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Social-Health Data Exchange Facilitates Chronic Disease Care

Session # 274; March 8, 2018

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DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.

Conflict of Interest

Yolande Pengetnze and **Teresa Jackson** have no real or apparent conflicts of interest to report.

Agenda

- Learning Objectives
- Background
- DASH Program Aims
- The Dallas Information Exchange Portal
- DASH Program Description
- Cross-Sectoral Workflow Design
- DASH Program Evaluation and Results
- Successes, Challenges, and Lessons Learned
- Q&A

Learning Objectives

1. Share the lessons learned from leveraging a new information technology platform to connect healthcare systems with community based organizations (CBOs) in Dallas County, Texas
2. Create, execute, and evaluate collaborative cross-sector and transdisciplinary workflows
3. Describe how the Dallas Information Exchange Portal Social-Health Information Exchange (S-HIE) facilitates cutting-edge population health improvement programs
4. Discuss pathways for standardizing the Dallas S-HIE implementation to enable its scaling up, expansion, and dissemination nationally

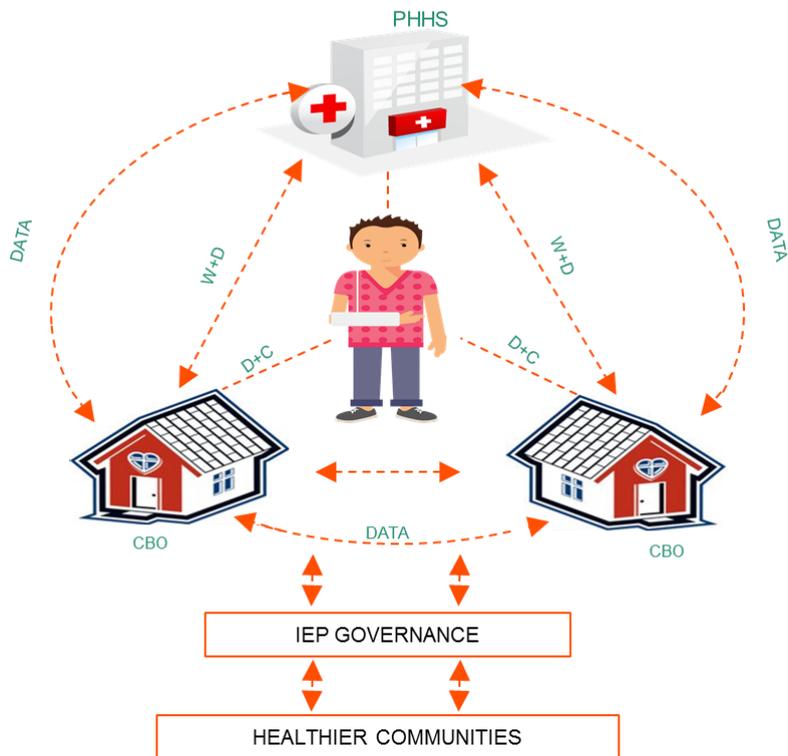
Background

- Food insecurity is associated with higher prevalence and poorer outcomes of chronic conditions
- Food insecure patients diagnosed with diabetes or hypertension are more likely to have poor disease control
- Diet is a key component of diabetes or hypertension care, and proper diet is associated with improved disease control
- Lack of care coordination between healthcare systems and social services providers might interfere with optimal care for food insecure individuals
- Closing silos between healthcare systems and community services providers represent an opportunity for improvement in community care and health outcomes

DASH Program Aims

- To test the feasibility of data sharing and cross-organizational care coordination between a safety net healthcare system and community services providers using a Social-to-Health Dallas Information Exchange Portal (IEP)
- To measure the collective impact on the health and care experience of food-insecure individuals with diabetes and/or hypertension

Dallas Information Exchange Portal



- Integrated technology platform for diverse clinical and social data types
- Goals:
 - Connect Healthcare Systems to community based organizations (CBOs) in Dallas
 - Support cross sector programs
 - Conduct cutting edge research
 - Standardize implementation in Dallas for nationwide expansion

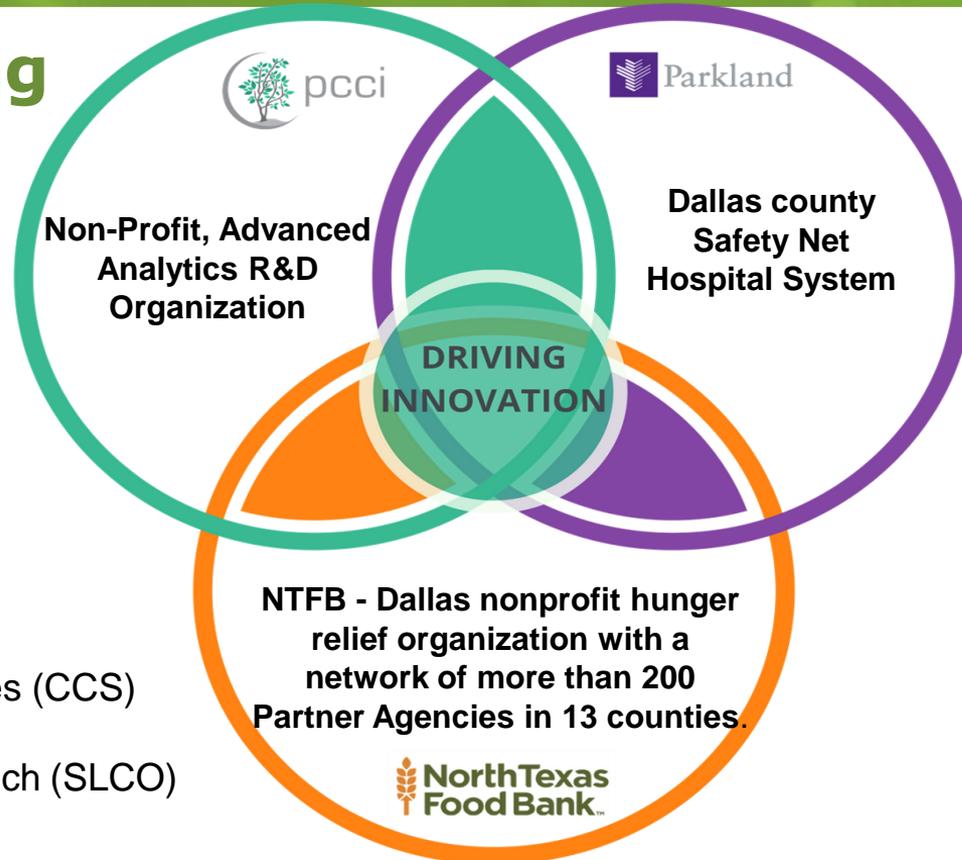
DASH Participating Organizations

The Dallas IEP Technology – Pieces Iris™

- Web-based, HIPAA-compliant case management platform for community services providers

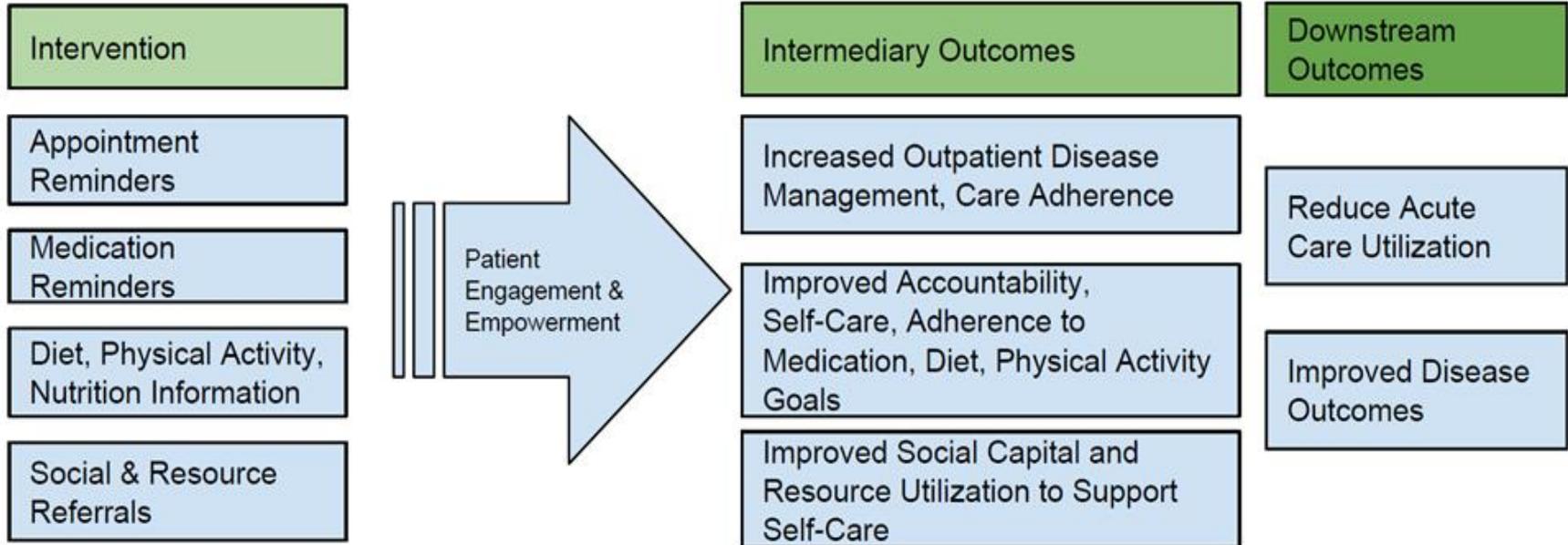
Three NTFB Food Pantries:

- Crossroads Community Services (CCS)
- Our Community Pantry (OCP)
- Sharing Life Community Outreach (SLCO)



DASH Program – Conceptual Model

Conceptual Model



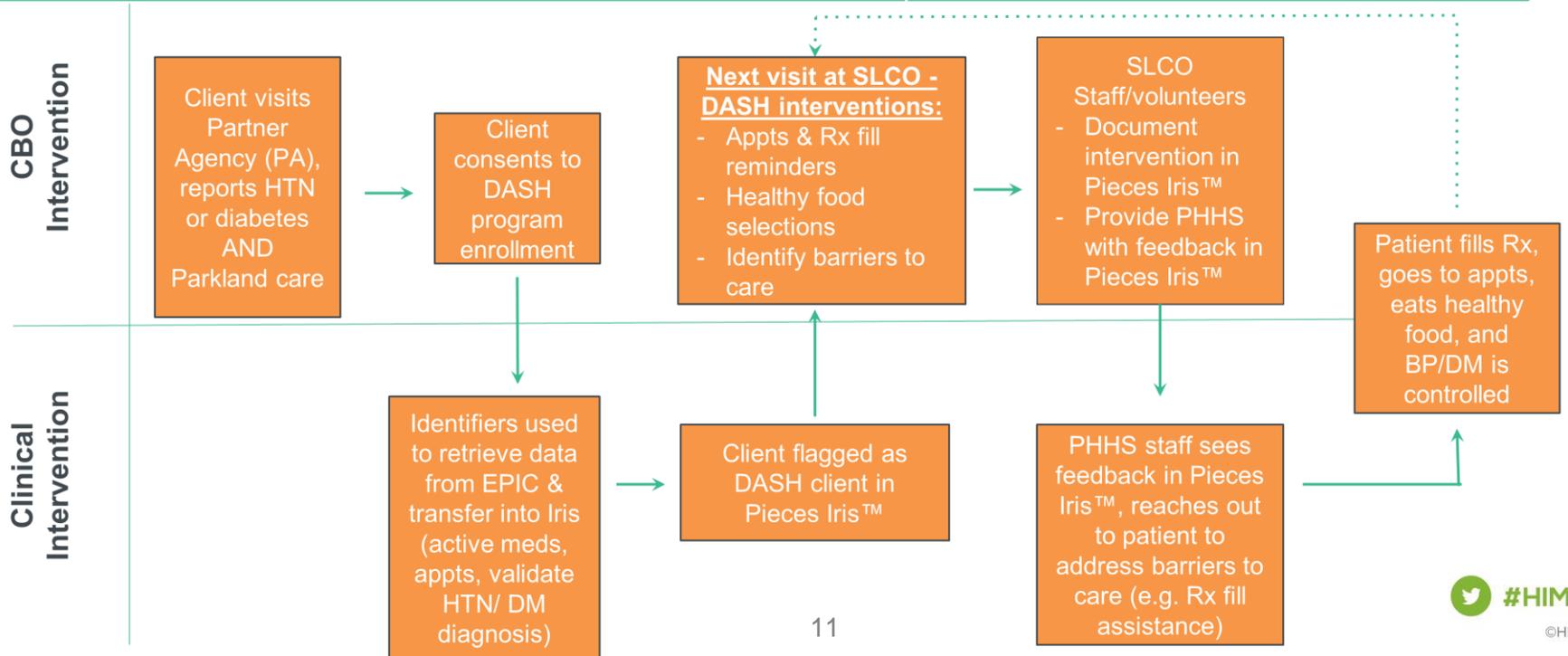
DASH Program Cross-Sectoral Workflows

- Collaborative workflow design
- Inclusive design – Involve frontline providers upfront
- Adaptable workflows – to technology readiness, specific organizational needs, and changes of conditions “on the ground”
- Quasi-binding – once defined, everyone needs to follow workflow
- Training – Workflow, privacy, and technology
- Quality Assurance – continuous supervision

DASH Program Cross-Sectoral Workflows

Data Collection

Data Reporting



DASH Program Evaluation

- Program Date: February 2016 – November 2017
 - Interventions: October 2016 – November 2017
 - Analysis: October 2016 – October 2017
- Data Sources:
 - Parkland electronic health records system
 - Pieces Iris™ database
 - Participants and provider surveys and focus groups
- Matched Controls:
 - By diagnosis, zip code, %FPL, demographics

DASH Program Evaluation - Outcomes

1. Acute Care Utilization

- Before-and-after changes in “all-cause” emergency department (ED) visits – i.e., ED visits with any diagnosis

2. Outpatient visit attendance

- Before-and-after changes outpatient visit attendance

3. Participant and Provider Qualitative Feedback

- Satisfaction Survey and Focus Group

The Real Life Story

Mrs. S. F. is a 62 yo AA female

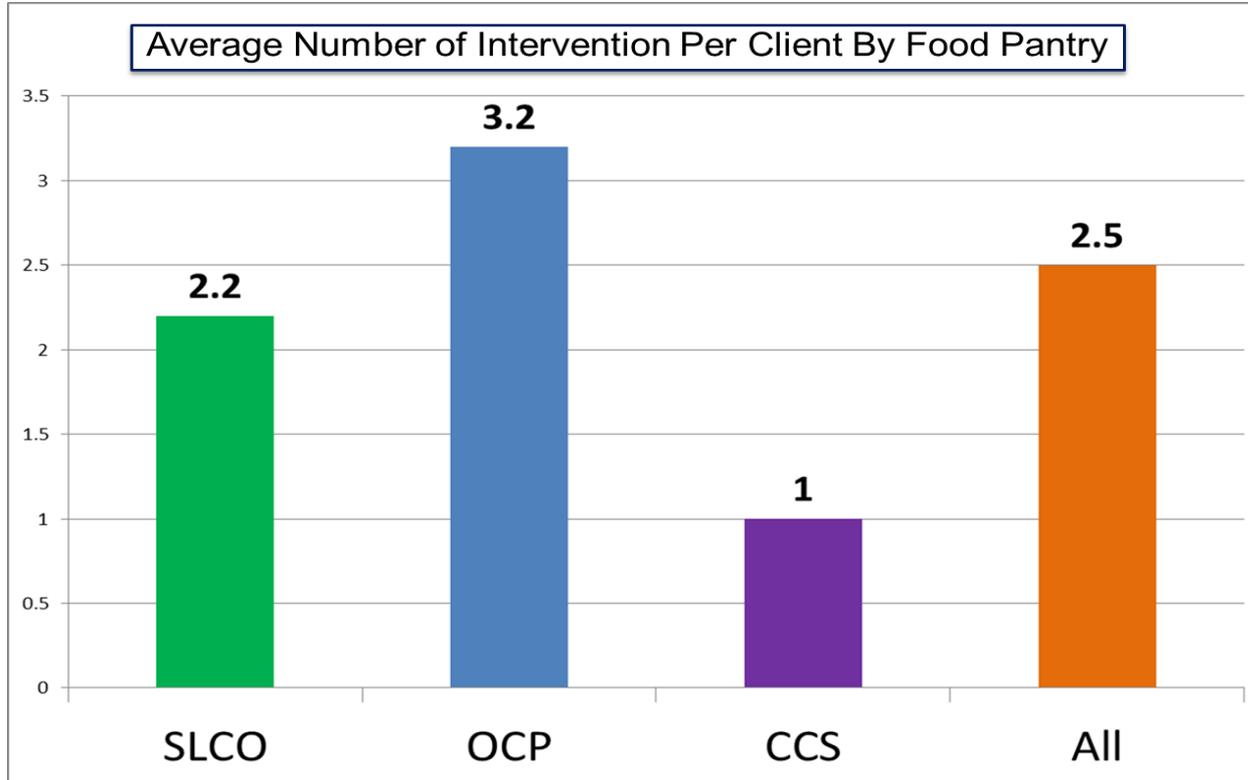
- Parkland Patient & SLCO Client
- Cannot afford prescription and needs colonoscopy
- Recruited in DASH program, receives nutritional education, appointments and medications reminders
- Communicates her concerns to SLCO staff
- Information communicated to Parkland Social Worker, who calls Mrs. S.F. and assists with addressing needs
- Mrs. S.F. is very happy to be part of DASH¹⁴



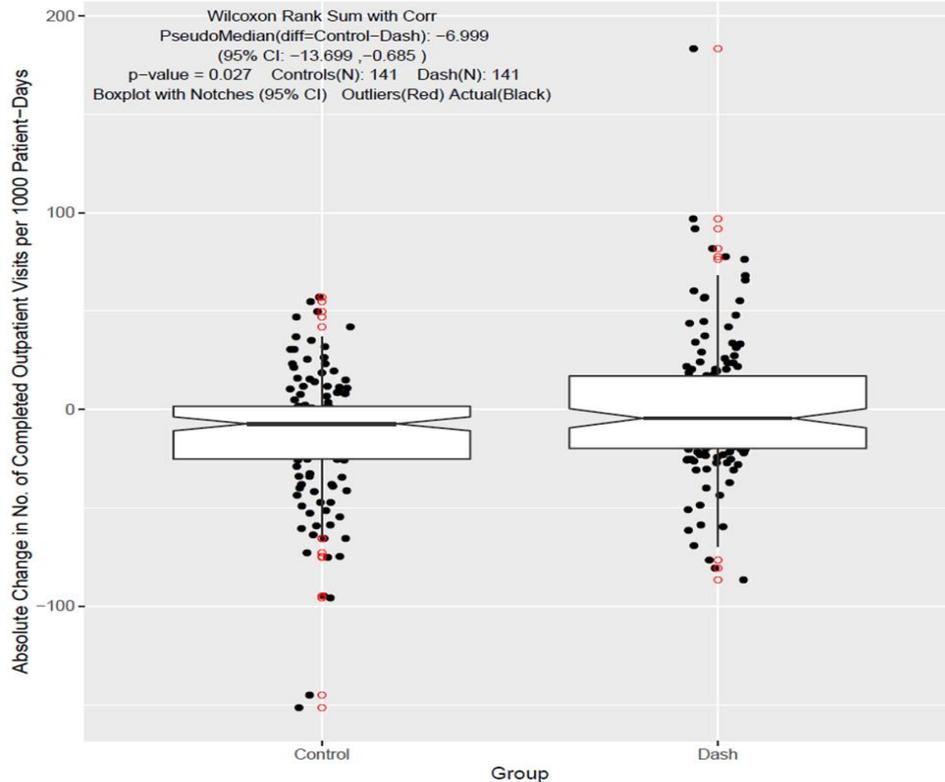
DASH Program Results

- 151 participants enrolled / 141 followed for at least one (1) month post-enrollment
- Participant characteristics:
 - 67% African-American & 24% Latino
 - 79% Female
 - 59% have both diabetes & hypertension
- At baseline, 26 outpatient visits and 1.83 ED visits per 1000 patient-days

DASH Program Results



Results – Impact on Health Services Utilization



- Increased outpatient visit attendance for DASH vs. controls
- 2.56 more completed outpatient visits per participant per year
- No significant effect on ED visits

Results – Participants Satisfaction Survey

Agree or Strongly Agree	Percent Survey Respondents
Make Healthier Food Choices	92%
More Able to Manage Disease	90%
More Likely to Attend Doctor's Visit	93%
Would Recommend DASH to Friends and Family	93%

Participants Focus Group

Domain	Positive Themes	Negative Themes
Data Sharing	Comfortable sharing health data only if benefits to health	Would not share Social Security Number
Nutrition Interventions	Awareness / reminders / assistance with healthy food selections	Would prefer flip charts vs. handouts
Appointment and Medication Reminders	More accountable to self and to food pantry staff	
Overall Feedback on DASH Program	<ul style="list-style-type: none"> - Very helpful - Enhanced interactions with food pantry staff 	<ul style="list-style-type: none"> - Slower services at PA - Need linkage with other social services

Results – Community Services Providers Survey and Focus Groups

Positive Themes

- Comfortable with performing interventions
- Clients receptive to interventions
- 96% would recommend program expansion to all food pantry clients
- 96% would participate in similar program in the future

Negative Themes

- Privacy/Confidentiality concerns
- Technical difficulties
- Time consuming interventions
- Volunteer turnover

Challenges

- Cultural Differences between health systems vs. CBOs
 - Tight vs. loose regulation;
 - Standardized/protocol-driven operations vs. less standardized operations
- Different stages of technology and change readiness
- Rudimentary data collection & storage systems at CBOs
- Data privacy and security concerns
- Opt-in vs. opt-out consent
- Gain participant/public trust

Successes

- Strong community buy-in
- Consensus legal framework established
- Technology build adapted to needs
- Adaptable cross-sectoral workflows developed and implemented
- Evidence-based interventions developed and standardized across organizations
- Successful program implementation

Lessons Learned

- **Strong Value Proposition to Stakeholders**
 - Community alignment and support around IEP and electronic platform
- **Stage of Change Readiness**
 - Identify and begin with early adopters
- **HIPAA-Compliant, Adaptable, & Multifunctional Electronic Platform**
 - Responsive to needs of IEP participants
- **Engage all Stakeholders at all Steps in an Iterative Process - Frontline Personnel +++**
 - Actionable and adaptable workflows for recruitment, interventions & data flow
 - Legal framework / Governance +/- Technology build

Lessons Learned (cont'd)

- **Adaptable Evidence-Based Interventions**
 - Nutrition education materials adapted to food pantry inventory
- **Adaptable and Practical Trans-Sectoral Workflows**
 - Flexibility to accommodate partners, practicality based on frontline input
- **Leverage Existing Trusted Relationships**
 - Client trust of community services providers vs. healthcare providers
- **Train, Train, Retrain... + Incorporate Feedback**
 - Privacy + Processes Training

Lessons Learned - Scalability

- **Generalizable and Flexible Legal Framework**
 - Adaptable to local/state regulations yet generalizable consenting framework
- **Predictive Data Analysis and Artificial Intelligence**
 - Data input on the platform analyzed and reported to streamline interventions
- **Standardized Ontology**
 - Standardize definitions, screening tools, documents, and data entry on platform
- **Sustainability**
 - Demonstrate social and financial return on investment (ROI) generated by impact of evidence-based cross-sectoral interventions on social and health outcomes, to support grant application and healthcare payment reform – e.g., Shared Savings

Questions

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- Remember to **complete the online session evaluation**. Thanks!!

