Social-Health Data Exchange Facilitates Chronic Disease Care

Session # 274; March 8, 2018

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Teresa Jackson, CEO, Sharing Life Community Outreach
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)

Non-Profit, Advanced Analytics R&D Organization

Dallas county Safety Net Hospital System

DRIVING INNOVATION

NTFB - Dallas nonprofit hunger relief organization with a network of more than 200 Partner Agencies in 13 counties.
DASH Program – Conceptual Model

**Conceptual Model**

- **Intervention**
  - Appointment Reminders
  - Medication Reminders
  - Diet, Physical Activity, Nutrition Information
  - Social & Resource Referrals

**Patient Engagement & Empowerment**

**Intermediary Outcomes**
- Increased Outpatient Disease Management, Care Adherence
- Improved Accountability, Self-Care, Adherence to Medication, Diet, Physical Activity Goals
- Improved Social Capital and Resource Utilization to Support Self-Care

**Downstream Outcomes**
- Reduce Acute Care Utilization
- Improved Disease Outcomes
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

CBO Intervention
- Client visits Partner Agency (PA), reports HTN or diabetes AND Parkland care
- Client consents to DASH program enrollment

Clinical Intervention
- Identifiers used to retrieve data from EPIC & transfer into Iris (active meds, appts, validate HTN/DM diagnosis)

Data Reporting

Next visit at SLCO - DASH interventions:
- Appts & Rx fill reminders
- Healthy food selections
- Identify barriers to care

SLCO Staff/volunteers
- Document intervention in Pieces Iris™
- Provide PHHS with feedback in Pieces Iris™

Client flagged as DASH client in Pieces Iris™

PHHS staff sees feedback in Pieces Iris™, reaches out to patient to address barriers to care (e.g. Rx fill assistance)

Patient fills Rx, goes to appts, eats healthy food, and BP/DM is controlled
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
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 DASH
DASH Program Results

• 151 participants enrolled / 141 followed for at least one (1) month post-enrollment

• Participant characteristics:
  o 67% African-American & 24% Latino
  o 79% Female
  o 59% have both diabetes & hypertension

• At baseline, 26 outpatient visits and 1.83 ED visits per 1000 patient-days
DASH Program Results

Average Number of Intervention Per Client By Food Pantry

<table>
<thead>
<tr>
<th></th>
<th>SLCO</th>
<th>OCP</th>
<th>CCS</th>
<th>All</th>
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</thead>
<tbody>
<tr>
<td>Average</td>
<td>2.2</td>
<td>3.2</td>
<td>1</td>
<td>2.5</td>
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</tbody>
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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

<table>
<thead>
<tr>
<th>Agree or Strongly Agree</th>
<th>Percent Survey Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make Healthier Food Choices</td>
<td>92%</td>
</tr>
<tr>
<td>More Able to Manage Disease</td>
<td>90%</td>
</tr>
<tr>
<td>More Likely to Attend Doctor’s Visit</td>
<td>93%</td>
</tr>
<tr>
<td>Would Recommend DASH to Friends and Family</td>
<td>93%</td>
</tr>
</tbody>
</table>
## Participants Focus Group

<table>
<thead>
<tr>
<th>Domain</th>
<th>Positive Themes</th>
<th>Negative Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Sharing</td>
<td>Comfortable sharing health data only if benefits to health</td>
<td>Would not share Social Security Number</td>
</tr>
<tr>
<td>Nutrition Interventions</td>
<td>Awareness / reminders / assistance with healthy food selections</td>
<td>Would prefer flip charts vs. handouts</td>
</tr>
<tr>
<td>Appointment and Medication Reminders</td>
<td>More accountable to self and to food pantry staff</td>
<td></td>
</tr>
</tbody>
</table>
| Overall Feedback on DASH Program | - Very helpful  
- Enhanced interactions with food pantry staff | - 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. lose 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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• Funded by grants from the *W. W. Caruth, Jr., Foundation at Communities Foundation of Texas* and the *Robert Wood Johnson Foundation*.

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

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