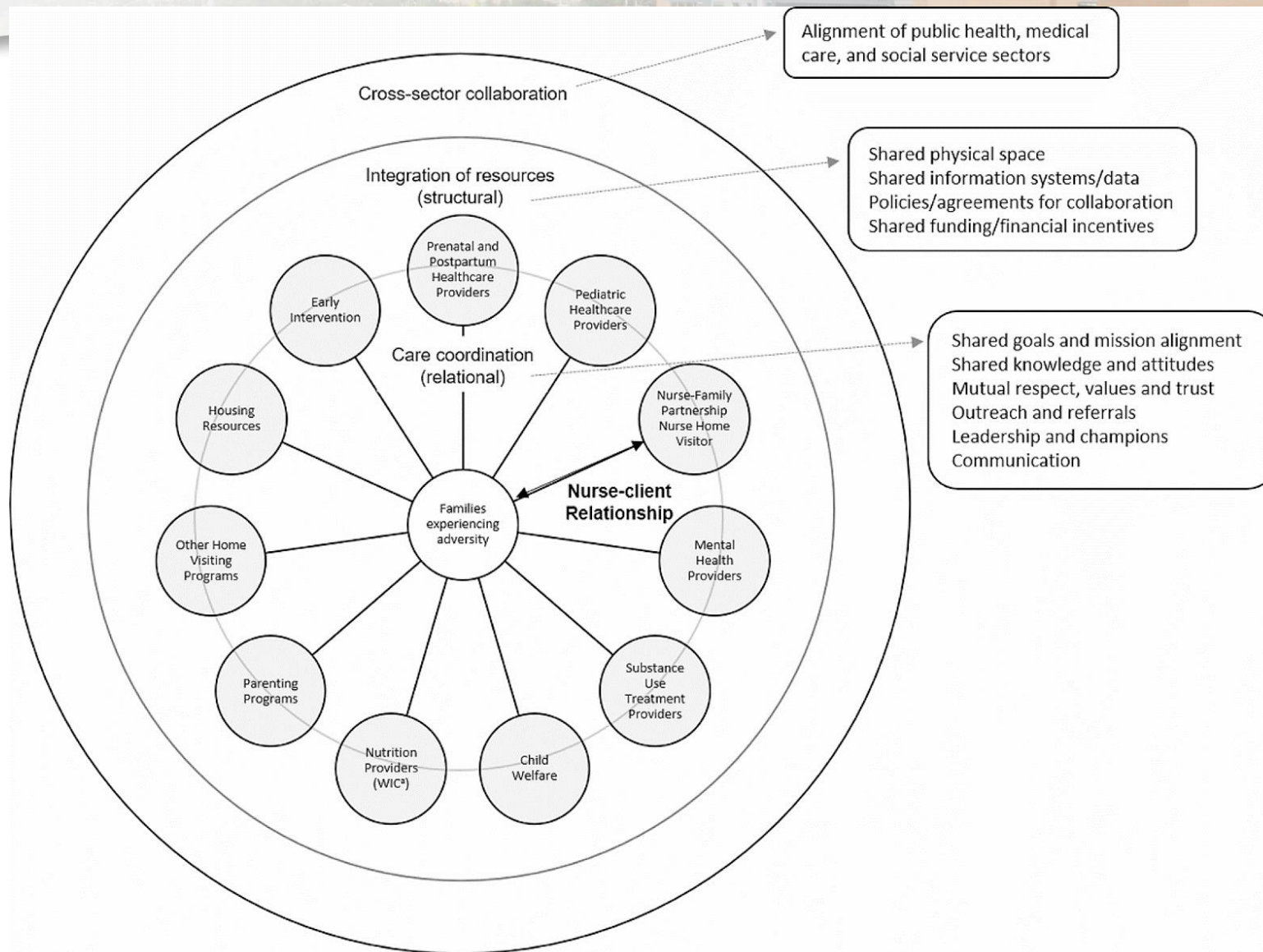
Interpersonal Factors

- Perceived need/value
- Relational coordination
- Knowledge/awareness

Local, State & Federal Policies



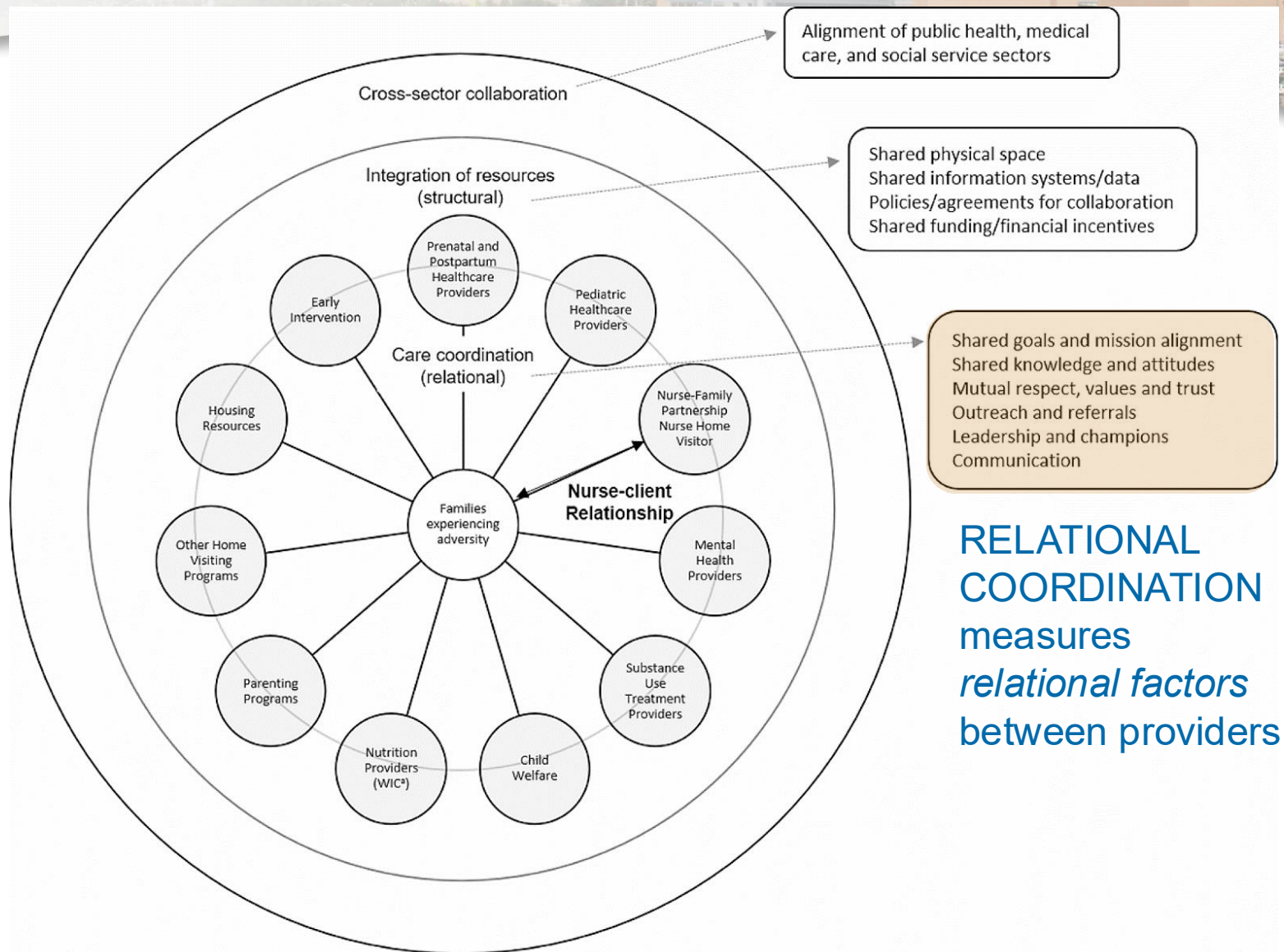

Conceptual Framework



^aWIC refers to the Special Supplemental Nutrition Program for Women, Infants and Children



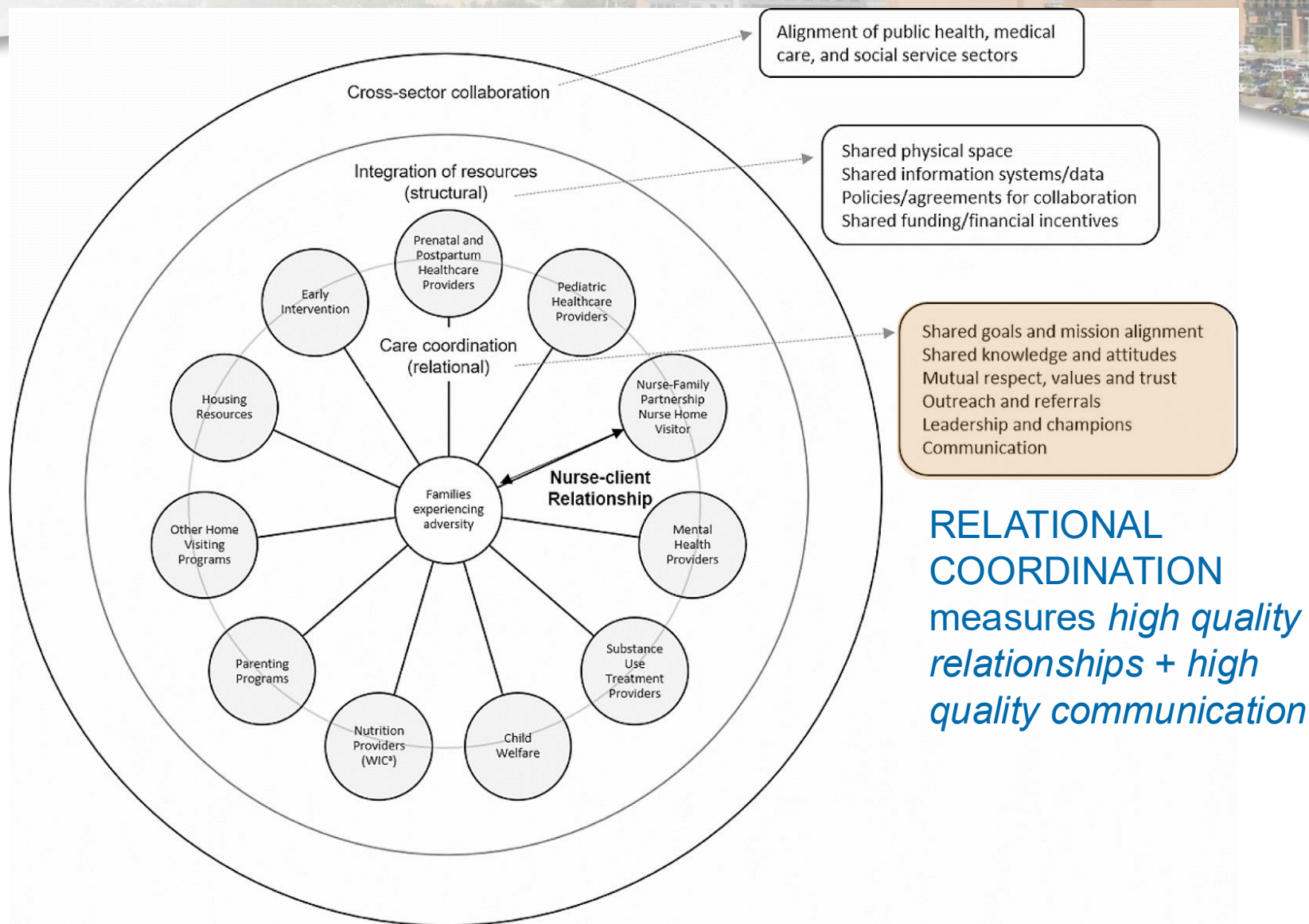
Conceptual Framework



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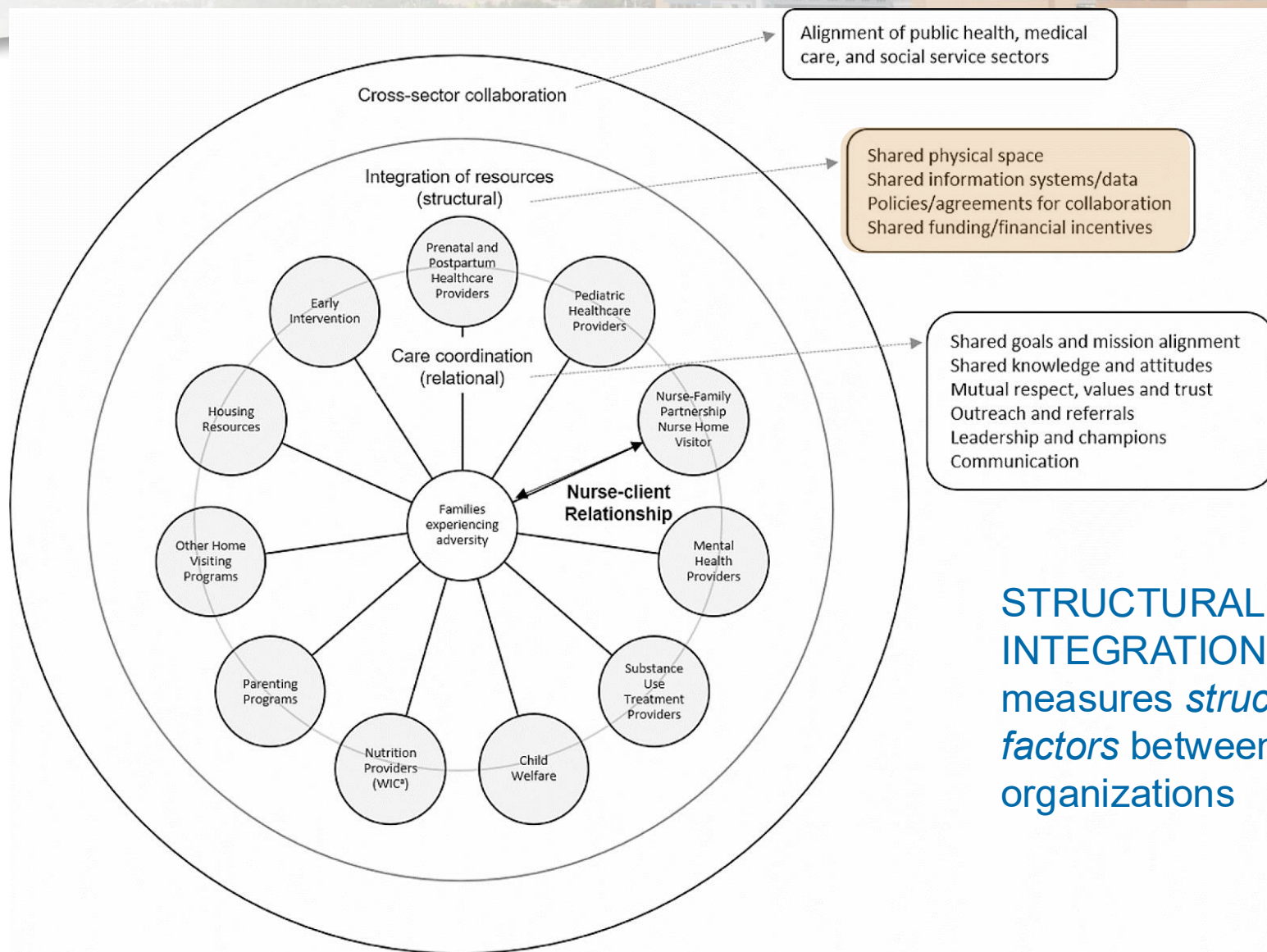
Conceptual Framework



^aWIC refers to the Special Supplemental Nutrition Program for Women, Infants and Children



Conceptual Framework

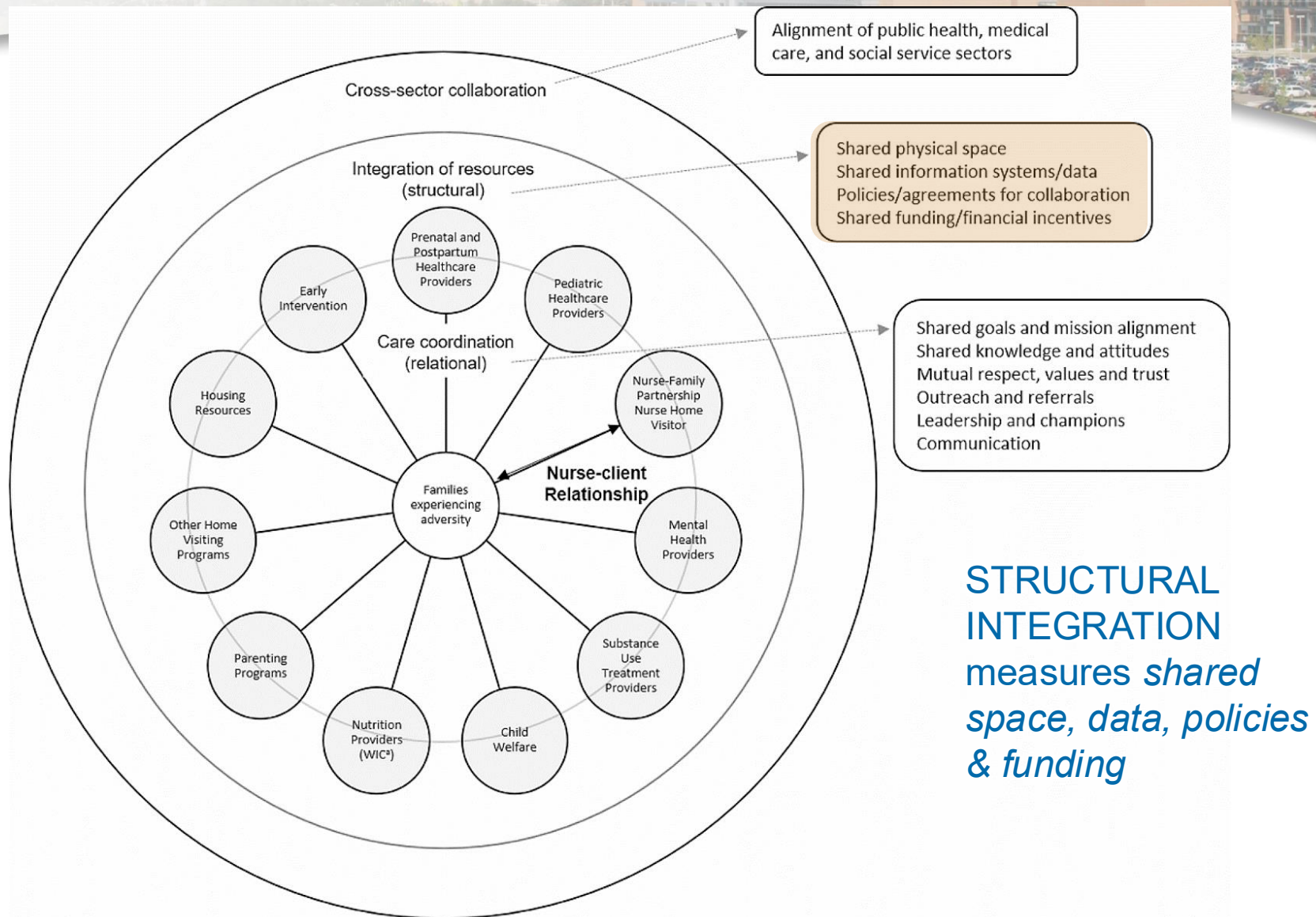


**STRUCTURAL
INTEGRATION**
measures *structural
factors* between
organizations

^aWIC refers to the Special Supplemental Nutrition Program for Women, Infants and Children




Conceptual Framework



^aWIC refers to the Special Supplemental Nutrition Program for Women, Infants and Children



Panel Survey Findings (2018, 2020, 2021)



- **Moderate relational coordination** among all providers (M=3.21, M=3.21, M=3.23; $p>0.1$)
- **Highest coordination** with WIC and women's care
- **Lowest coordination** with substance use treatment providers and housing
- **Little shared resources** among all providers (Mean Sum=6.07, Mean Sum=6.02, Mean Sum=6.07; $p>0.1$)
- **Greatest integration** with other home visiting and WIC
- **Lowest integration** with substance use treatment providers and housing



Collaboration Changes over time

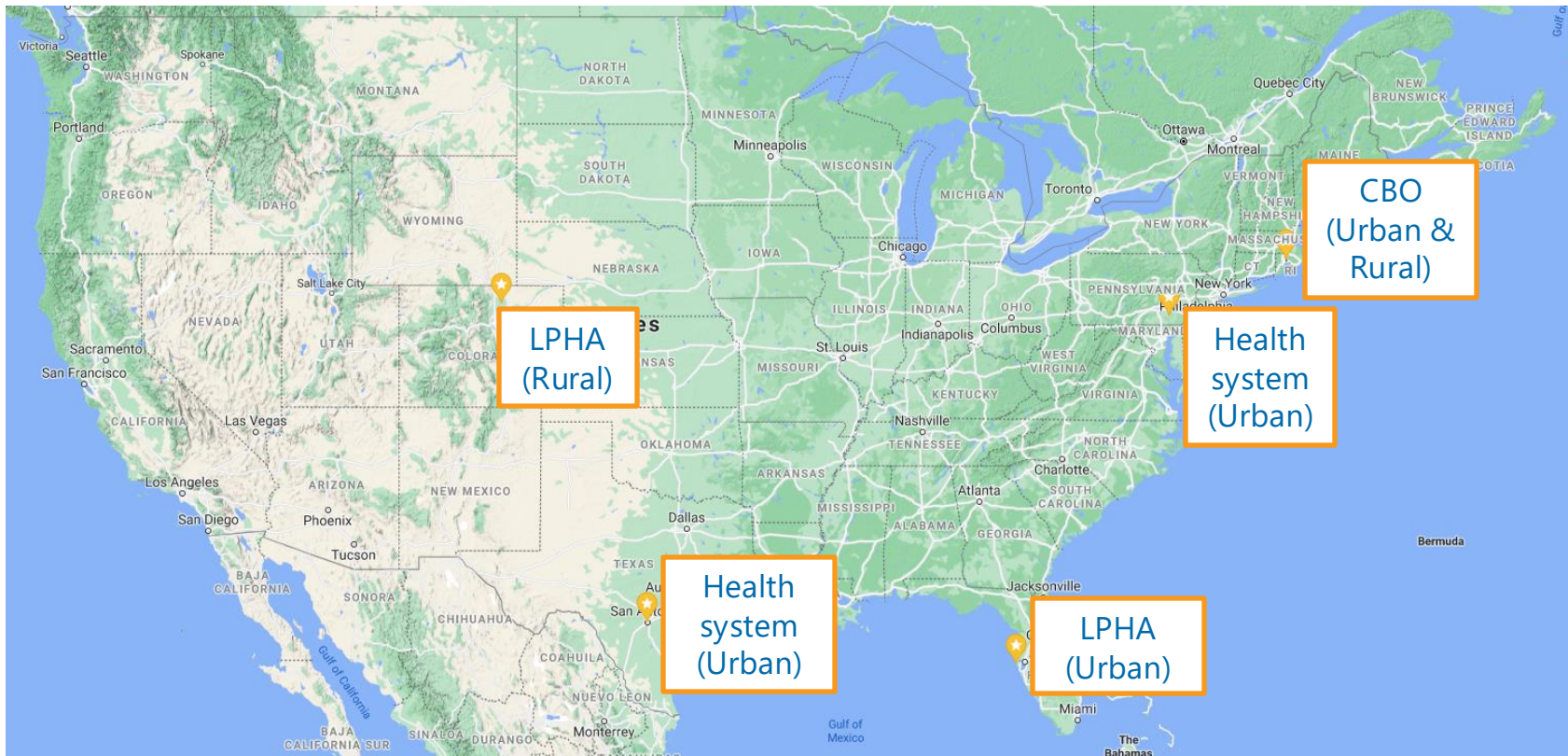
- **Improved coordination** with Women's Care providers
- **Decreased coordination** with Parenting Programs
- **Less integration** with Parenting Programs





Qualitative Case Studies

- 5 exemplary NFP sites with strong coordination and integration
- In-depth qualitative interviews with NFP staff, community providers, NFP clients



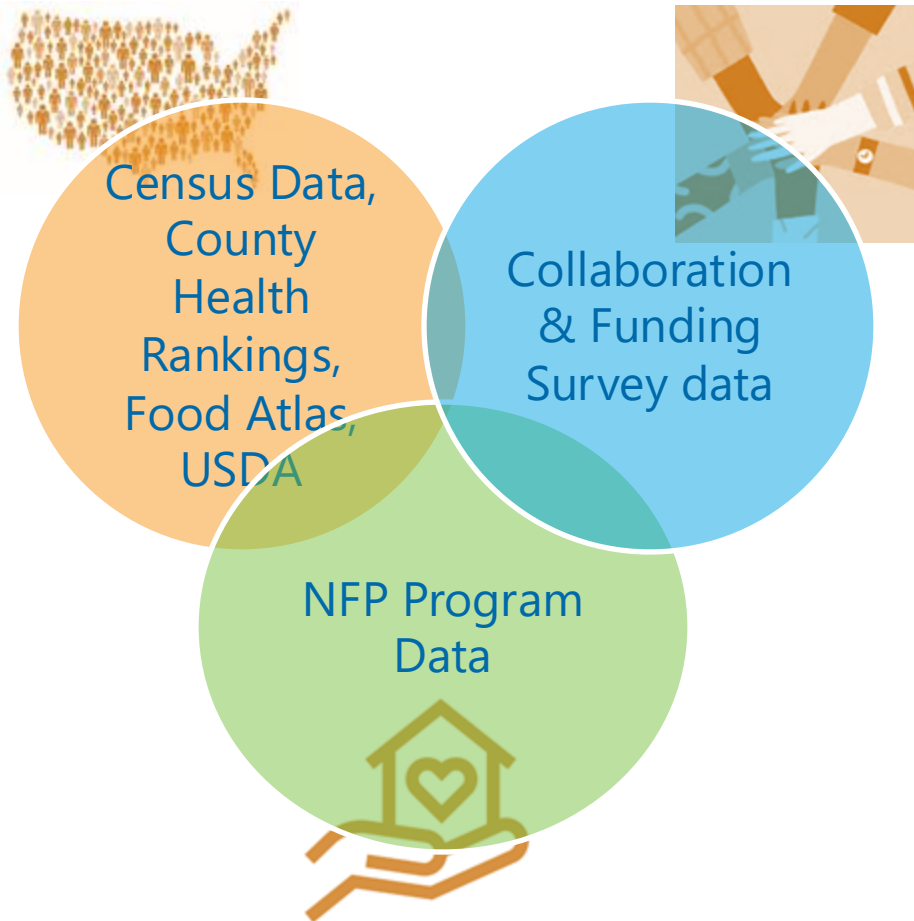


Best Practices from Case Studies





Collaboration & NFP Outcomes



- NFP clients with their first visit between Jan 1, 2015 and Dec 31, 2021
- Clients matched to nurse who conducted first 4 home visits with that client
- *Inclusion criteria:* 4+ visits
- *Exclusion criteria:* ceased participation due to moving, miscarriage, lost custody, child death
- *Covariates:* client-, nurse-, site-, neighborhood-level



NFP Outcomes of Interest

Low birthweight
Preterm birth



Infant
health

Smoking cessation
Breastfeeding practices
Use of services



Maternal
behaviors

Program
Implementation

Client retention
Referrals to services





Collaboration & NFP Outcomes

Collaboration matters but not for all outcomes

- **Collaboration + client retention** (Williams et al. 2023 doi:10.1007/s11121-023-01538-w)
 - Integration with CPS associated with ↑ retention
 - Integration with other home visiting and Early Intervention associated with ↓ retention
 - Agency type plays a role
 - Health care systems and educational institutions associated with ↑ retention





Collaboration & NFP Outcomes

- **Collaboration + client retention** (Williams et al. 2023 doi:10.1007/s11121-023-01538-w)

Sector	Examples
Public Health	MIECHV, Title V, Tobacco Settlement
Health Care	Medicaid reimbursement, Health system/foundation
Social Services	Child welfare, TANF, Justice system
Mixed	Pay for Success, Multi-sector nonprofits (e.g., United Way)



- **Primary Funding sector plays a role**
 - Funding by health care sector associated with ↓ retention
 - Funding by mixed sectors associated with ↑ retention



Collaboration & NFP Outcomes

- **Collaboration + referrals to/use of services** (Williams et al. 2025 doi:10.1111/1475-6773.14457)
 - Coordination with Early Intervention, mental health, substance use treatment, and pediatric care associated with ↑ service referrals
 - Integration with WIC and housing associated with ↑ service referrals
 - Provider-specific coordination AND integration associated ↑ service usage (WIC, housing, EI, mental health)
 - Provider-specific coordination associated ↑ service usage (substance use treatment and child health care)





Collaboration & NFP Outcomes

- Collaboration + **maternal-child health outcomes** (Williams et al. Under review)
 - Coordination with women's care and integration with mental health associated with ↑ breastfeeding initiation
 - Integration with mental health associated with ↑ breastfeeding continuation (6- and 12-months)
 - No relationship with low birthweight, preterm birth or prenatal smoking cessation





EHR Access + Provider Coordination

(Williams et al. 2025 doi:10.1111/1475-6773.70006)

- **34% of respondents (n=91) have access to NFP clients' EHR**

EHR Component	NFP teams with access, <i>n</i> (%)
Read access	83 (91%)
Documentation	58 (64%)
Referrals to NFP	48 (53%)
Communications with PCP	47 (52%)
Notifications to NFP	39 (43%)
Billing	34 (37%)
Referrals to other services	28 (31%)
Communications with NFP client	22 (24%)

- **EHR access varies by agency type**
 - More health care NFP sites have access (56%)
 - Degree of EHR integration did not differ by agency type
- **EHR access associated ↑ relational coordination** with women's care and pediatric care providers





Discussion & Summary

- Collaboration dynamics are complex, but stable during our project period
- Collaboration = Relationships + Facilitating Structures

RELATIONAL
COORDINATION



STRUCTURAL
INTEGRATION

- Shared goals/missions, leadership support, program champions support effective collaboration
- Collaboration matters but not for all NFP outcomes AND depends on the provider type
- EHR access supports improved coordination with primary care providers



Looking Forward



- **Relational coordination with substance use treatment providers can be strengthened**
 - Co-develop and pilot an innovation to the NFP model to support pregnant and parenting people with SUD with a focus on systems alignment (strengthening relational coordination and integrating resources)
- Families supported by **NFP and Part C Early Intervention** partially overlap, would benefit from complementary service delivery models
- **Lack knowledge** about who is jointly served by these two programs and they collaborate
 - Understand how to improve the delivery of NFP and EI services
 - Systems alignment as a mechanism to improve referrals to, connections with and continued engagement in EI for dually eligible families



Peer-Reviewed Papers and Case Studies

- Williams VN, Brooks-Russell A, McManus BM, Yost E, Olds DL, Tung GJ. National survey of nurse home visitor collaboration with health care and social services. *Public Health Nurs* 38, 825–836 (2021). <https://doi.org/10.1111/phn.12897>
- Williams, V.N., McManus, B., Brooks-Russell, A. *et al.* Cross-sector collaboration between public health, healthcare and social services improves retention: Findings from a nurse home visiting program. *Prev Sci* 24, 1209–1224 (2023). <https://doi.org/10.1007/s11121-023-01538-w>
- Williams, V.N., Franco-Rowe, C.Y., Lopez, C.C. *et al.* Structural and relational factors for successful cross-sector collaboration in home visiting: a multiple case study. *BMC Health Serv Res* 24, 316 (2024). <https://doi.org/10.1186/s12913-024-10719-4> – OPEN ACCESS
- Williams VN, Franco-Rowe C, Knudtson M, Tung G, Allison M. Changes in cross-sector collaboration between nurse home visitors and community providers in the United States: A panel survey analysis. *Health Serv Res* 59(Suppl. 1), e14242 (2024). <https://doi.org/10.1111/1475-6773.14242> – OPEN ACCESS
- Williams, V.N., Knudtson, M.D., Allison, M.A. and Tung, G.J. Coordination and integration of providers across sectors improves referrals to and connections with services for clients engaged in home visiting. *Health Serv Res* e14457 (2025). <https://doi.org/10.1111/1475-6773.14457> - OPEN ACCESS
- Williams, V.N., Knudtson, M.D., Allison, M.A. and Tung, G.J. Association of electronic health records access and coordination between primary care providers and public health nurse home visitors in the United States. *Health Serv Res* e70006 (2025). <https://doi.org/10.1111/1475-6773.70006> – OPEN ACCESS
- Qualitative Case Study 1. [Brief - Rural Health Department Western](#)
- Qualitative Case Study 2. [Brief - Urban Health System Mid-Atlantic](#)
- Qualitative Case Study 3. [Brief - Urban Health System SouthCentral](#)
- Qualitative Case Study 4. [Brief - Urban Health Department Southeastern](#)
- Qualitative Case Study 5. [Brief - CBO Northeastern](#)
- [Best Practice Guide](#)



Questions?



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Venice Ng Williams, MPH, PhD
venice.williams@cuanschutz.edu
303-724-3646