

Enabling Caring Communities:



A Sociotechnical Infrastructure Project in Longmont, Colorado

“real time information such that whenever someone is presented with a client or patient, they have what they need to provide the best services”

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Culture of Data Conference- April 2018

WHO WE ARE





- University of Colorado Anschutz Medical Campus
 - Kelsey Ford MPH
 - Research Assistant/ Project Manager
 - Doctor of Public Health (DrPH) student
 - Don Nease MD
 - Family Physician
 - Director of Community Engagement and Research – Colorado Clinical and Translational Sciences Institute







COLLABORATORS

- Nick Booth and Mike Martin - Newcastle University (UK)
- Mike Klinkman - University of Michigan
- Harold Dominguez - City of Longmont
- Bruno Sobral and Timothy Ryan – CSU One Health Institute
- Jason McRoy - Boulder County Connect
- Karen Albright – Denver University
- Morgan Honea - CORHIO

LEARNING OBJECTIVES

1. Discuss the complexity of sharing information across multiple health care and community service organizations.
2. Explore how engaging communities using a socio-technical design process may maximize collaboration to eliminate these information silos and improve overall population health and wellbeing.
3. Introduce the Enabling Caring Communities Project in Longmont, Colorado and present early impressions of community exploration and mapping project phase.



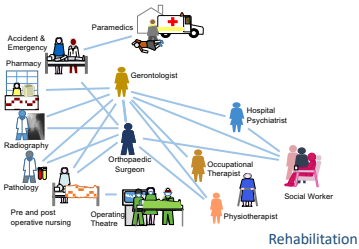
AMY'S STORY



Acute and Emergency Care

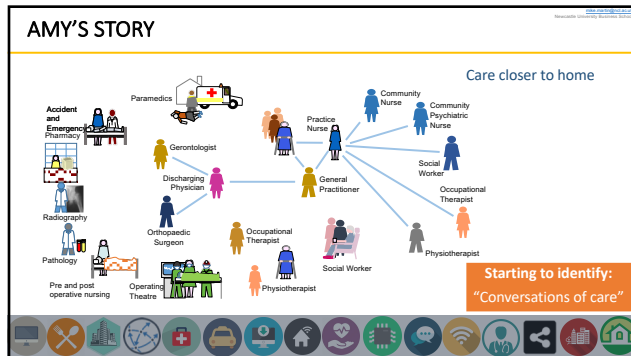


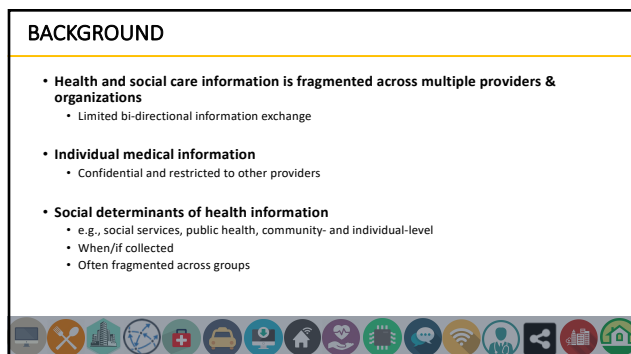
AMY'S STORY

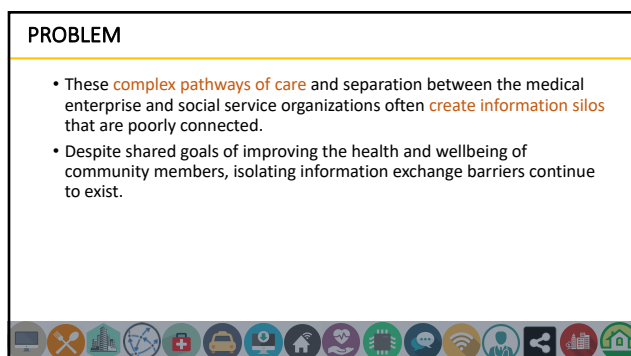


Rehabilitation







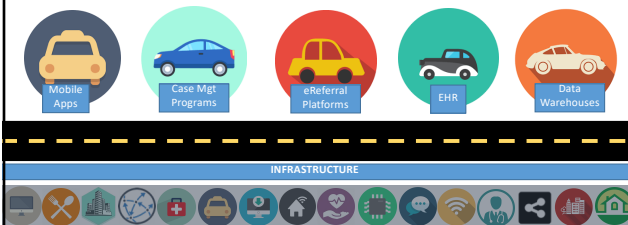


ADDRESSING THE GAP

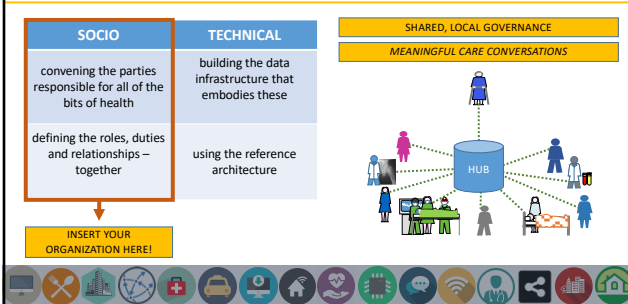


APPLICATION VS INFRASTRUCTURE

Rather than focusing on fancy new IT solution for (one) problem, promote building a shared platform to solve (most) problems



SOCIO-TECHNICAL DESIGN



SOCIO-TECHNICAL DESIGN

Value of a bottom-up approach

- Beginning with the folks most affected by issues
- Boots on the ground, community-based
- Understanding context and meaningful data exchanges
- Ensuring implemented solutions are co-created and relevant

Architecture

before, prior to...

doing the technical work.

The diagrams and texts that help us to talk to each other across our different technical boundaries.

Socio-cultural View	<i>Individuals, values and principles.</i>	New meanings are negotiated.
Conversational View	<i>Roles, relationships and responsibilities.</i>	Meanings include Intentionality.
Informatics View	<i>Codes, terms and objects</i>	Meanings are predefined and concrete.
Engineering View	<i>Bits and terra-bytes channels and bandwidth</i>	Measurements but no meaning.

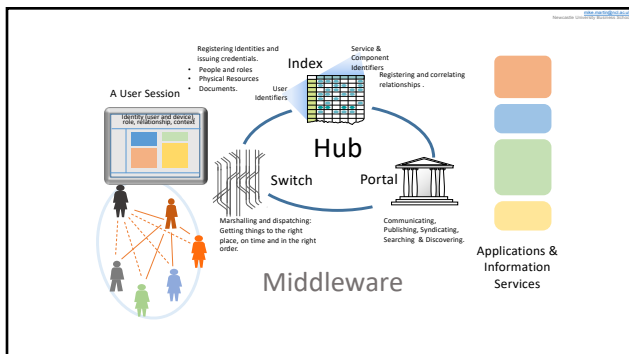
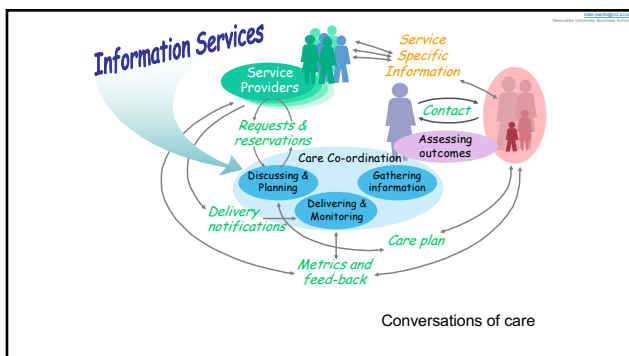
Views of Information.

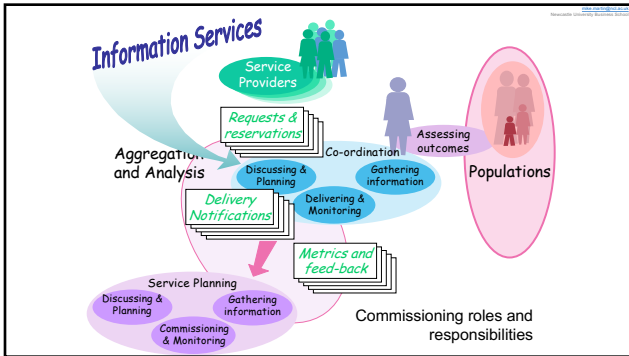
INFRASTRUCTURE DESIGN

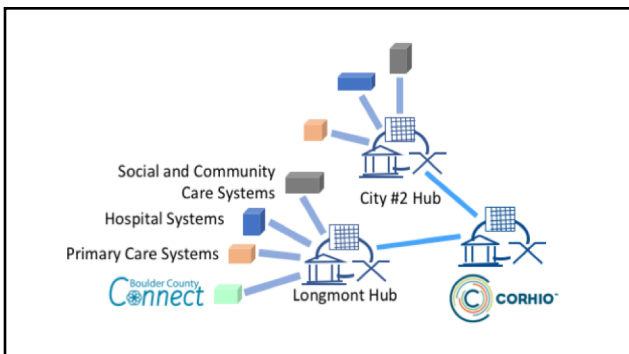
How to approach to the problem of sharing data across multiple systems and agencies providing health and social care?

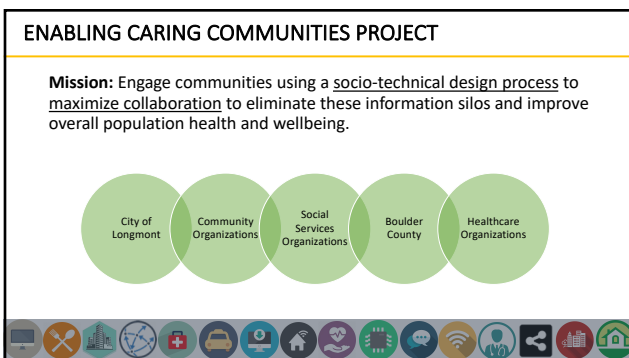
Federated Middleware

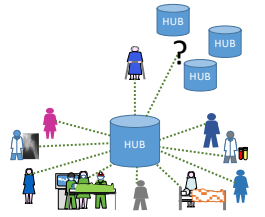
- The concept originally developed to **support the integration and management of disparate technical applications**
- It represents the “glue” with which distinct domains of activity can be linked, coordinated and managed.

[illegible][illegible][illegible]







[illegible]

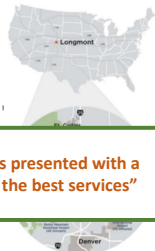
"We're from the University, we're here to help!"

[illegible]

Why Longmont, Colorado?

The City of Longmont occupies a growing and aging population with unique needs.

- Invited in by leaders in the community
- Innovative thinking and action



“-real time information such that whenever someone is presented with a client or patient, they have what they need to provide the best services”

[illegible]

PROJECT STRATEGY

PROJECT STRATEGY			
Phase I	Phase II	Phase III	Phase IV
Exploration	Community Collaboration	Development	Implement and Sustain
<ul style="list-style-type: none"> Community selection Gauge interest Environmental scan City/County data 	<ul style="list-style-type: none"> Collaboration building Qualitative/ethnography Mapping resources Prioritizing opportunities Assemble community governance Bootcamp Translation 	<ul style="list-style-type: none"> Iterative process Co-create sociotechnical design Build infrastructure Create data stewardship principles Develop implementation and evaluation plan 	<ul style="list-style-type: none"> Implement infrastructure Evaluate, refine & adapt Intentions Check Determine paths of sustainability Scale
2017	2017-2018	TBD	TBD

COMMUNITY MAPPING PROCESS

- Conducting a 'listening tour' to:
 - Describe and map out the community resources in Longmont
 - Who do they serve?
 - What services do they provide?
 - What data is collected?
 - What types of data are exchanged?
 - Any gaps that make this effort challenging?



COMMUNITY MAPPING PROCESS

- Conducted over 40 interviews with groups, programs, organizations
 - Community level, city level, county-level, state-level
 - Direct/Indirect services
 - Social Determinants of Health
 - Food security, housing, transportation
 - Behavioral health
 - Substance use
 - Healthcare, access to healthcare services
- Mapping these organizations using a data visualization tool, Kumu





What we've heard so far.....

1. Each organization has **different**

- USE DATA
TO INFORM
DESIGN



GOVERNANCE

- Gather core group of community stakeholders
- Incorporating community values through local governance
- Creates a foundation for more effective management and planning for community health and social care
- Decision making around “meaningful data exchanges”

[illegible]

ANTICIPATED BARRIERS

- Complex privacy constraints with health information
- Diverse methods of referrals, case management systems
- Data ownership
- Community-clinical linkages

[illegible]

NEXT STEPS ON OUR LIST

- **CONTINUE INTERVIEWS**
 - Continue Community Organizations
 - Begin diving into Health Care sector

- **CREATE GOVERNANCE**
 - Local governance

WHAT IS MEANINGFUL DATA TO EXCHANGE ACROSS GROUPS?

- **DESIGN INFRASTRUCTURE**
 - Collaborate other groups doing similar work

WHAT WOULD SOMETHING LIKE THIS DO FOR THE CITY OF LONGMONT?

[illegible]

Questions?



CONTACT INFORMATION

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 CIO for Connected Health Cities North-East and North Cumbria
 Senior Health Informatics Advisor, Newcastle University (Institute of Health and Society) and Newcastle upon Tyne Hospitals NHS FT



Pocket Slides

Mapping the Constellation of care

Your role and organisation: _____

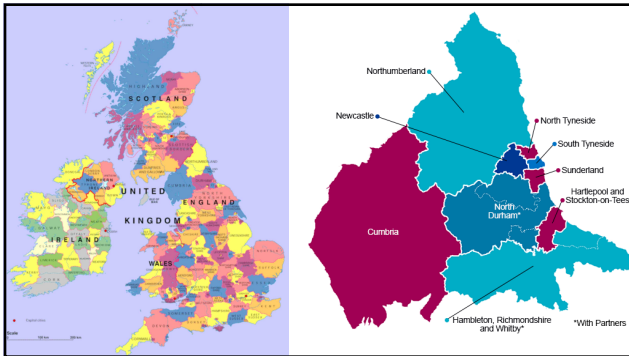
1. Having conversations with family members
2. Having conversations with the whole family
3. Having one to one conversations with other professionals/workers
4. Having conversations in multi-agency meetings
5. Having supervision meetings
6. Finding information
7. Other

Build a Trusted Brand and Clear Vision

Great North Care Record

The Best Place In The World To Get Care
The Best Place In The World To Do Research

CONNECTED HEALTH CITIES



Characteristics of Health and Care System

- 3.6m people
- 8 Hospital Organisations
- 2 Mental Health Trusts
- 400 GPs
- 12 Local Government Districts



The service is regularly reorganised as political acts:
How can we build infrastructure which outlives these changes?



Aims of Connected Health Cities

- Mechanism to join up front line care
- Shared Analytics platform for Universities and NHS, and Social Care
- Trusted Brand and Clear vision
- Strong patient and citizen engagement

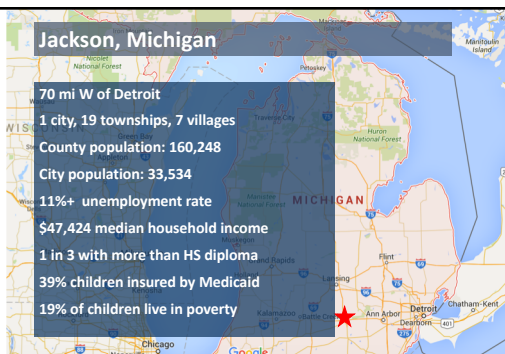
All building a Learning Health System

Infrastructure to support 3 care pathway projects and the creation of a proof of concept

- Prototype analytics platform
- Join up end of life care
- Support for Vulnerable families in health and social care



Building community infrastructure in Jackson: 2000-2017



Our primary aim

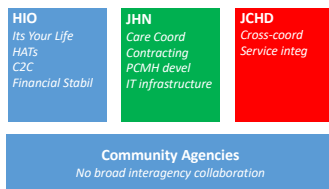
to work with the community to co-create a 'locally-owned' infrastructure...

to support information exchange between medical, behavioral, social, public health providers, and community members...

to improve the health and well-being of the community at large.



Jackson capacity building - mostly in silos



Michigan Blueprint for Health
SIM Demonstration
2016-2020



AIM: Redesign health care delivery to integrate social services and medical care (and behavioral health care???) for at-risk population

OVERALL DESIGN:

- **Community Health Innovation Region (CHIR)** – backbone organization that convenes a governing body of community partners, including health systems, community based organizations, and governmental entities in a geographic region
- **Accountable Systems of Care (ASCs)** – organized clinical networks that provide and support medical services
- **Patient-Centered Medical Homes** – core of medical-side intervention
- **Michigan Pathways to Better Health** – Pathways community hub model for community service delivery, core of community-side intervention
- **Payment Reform** – to support and sustain redesigned care model

How do you create the infrastructure to support integration?



Planning year activities

- Pre-work: action research
 - Qualitative interviews of lay community, stakeholders, providers, leaders
- Creation of working group structure (collective impact model, HIOCC as lead)
- Clinical-community linkages core group
 - Data/IT ad hoc group as lead
 - Convening community service agencies
 - Co-design of care model, infrastructure, and core application(s)
- Large-scale conversations across domains

