

# Using Participatory Design to Co-Create a Community Health Information Hub in Jackson, MI

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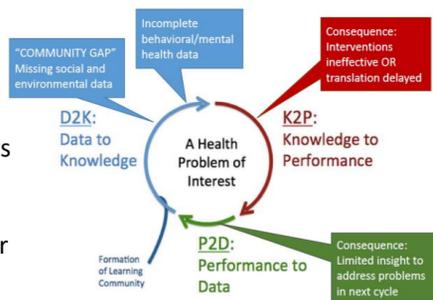
1= University of Michigan Department of Family Medicine; 2= University of Michigan School of Information; 3= University of Michigan Department of Learning Health Sciences; 4= United Way of Jackson County; 5= Jackson Collaborative Network; 6= RiverStar Software; 7= Michigan Health Information Network; 8= Henry Ford Allegiance Health; 9= Jackson County Health Department; 10= Jackson Health Improvement Organization

## Context

In most communities, information related to individuals' health is distributed across multiple unconnected care siloes created to support medical, behavioral, and community service providers. While progress has been made toward EHR interoperability for the medical enterprise, community-side information remains highly fragmented and sequestered.

The result is that community care providers often work with incomplete information, cannot connect to the broader system of care, and unintentionally create complex pathways of care that fail to effectively address health disparities.

This 'community data gap' also limits our ability to carry out meaningful learning health cycles in community settings.



**Objective.** To co-design a community health information hub that connects community-based organizations (CBOs), behavioral health providers, and medical practices actively engaged in the care of an individual client/patient.

## Design

**Study Design.** Participatory design exercise engaging multiple community stakeholders and technology partners.

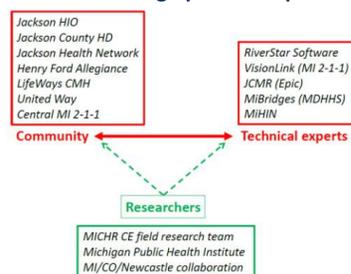
**Duration:** 30 months.

**Setting.** Small Midwest city (pop 30,000) and surrounding county (160,000).

**Participants.** Over 40 local CBOs, county Health Department, local health care system and provider organization, lay community members, technology partners, state Health Information Exchange organization.

United Way of Jackson County, Central Michigan 2-1-1, and LifeWays Community Mental Health provided leadership in their role as local convenors.

### Sociotechnical design partnership in Jackson

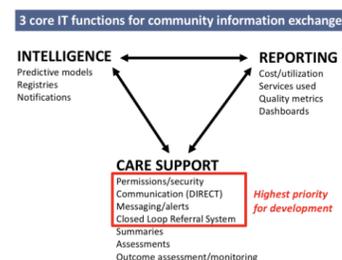


## Actions

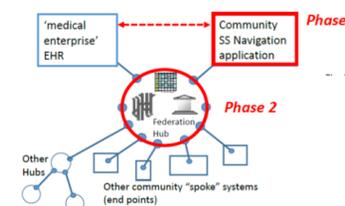
### 1. Pre-work: community interviews to understand initial conditions

- Overlapping and duplicative services from over 200 CBOs
- Care pathways were complex and very difficult to navigate
- The community 2-1-1 service was underutilized
- Most agencies worked from their own incomplete 'catalogs' of local CBOs
- Coordination between providers was informal and infrequent.

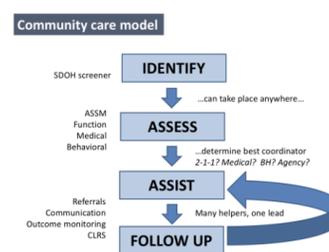
### 2. Determine overall approach to design and scope of work



### High-level view: Community Hub design



### 3. Co-develop a community care model and common approach to client screening, assessment, and referral



Domain	Screening question (all Yes/No)
Healthcare	In the past month, did your physical or mental health keep you from doing your usual activities, like work, school or hobby? In the last 12 months, have you needed to see a doctor, but could not because of cost?
Food	In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food?
Housing	Do you need help with housing problems?
Utilities	In the past year, have you had a hard time paying your utility company bills?
Children	Do problems getting child care make it difficult for you to work or study?
Transportation	Do you need help getting to work, school or appointments?
Literacy	Do you ever need help reading important papers?
Employment/Income	Do you need help finding a job or other steady source of income?
Education	Do you think completing more education or training, like thinking a GED, going to college or having a trade would be helpful to you?
Safety	Are you afraid you might be hurt in your apartment building or house?
General	Would you like assistance with any of these needs? Are any of your needs urgent?

### 4. Co-design (with IT vendor) set of key functional requirements

#### IT components and vendor

Michigan 2-1-1 database [VisionLink]  
Indexed database of community service agencies (CSAs) retrievable using AIRS taxonomy terms

Jackson Care Hub [RiverStar]  
SDOH screening and assessment tool linked to Michigan 2-1-1 database; Arizona Self-Sufficiency Matrix scoring and tracking; secure messaging; closed-loop referral system; outcomes monitoring

Community Hub (middleware)  
Enables limited real-time data exchange between IT platforms  
Current: CCDA-based data exchange  
Near future: FHIR-based data exchange  
Future: Data exchange with other local CSA IT platforms (Middleware)

Jackson Community Medical Record [Epic]  
RiverStar SDOH screening and assessment tool mirrored in Epic

#### Standard IT 'building blocks' used in Hub

Tool	Description	Purpose	Work to do...
HD	Health provider directory listing	Establish user credentials	
Common Key	Unique patient identifier	Ensure data correctly linked to individual	
ACRS	Active Care Relationship Service	Confirm membership in care team and allow access to individual's record	Extend to cover non-medical providers
ADT	Admit/Discharge/Transfer notification	Confirm that an 'event' occurred	Extend to cover all interactions (visits, calls, referrals, services)
CCDA	Consolidated Clinical Document Architecture	Specifies encoding, structure and semantics of clinical documents for exchange between EHR and Hub	Packaging new CCDs containing SDOH and referral data

## Results

Participatory design worked very well in this complex initiative.

The Jackson Care Hub provides a shared community platform to supplement but not replace the IT applications used by individual CBOs. It has 2 components.

**Community Navigation** - enables any user to:

- Carry out screening - SDOH and behavioral
- Match needs to available local service resources using an enhanced statewide 2-1-1 database
- Send referral 'tasks' to CSAs and track their status
- Identify and directly message other members of the client's active care team to coordinate care
- Monitor outcomes - services provided, met needs, self-sufficiency

**Information Exchange** - enables data exchange between Hub and IT platforms used by community providers:

- Export results of SDOH screening completed in the community EHR (Epic) to the Hub
- Move referral 'tasks' between Epic and Hub as status changes to enhance tracking and follow up

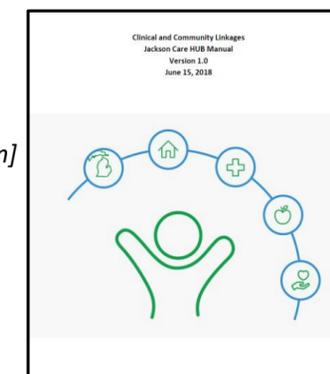
The Hub went 'live' on June 18, 2018 with 14 participating CBOs. Additional CSAs are being added as rapidly as training can be completed..

**Hub status as of 10/1/18:**

- 17 fully active CBOs
- 289 SDOH assessments completed
- 645 referrals entered  
[housing, mental health most common]
- 87 agencies received referrals

**Next steps:**

- Activate additional local CBOs
- Enhanced behavioral health screen
- Refine Epic data exchange
- Expand to other communities in MI



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