State Data Sharing (HIE) Interoperability: Design and Implementation

A Panel Discussion with Connecticut, Michigan, and Oklahoma

Allan Hackney, Connecticut Health IT Officer, Office of the LT. Governor of Connecticut
Dr. David Kendrick, CEO, MyHealth Access Network
Dr. Tim Pletcher, Executive Director, Michigan Health Information Network Shared Services
Paul Klintworth, Lead, Health IT Resource Center, Office of Policy, ONC (Moderator)
Sharing Standards-Based Solutions
Between Health and Human Services in the Cloud

Tim Pletcher, DHA
Executive Director, MiHIN
President & CEO, Velatura
Benefits of A Shared Infrastructure

**Safer & More Optimal Care**
- Help prevent diagnostic, medication treatment, system or communication errors
- Ensure appropriate treatment, follow-up, and prophylactic actions

**Reduce Burdens & Waste**
- Failures of care delivery & coordination, overtreatment, administrative complexity, pricing failures, and even fraud & abuse

**Innovate & Learn Faster**
- Detect, monitor, & measure
- Technology adoption
- Quality improvement
- Implementation & translational science and research
This is the Network of Networks

MiHIN Statewide Shared Services

Single point of entry/exit for state

- Federal Agencies/Non-Federal Organizations
- Health Plans
- Consumer-Facing Organizations
- Other-Data-Sharing Organizations
- Health Information Exchanges
- Providers
- Hospitals
- Pharmacies
- State Innovation Models

The Office of the National Coordinator for Health Information Technology
159 Hospitals (includes CAH & VA)  
Over 310 SNFs
Practice & Pharmacy Coverage

5000+ Practices

1771 Pharmacies

Copyright MIHIN 2018
A modular, highly standardized legal framework

Implementation guides and conformance

Synthetic data, personas, interoperability testbed (FHIR-PIT) simulation tools

A four-phase stage gate process to prioritize and incentivize use case adoption

Cost recovery and sustainability linked to mature use cases & value
How does the Use Case Factory process work?

Stage 1: Conceptual
• Define purpose
• Establish sponsor

Idea begins with a sponsor...

Stage 2: Plan & Develop
• Technical planning
• Pilot and refine

...and moves on to MiHIN Board

Stage 3: Implement
• Marketing and outreach
• Production status

...ensures successful adoption

Stage 4: Adoption
• Critical Mass
• Metrics

Continuous improvement...

Examples of Use Cases:
• Immunizations
• Admission Discharge Transfer (ADT) Notifications
Legal Trust Framework

ORGANIZATION AGREEMENT
(Simple Data Sharing Organization Agreement)

- Definitions
- Basic Connection Terms
- Basic BAA Terms
- Minimal Operational SLA
- Contracting & Payment
- Cyber Liability Insurance
- Termination

Master Use Case Agreement

Use Case Exhibit #1
Use Case Exhibit #2
Use Case Exhibit #3
Use Case Exhibit #n
Implementation Guides
Same Use Case: Different Value
An Upward Spiral

Provider agrees to use case terms and sends data to MiHIN based on use case requirements

Health plan ties incentives to Use Case Participation

MiHIN Statewide Shared Services

MiHIN shares conformance report
Data Quality is Everything

<table>
<thead>
<tr>
<th>Hospital System Conformance</th>
<th>April 2015</th>
<th>December 2015</th>
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<tbody>
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<td><strong>Enhanced fields</strong></td>
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<td>76.9%</td>
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<td>23.1%</td>
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</tr>
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<td>69.2%</td>
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</tr>
<tr>
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<td>92.3%</td>
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<tr>
<td>81.8%</td>
<td>69.2%</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

December 2015 snapshot shows one health system by individual hospitals resulting in additional rows.
1. Admit, Discharge, & Transfer Use Case
2. Care Summary (CDA CCD) Use Case
3. Lab Results Use Case
4. Quality Measure (QRDA) Use Case
Use Case Driven Data Lake
Active Care Relationships
~ 30+ Million Active Care Relationships
Data for the Common Key Service

Patient Demographics Used by Common Key Service

First Name  Last Name  Date of Birth  Gender  Last 4 SS#  Local MRN#
(plus other demographic data)

Linkage
Common Key Service (CKS)

What:

» An additional common identifier to include in patient demographics when sharing or merging data

» Built upon:
  – Active Care Relationship Service
  – MiHIN legal trust framework
  – Leverages the State of Michigan MPI

Goal:

» Improve match rates when linking patient records

» Link individuals across multiple organizations, applications and services
What does a common key look like?

- Forty characters, for example:
  - Ah7xct5hfl4bdznumnupokdyn67ruuxusrdj4qgc

- The common key does not encode any patient specifics.

- The common key is tamper proof and is cryptographically signed and hashed by MiHIN

<table>
<thead>
<tr>
<th>BYTE 1</th>
<th>BYTE 2-17</th>
<th>BYTE 18-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version</td>
<td>UUID</td>
<td>ENCRYPTED</td>
</tr>
</tbody>
</table>
Improving Patient Matching

Active Care Relationship Service

Common Key Service

Patient Matching Accelerator (very high performance MPI)

Data clean up services

Common key returned with cleaned demographics

Patient Demographics + Common Key
Provider & Affiliation Data

![Provider & Affiliation Data Diagram]

- Patient
- Primary Care Provider
- Direct Address or ESI
- Practice Unit
- Practice
- Physician Group

Used for the Provider Directory
Active Care Relationship Service™ (ACRS™)
Almost Every Hospital, ED, and 70% of SNFs

1) Patient goes to hospital which sends message to TDSO then to MiHIN
2) MiHIN checks Active Care Relationship Service and identifies providers
3) MiHIN retrieves contact and delivery preference for each provider from HPD
4) Notifications routed to providers based on electronic addresses and preferences
Supplemental data – status quo
ACRS Streamlines Quality Reporting

One format and one location for:
- PO’s to submit supplemental data
- Payers to submit Gaps in Care
- PO’s to close Gaps in Care
ACRS Foundation for the Next Generation Record Locator Service
Analytics Pipeline

Raw data → Analysis → Population → Predictive model or decision rule → Score instance

Score instance: \( (x + a)^n = \sum_{k=0}^{n} \binom{n}{k} x^k \)

Classification

Indicator

Determine Attribute
Use of Prior Knowledge

Active Care Relationship Service

**List of Patients**
- Patient A: High Utilizer
- Patient B: High Utilizer
- Patient C: High Utilizer

Physician Organizations & ACOs

**List of Patients**
- Patient A: Patient Activation Level 1
- Patient B: Patient Activation Level 2
- Patient C: Patient Activation Level 2
- Patient D: Patient Activation Level 4

Health Plans

**List of Patients**
- Patient A: High Risk of Readmission
- Patient B: Medium Risk of Readmission
- Patient C: Low Risk of Readmission
- Patient D: Medium Risk of Readmission

Health System

**List of Patients**
- Patient A: Lead Exposure
- Patient B: Medium Risk Food Security
- Patient C: Communicable Disease Flag

Public Health
Situational Awareness & Minimum Necessary Principle
Enrichment Example

- ADT Notifications or Regular ACRS
- Care Summary & Results
- Cat1 Quality Measure

- Appended Info Linkages + Attributes
- Enriched
- Standardized

- Registries
- Scored Analytics Data
- Patient Activation
- Social Determinants

ACRS

The Office of the National Coordinator for Health Information Technology
GEORGE TULLISON; 62 yo black male admitted to Windward Hospital on January 18, 2017 with Diagnosis Codes (ICD-10) I50.43 and E1010, DRGs 291 and 637
Questions & Thank You!

Tim Pletcher
Executive Director
pletcher@mihin.org
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Disclosures

David C. Kendrick, MD, MPH

• Chair, Department of Informatics, THE University of Oklahoma School of Community Medicine

• Assistant Provost for Strategic Planning, OU Health Sciences Center

• CEO, MyHealth Access Network
  » Oklahoma Non-profit Health Information Exchange- does not sell products outside of Oklahoma

• TA Consultant for ONC

• Chair, Board of NCQA

• Board, Strategic HIE Collaborative

• Board, Patient Centered Data Home
Agenda

- What challenges do we face?
- Why is HIE (the noun) an important part of the solution?
- What evidence do we have that this can work?
- Are there other critical use cases?
Agenda

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Moving to Value Based Payment Models

\[ Value = \frac{Quality}{Cost} \]
Need to Measure Quality vs. Provider cost & burden

2017 MIPS COMPONENTS FINAL

- Quality Reporting: 60%
- Advancing Care Information (interoperability): 25%
- Clinical Practice Improvement Activities: 15%
- Resource Use: 0%
Provider burden is creating disparities

Disadvantaged:
- Smaller practices
- Clinician owned (independent)
- Suburban and rural practices
- Academic practices
- No Meaningful Use participation
- Not participating in an external payment program
- Not participating in demonstration project

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Real patient data is . . .
70% of patients in MyHealth have records in 2 or more systems.

**Corroboration:**
*Average PCP must coordinate care with 225 other providers in 117 other organizations*

Pham, HH, NEJM 2007; 356: 1130-1139
86% of all diabetes patients have data in 2 or more other provider organizations.
Data fragmentation by EHR Vendor (top 7 vendors in Oklahoma shown)
Oklahoma’s Patient Population: Care Fragmentation beyond borders
Critical Voices In Governance

Those who pay for care & services

Those who receive care & services

Those who deliver care & services
MyHealth is
• 4M Unique Patients
• >70% of all hospital activity and
• >5,000 providers from
• >350 health-related organizations
• >45,000 clinical encounters daily
### ELVIS AARON TEST

**DOB:** 1/18/1967  
**Age:** 50

#### SUMMARY

<table>
<thead>
<tr>
<th>Encounters</th>
<th>Problems</th>
<th>Medications</th>
<th>Vital Signs</th>
<th>Original Documents</th>
<th>Lab Results</th>
<th>Clinical Documents</th>
<th>Allergies</th>
<th>Procedures</th>
<th>Immunizations</th>
<th>Dispensed Medications</th>
</tr>
</thead>
</table>

#### Problems (67)

- **CANCER, LARYNX**
- **INFLUENZA VACCINE**
- **ATOPIC RHINITIS**
- **ASTHMA, INTRINSIC NOS**
- **LEUKOPENIA - ORAL MUCOSA**
- **DIVERTICULOSIS, COLON**
- **RENAL MASS**
- **ABDOMINAL PAIN, RIGHT LOWE...**
- **ONYCHOMYCOSIS**
- **THYROID NODULE**
- **DIAB W/NEURO MANIFESTS TYPE...**
- **DEPRESIVE DISORDER NOS**
- **DEPRESIVE DISORDER, NOT ELSE...**
- **ADHD - WITH HYPERACTIVITY**
- **CAD**
- **ASTHMA**
- **MALE GENITAL ITCHING**
- **LUMBAGO**
- **FEVER UNSPECIFIED**
- **MASS - NASAL**
- **DYSURIA**

#### Medications (66)

- **GILLESPIE'S SOLUTION**
- **AZITHROMYCIN 250 MG TA...**
- **BACTRIM DS TABS**
- **BACTRIM DS TABS**
- **TYLENOL COLD MULTI-SY...**
- **GREENBERGER PROTOCOL**
- **BACITRACIN 500 UNIT/IGM...**
- **CELECOXIB 100 MG CAPS**

#### Vital Signs (31)

- **height E&M - 8302-2**
- **height E&M - 8302-2**
- **weight E&M - 3141-9**
- **blood pressure, systolic - 8...**
- **temperature E&M**
- **blood pressure, diastolic - 7...**
- **pulse rate E&M - 8867-4**
- **height E&M - 8302-2**
- **temperature E&M**
- **weight E&M - 3141-9**

#### Lab Results (7)

- **Observation Code**
- **Date Time**
- **Labs:** Unknown - Urinalysis  
  1/7/2016
- **Office Visit:** Unknown - ZL  
  1/6/2016
- **Office Visit:** Follow-up Visit  
  3/24/2015
- **Office Visit:** PA Student T  
  9/24/2012
- **Preload:** Probs, Meds, All  
  8/20/2012
- **Clinical Lists Update:** Unknown  
  9/1/2011
- **Office Visit:** Unknown - E...  
  9/1/2011

© 2017 MyHealth Access Network
Oklahoma’s Patient Population: Care Fragmentation beyond borders
Patient Centered Data Home™ now includes >30 HIE’s serving >150M patients
Pay for Value: Trusted 3rd Party

Payer

Claims

MyHealthAnalytics: Trusted Third Party

Value

Clinical Data

Provider

Clinical outcomes
• BP mgmt
• DM performance
• Etc.

Provider-specific Metrics

Voluntary
All Payer
Claims Database

$$

Payer-specific Metrics
• ER Utilization
• Admissions
• Prescription drug use
• Etc.

Health Information Exchange
Who are my patients?

Attribution can be confusing, but is critical to understand . . .

<table>
<thead>
<tr>
<th>T-36m</th>
<th>T-30m</th>
<th>T-24m</th>
<th>T-18m</th>
<th>T-12m</th>
<th>T-6m</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Patients I’ve Seen
- Payer 1 attribution
- Payer 2 attribution
- Payer 3 attribution
- Payer 4 attribution
Patient-centric measurement

Measure once, reuse many times for many perspectives...

4+, 3-, 3E = 4/7 = 57%

eCQM’s calculated in real time based on changes in a patient’s cross-community data by placing a box around any portion of a population.
Actionable: Number needed to treat

Breast Cancer Screening
CMS 125v3 Percentile 90th Percentile
Benchmark Rate: 74.07%
Current Result Rate: 63.48%
Number Needed to Treat: 748
Go to patients needed to treat
### Care Gap Closure = Better Performance

#### Patient Care Gaps

<table>
<thead>
<tr>
<th>Location</th>
<th>Patient First Name</th>
<th>Measure(s)</th>
<th>Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Multiple values)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provider</td>
<td>Patient Last Name</td>
<td>Show patients as</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Choose Measure(s):**
- Breast Cancer Screening
- Colorectal Cancer Screening
- Controlling High Blood Pressure
- Diabetes: Eye Exam
- Diabetes: Hemoglobin A1c Poor Control
- Diabetes: Low Density Lipoprotein (LDL) Management
- Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic

**Patient Level Result:**
- In Control
- Not in Control
- Not Included

---

#### Patient Care Gaps Table

<table>
<thead>
<tr>
<th>Location</th>
<th>Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Medicine Associates</td>
<td>Tracy L. Asher</td>
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| C0002081901 DC060FNC4 (40) | C0002189901 AE697SSS2 (48) |
| C0002788001 E4C254N6 (65) | C000291701 JEE8DIN6 (84) |
| C0003538301 J586ADQE (44) | C0003538302 JFE618X57 (17) |
| C0009666001 Y03104C55 (40) | C0010750401 N885D18E (43) |
| C0015733001 P5A667R2E (48) | C0015877101 B360CCK2D (44) |
| C0016089020 J3F88FR56 (30) | C0016089220 MC06CCRD2 (34) |
| C0016089220 L368ECR56 (10) | C0018918700 LTR55YF1 (28) |
| C0020959601 L015LL56 (33) | C0021964301 N885C5N5 (45) |
| C00223278701 S5A7BC95 (49) | C00224373703 D573808S6 (28) |
| C00223323201 MD09D7L5 (20) | C0023058101 R25A43590 (29) |
| C0022194101 R381E1H56 (27) | C0022194102 GADE26HR1 (65) |
| C0022194103 D0654DHS (27) | C0022194104 BIA63AH1 (2) |
| C0026432201 NA422E56 (34) | C0026432202 TC575E56 (31) |
| C0026782501 M1426HRS6 (33) | C0027228801 R10CS32B8 (54) |
| C0027308101 LS45F6A57 (45) |
Predicting Performance focuses effort
Agenda

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- Why is HIE (the noun) an important part of the solution?
- **What evidence do we have that this can work?**
- Are there other critical use cases?
Oklahoma Results

$33 million in gross savings
$25 million in net savings
$12.5 million in potential shared savings
$10.8 million shared with 52 of 61 practices

Net Savings: 5.4%

Overall Quality Performance
92% of practices successfully reported eCQMs
85% of practices met quality requirements

Claims-based Measures
Exceeded benchmarks for all 3 measures
- All-cause readmissions: 14.68% (highest benchmark)
- HF admissions: 0.97 (first benchmark)
- COPD admissions: 1.12 (first benchmark)
Results: eConsultations

- Patients receiving an online consult had a significant reduction in PMPM cost of care when compared with themselves as historical controls:
  - $140.53 Pre Consult vs. $78.16 Post Consult
  - Net savings of $62.37, p=0.021

- Compared with patients who received a referral but NOT a consult:

<table>
<thead>
<tr>
<th>Cost Type</th>
<th>Mean PMPM Cost Change</th>
<th>Mean Percentage Change</th>
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</thead>
<tbody>
<tr>
<td>Facility Costs (UB92)</td>
<td>-$13.00</td>
<td>-20%</td>
</tr>
<tr>
<td>Professional Costs (HCFA 1500)</td>
<td>-$108.04</td>
<td>-34%</td>
</tr>
<tr>
<td>Pharmacy Costs (PBM)</td>
<td>-$9.14</td>
<td>-14%</td>
</tr>
<tr>
<td>Total Costs</td>
<td>-$130.18</td>
<td>-</td>
</tr>
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</table>
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MyHealth now working with social needs and early childhood programs, where data is even more fragmented . . .
Accountable Health Community Model Structure

Figure 3. AHC Model Structure

The Office of the National Coordinator for Health Information Technology
Who owns cellphones and smartphones

A substantial majority of Americans are cellphone owners across a wide range of demographic groups. By contrast, smartphone ownership exhibits variation based on age, household income and educational attainment.

% of U.S. adults who own the following devices

<table>
<thead>
<tr>
<th></th>
<th>Any cellphone</th>
<th>Smartphone</th>
<th>Cellphone, but not smartphone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>95%</td>
<td>77%</td>
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<tr>
<td>Men</td>
<td>95%</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>94%</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Ages 18-29</td>
<td>100%</td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td>30-49</td>
<td>98%</td>
<td>89%</td>
<td></td>
</tr>
<tr>
<td>50-64</td>
<td>94%</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td>65+</td>
<td>85%</td>
<td>46%</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>94%</td>
<td>77%</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>98%</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>97%</td>
<td>77%</td>
<td></td>
</tr>
</tbody>
</table>

> 70% of target population has smartphone
1. Which of the following languages would you feel comfortable completing a survey in?
- English
- Spanish

5. What is your living situation today?
- I have a steady place to live
- I have a place to live today, but I am worried about losing it in the future
- I do not have a steady place to live (I am temporarily staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)

7. Within the past 12 months, you worried that your food would run out before you got money to buy more.
- Often true
- Sometimes true
- Never true

9. In the past 12 months, has lack of reliable transportation kept you from medical appointments, meetings, work or from getting to things needed for daily living?
- Yes
- No

10. In the past 12 months has the electric, gas, oil, or water company threatened to shut off services in your home?
- Yes
- No
- Already shut off

11. How often does anyone, including family and friends, physically hurt you?
- Never
- Rarely
- Sometimes
- Fairly often
- Frequently
Route 66 AHC Social Services Resource Directory

4,857 Resources in CRS Database, All 77 Counties in OK Covered by CRS Database
Immediate response with tailored, local services “prescription”
Route 66 AHC: Early Social Needs Screening Results

**Medicaid**
- Patients with Social Needs: 36%
- Patients with no Social Needs: 64%

**Medicare**
- Patients with Social Needs: 24%
- Patients with no Social Needs: 76%

**Commercially Insured**
- Patients with Social Needs: 26%
- Patients with no Social Needs: 74%
Additional roles for HIE

• Workforce planning
• Disaster Preparedness and Response
• Disease Surveillance
• Generation of new knowledge (research)
• Dissemination of best practices
• Fraud & Abuse detection and prevention
• Evidence-based Policy-making
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**Speaker Information**

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**Disclosure**

Connecticut Office of Health Strategy has contracted with Velatura, an affiliate of the Michigan Health Information Network (MiHIN), to plan and deploy health information data sharing and electronic clinical quality measure services, and develop a sustainability business plan for Connecticut’s health information exchange.

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**Health IT Office Website:**
https://portal.ct.gov/OHS/Services/Health-Information-Technology
Drivers for CT HIT Solutions

Stakeholder Drivers

- Patient is “North Star”
- Embrace existing capabilities
- Focus on whole-person care
- Workflow...workflow...workflow
- Harness ACO’s
- Solve for today while anticipating the future

SIM Drivers

- **Promote payment models that reward improved quality, care experience, health equity and lower cost:**
  - Objective: eCQM’s and health equity quality measures to payers’ value-based payment scorecards
  - Desired outcome: achieve multi-payer quality measure alignment, health equity, and reduced provider burden

Environmental Drivers

- **CT health systems invested while State struggled with HIE:**
  - $’s MM invested in EHR’s and analytics
  - Dense EPIC, PatientPing presence

- **CT surrounded by HIE’s:**
  - Plenty of service options
  - Watching HIE consolidations, transformations

- **National solutions gaining traction:**
  - Commonwell, Carequality, eHealth Exchange, SHIEC

- **ONC bringing forward TEFCA?**
  - Rationalization of data sharing agreements would be key

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An electronic clinical quality measure (eCQM) is a metric calculated based on certain raw clinical or claims data for a provider, organization, geography, etc.
A primary focus for our utility will be a 360° view of patient care:
- Provides a universal view of care

Objective is a rapid picture of care:
- Identifies care-giver, care-receiver, when, where, what, why
- Facilitates queries, subscriptions

Social determinants can also be linked to the care map as attributes or risk ratings:
- Designed so that demographic facts such as race or language are associated directly with the care map

The Care and Consent Map is necessary for any practical use of HIE data sharing:
- Basis for basic query, subscription, redistribution
- Can be delivered by “Super” CCD-A or FHIR (eventually)
Core Data and Analytic Solution - Foundation for Health Analytics

- **CDAS Componentry**

- **Design Approach**

  - **Solving for eCQMs while anticipating the future:**
    - Potential to integrate claims, health equity data, etc.

  - **Using “open” architecture:**
    - Open Application Programming Interfaces (API’s) offer flexibility, reduces costs, and avoids vendor “lock-in”

  - **“Agile” iterative process delivers “minimum viable products” repeatedly:**
    - Short time to deliver value
    - Pivoting around changing priorities is a central and expected concept
Intersection of CDAS and Health Data Sharing

**Shared Identity Management**

- **One source of truth for identity:**
  - Common care map for all data sharing and data analytic needs:
    - Patients, care givers, relationships, events

- **Consent is “like breathing air”:**
  - Consent models are embedded with patient’s demographics and relationships

- **Security classification attached to data objects:**
  - All data elements assigned classifications
  - Access control enabled by the union of roles and consent
  - Masking applied by data element when needed

- **Extensible to become authentication authority:**
  - Emerging as a potential value-add service to support authentication in a distributed data exchange environment

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[Diagram showing Security Controls & User Access]

Care Continuum and Consent Map (CCCM) implemented via Master Data Management (MDM – technical mechanism)
Moving from Concept to Execution

Collaborating with the Office of the State Comptroller to Prototype CDAS

- Collecting raw clinical and claims data to support extending to the State’s Health Enhancement Plan (HEP) for state and municipal employees
- Measure quality outcomes through the clinical stratification of members’ data (claims and clinical) to understand the health status complexity
- Enhance data analytics to enable the ability to measure person-centric (members) health outcomes and better gauge the overall effectiveness of HEP
- Building the Care Continuum and Consent Map to enable statewide data sharing
- Establishing a “network of networks” model for data sharing statewide
CDAS Prototype
Scaling Post-Prototype

Focusing on Building an Ecosystem

- **Taking a “Use Case” approach:**
  - Following guidance from CT HIT Advisory Council on priority use cases, but adjusting for “quick wins”

- **Partner rather than build/procure:**
  - Lot’s of opportunities to harness efforts already in place
  - Enable practitioner innovation

- **Use flexibility of architecture to explore emerging CT opportunities:**
  - HIE use cases in precision medicine, eConsultations, eConsents
  - Go straight to FHIR in some situations?

*Adapted from MiHIN Shared Services*
“Neutral and Trusted” Entity – Key to Buy-In

Statewide stakeholder engagement identified the need for trust:
- Two characteristics needed to overcome execution skepticism:
  - “Neutral” – no participant in the services is advantaged over any other
  - “Trusted” – the services are overseen by representatives reflective of the participants

Incorporating a non-governmental entity to ensure stakeholder governance:
- Non-profit
- Will operate the CDAS and data sharing as a shared services utility for the benefit of all
HIT Status

**eCQM Prototype**

- **CDAS infrastructure available for testing Oct 12**
- **Prototyping participants identified:**
  - “Wave 1” in-flight (4 clinical, 2 insurance)
  - “Wave 2” target Dec 2018 (4 clinical)

**HIE Launch Status**

- **Federal match funding approved Sep 5 ($12.2M)**
- **Rapidly developing deployment plan:**
  - Incorporating entity (Dec 2018)
  - Post-prototype rollouts (target Jan 2019)
  - Trust framework (target Mar 2019)

**HIE Deployment**

- **Preparing follow-on Federal match funding for FFY19-20 (~$29.9M):**
  - HIE deployment to hospitals, physician groups, other care-giving settings
  - Developing a eConsent model for sensitive data
  - Establishing a Use Case Factory
  - Developing statewide medication reconciliation services
  - Enabling eConsultations
Q&A
Thank you for joining us this morning.

Thank you.