## Attaining Value from Health Information Exchange

Arizona HIMSS Chapter Event

**Connecting the Dots...Healthcare Technology and Interoperability** 

Al Kinel President of Strategic Interests

March 24, 2017



## Agenda

- Value Drivers of HIE
- Defining Scope to Attain Value
  - Enhancing Transitions of Care (ToCs)
  - Enabling Patient Engagement & Care Management
  - Supporting Analytics for Pop Health & Value-Based Payment
- Foundation for Success Collaboration
- Case Studies

## Perspective of the Role of HIE

- Providers and other stakeholders can indeed utilize HIE to:
  - Improve care, lower clinical and administrative costs
  - Improve satisfaction of providers, staff, and patients
  - Address the strategic needs of the organization(s)
- However, it is not an IT Science Project, or a way to implement cool technology
- HIE is an architecture and *IT utilities* that can liberate data and enable the organization to use it
- In order to successfully implement an HIE, providers must first:
  - Define how the HIE can help accomplish their specific objectives & initiatives
  - Confirm that the investment will provide a strong return
  - Get alignment with leadership to prioritize this project above other initiatives requiring resources

### Value Drivers of HIE

Provider Perspectives & Links to Initiatives



**TYPICAL INITIATIVES** 

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## **Defining the Scope of HIE Program**

Once an organization decides to invest in an HIE architecture and utilities to support initiatives, need an approach to define the objectives & scope including stakeholders, content & use cases.

The lenses through which scope can be defined include:

- Enhancing Transitions of Care (ToCs)
  - Which ToCs? What Data? What Facilities? Workflow?
- Enabling Patient Engagement & Care Management
  - Which Problems? Functions? What Apps? Workflow?
- Supporting Analytics for Population Health & Value-Based Payment
  - What Contracts? Which Population? What Measures? What Data?

### Keys for Successful ToCs – More than HIE

- Right information, right time, right format...without extra noise
- Comprehensive Care Coordination, Health Coaching and PCMH Model
- Medication Management
- Effective Hand-offs to Providers and Social Workers
- Timely Post Discharge Follow-up
- Self-Management Care Plans with Patient Education and Clear Follow-up
- Identify and Provide Resources for Social Determinants of Care
- High Patient Satisfaction (correlated with lower 30 day readmit rates)

Sources:

- Project BOOST (Better Outcomes by Optimizing Safe Transitions) <u>www.hospitalmedicine.org</u>
- Care Transitions Interventions (CTI) –<u>www.caretransitions.org</u>
- CMS Community-Based Care Transitions Program (CCTP) <u>www.innovations.cms.gov/initiatives/CCTP/</u>
- Guided Care Comprehensive Primary Care for Complex Patients <u>www.guidedcare.org</u>
- Project RED (Re-Engineered Discharge) <u>www.bu.edu</u>
- State Action on Avoidable Rehospitalizations (STAAR) <u>www.ihi.org</u>

## **Enhancing Transitions of Care**

Where Information Gaps Appear & Compromise Care



### **Key Transitions**

- Use Case 1:
  - HOSPITAL to HOME
- Use Case 2:
  - HOSPITAL to LTPAC
- Use Case 3:
  - LTPAC to HOME
- Use Case 4:
  - PCMH PCP to Other
- Use Case 5:
  - HOME to HOSPITAL
- Use Case 6:
  - LTPAC to HOSPITAL
- Use Case 7:
  - Hospital to Hospital
- Use Case 8:
  - HOME to LTPAC

## Which ToCs Should be Addressed for You?

- Use Case 1: HOSPITAL to HOME
- Use Case 2: HOSPITAL to LTPAC
- Use Case 3: LTPAC to HOME
- Use Case 4: PCMH PCP to Other
- Use Case 5: HOME to HOSPITAL
- Use Case 6: LTPAC to HOSPITAL
- Use Case 7: Hospital to Hospital
- Use Case 8: HOME to LTPAC
- Other

#### For each assess:

- Do problems exist? Are they significant?
- Are causes understood? Tied to important initiatives?
- Are they acknowledged by key stakeholders?
- How much value would addressing it generate?
- What content would address problems?
- Can source systems provide content?
- Can HIE deliver the content?
- Can receiving systems utilize content?
- Can workflow be defined? Can alignment be attained?
- Can cost be estimated?
- Do standards exist? Pending?
- Can a solution for this ToC address others?

Then Address Data Needs that can be Addressed by Multiple ToCs

## **How Standards Support ToCs**

### ONC Drivers of Interoperability: MU, S&I Framework, ToCs

- MU required information to be exchanged in transition of care
- Providers confused on how to use specs to exchange clinical data
- Concept of C-CDA established
- S&I Framework formed
- Lack tools to aid development & use of templated clinical documents
- Major impediment to the widespread adoption of the standards

#### **ONC** Transition of Care (ToC) Initiative:

Formed to improve the exchange of core clinical information among providers, patients and other authorized entities electronically

Interoperability Standards Advisory (ISA) formed holds great promise

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S&I Framework - 2011

- Specs
- Implementation Guides
- Data Models
- Vocabulary & Values
- Test Tools & Data
- Reference Implementations

## C-CDA: Consolidated Clinical Document Architecture

Enabling Specific Transitions

- 1. Choose C-CDA Document Template for clinical workflow
- 2. Include components defined:
- **Required components**
- **Optional components for** the clinical situation
- 3. Add components required to meet MU/MIPS:
- Review requirements met ۲
- Add C-CDA components • aligning to data requirements that have not yet been met

HL7 Implementation Guide for CDA R2: IHE Health Story Consolidation, DSTU	Document Template		Section Template	s)	
Release 1.1 (US Realm) July 2012	Continuity Of Care	Allergies Medications Problem List	Family History Functional Status Immunizations Modical Equipment	Section templates in GREEN demonstrate CDA's interoperability and reusability.	
<ul> <li>Document Templates: 9</li> <li>Continuity of Care Document (CCD)</li> <li>Consultation Note</li> <li>Diagnostic Imaging Report (DIR)</li> </ul>	Document (CCD)	Results Advance Directives Encounters	Payers Plan of Care		
<ul> <li>Discharge Summary</li> <li>History and Physical (H&amp;P)</li> <li>Operative Note</li> <li>Procedure Note</li> <li>Progress Note</li> <li>Unstructured Document</li> </ul>	History & Physical (H&P)	Allergies Medications Problem List Procedures Results	Assessment and Plan Plan of Care Social History Vital Signs History of Present	Chief Complaint Reason for Visit Review of Systems Physical Exam General Status	
Section Templates: 60		Immunizations Assessments	Illness History of Present Illness		

## **ONC Interoperability Roadmap**

October 2015

### The three overarching themes of the roadmap:

- giving consumers the ability to access and share their health data
- ceasing all intentional or inadvertent information blocking
- adopting federally-recognized national interoperability standards



## **Interoperability Standards Advisory - ISA**

### **Standards and Implementation Specifications for:**

- Section I: Vocabulary, Code Set, Terminology
- Section II: Content & Structure
- Section III: Services

https://www.healthit.gov/standards-advisory/draft-2017

Despite the efforts of ONC, standards bodies, and associations, it is still difficult for stakeholders to apply standards to define projects and solutions to enhance information exchange and support ToCs

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### **Patient Engagement Strategies**



retweeted my message."

"Will this lollipop suffice for patient engagement?"

### Patient Engagement Strategies & Tools

#### **Patient Portal**



#### **Personal Health Record**





#### **Remote Monitoring**





#### **Meds Management**





### **Interoperability Use Cases Enabling Patient Engagement**





HIN Patient Engagement Survey August, 2015

#### Patient Health Record Enabling Patients to be in Control



### Patient Generated Health Data (PGHD)

Value & Challenges

### Value of PGHD

- Empower patients for larger role in care
- Holistic view of a patient's health over time
- Increase visibility into patient's adherence
- Enable timely intervention before a costly care episode
- Establish personalized care plan
- Reduce time, effort, and costs of patient encounters and workflow

### Challenges with PGHD

- Lack common specs, workflows, training to support PGHD intake
- Confirming accuracy & validity of PGHD
- Difficulty attaining insights from data
- Lack guidance and best practices
- Liability concerns inaccurate PGHD used / ignoring PGHD in the clinical settings
- Disconnected from EHR systems

### Patient Generated Health Data (PGHD)

Architecture & Benefits

### **ONC Framework / Architecture**

Accenture White Paper

- the collection and validation of data and tools that capture PGHD
- data sharing between clinicians and researchers
- current regulatory landscape
- opportunities to combine PGHD with clinical data for analysis and patient care
- patient recruitment for research studies and trials
- data interoperability
- big data analysis

### Enhancing the Conversation

mHealth – Billings Clinic – 3 States - Mayo

- 18-month program
- ~150 patients
- blood pressure control rates improved from 38.6 percent to 70 percent
- average blood pressure improvements:
  - avg. systolic from 148.8 to 139.6
  - avg. diastolic from 92.5 to ~85
- helped patients gain control over their personal health
- helped establish richer relationships with their healthcare professionals

### **Interoperability for PGHD Requires Multiple Integrated Functions**

#### Must make sense of limitless amounts of digital data from a multitude of devices

#### And enhance decision making with efficient workflow to attain better care at lower cost





Mobile app to manage devices & patient communication



**PGHD** Data

**Management Platform** 



**Care Management** Dashboard

### Turn PGHD into manageable clinical intelligence



Clinician Insights

Delivering meaningful clinical insights across Market Landscape large scale (100K+) patient deployments

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### **Improving Population Health**

Coordinated efforts to improve the health of a population with a management process and creative approaches that utilize systems, data, and tools



### **Identifying & Managing a Population & Patient Needs**



- With Outreach
- Ongoing

## **ACO Data Use & Analytics**

Impact of Interoperability

### ACOs most often analyze:

- Claims data (96%)
- Clinical data (79%)
- Administrative data (52%)
- Disease registry data (39%)
- Patient-reported data (38%)

#### In order to:

- Identify and close gaps in care (84%)
- Identify outliers in cost/utilization (80%)
- Compare clinician performance (77%)
- Measure/report on quality (77%)
- Proactively identify risk (68%)

### Results are Used to:

- Address specific high-cost or high-utilization patient populations (84%)
- Care transitions management/care coordination programs (82%)
- Disease-management programs (73%)
- Post-discharge programs (68%)
- Development of evidence-based clinical/care guidelines (55%)
- Medication management programs (38%)

## **Barriers to Population Health**

Interoperability as Enabler

- If an organization is to achieve better outcomes for a defined population at lower cost, its many clinical and administrative systems must be able to communicate and exchange relevant data.
- "Information systems are designed for the unique needs of different settings and specialties,". eHi Annual Report 2015
- Without interoperability, it's impossible for providers to know for sure if a patient's records are comprehensive.
- Without key information from disparate systems collected and available in a single place, it's impossible to use data analytics to develop the insights that ultimately improve performance.

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Foundation for Success - Collaboration

### Case Studies

## **Community - Collaboration - "Co-opetition"**

Effective community collaboration among strong organizations willing to work together to solve difficult problems, despite competition.





Unity Health System

## **Case Study**



Unity Health System – now Rochester Regional Health

Using HIE to:

- Address challenges of ToCs
- Enhance patient engagement
- Enable Population Health

## Improving Population Health at Unity Health\*

Community Diabetes Collaborative - CDC

**Diabetes Across Care Continuum** 

#### Lab/Testing **PCMH** Endocrinologist **Behavioral** Health Other Specialists: Cardiologists Long Term Radiologists Care Ophthalmologists Podiatrists Geriatricians Hospital Nephrologists Vascular Surgeons

#### **Stratification Options Included**

• Acuity, Provider, Payer, Income, Ethnicity, etc.

#### Results

- Reduced # of patients with uncontrolled A1c (> 9%)
   by 14% in Year 2, and more in Year 3
- Collaboration amongst diverse set of providers to better serve diverse set of patients with diabetes
- NCQA Diabetes Recognition Certification for all PCPs
- Decreased time to bring patients in control of fasting BGs through intensive insulin management tool (61 days)
- Improved patient satisfaction scores
  - 3.8% improvement by Year 2 in the participating PCMH practices, averaging 95.2%
- Hospital readmissions dropped by Year 3

### **Unity IT Situation - 2010**

#### Used electronic health records early – Best of Breed

- Ambulatory, 2004 NextGen
- Hospital, 2006 Cerner
- Home care Allscripts
- Elder care AOD

#### **Strategic IT Needs**



- Enable clinical integration within Unity and the community
- Improve clinical adoption and EHR optimization
- Further analytic capabilities across the continuum of care
- Shift from silo-care to cohesive, patient-centric care organization
- Develop infrastructure and tools to facilitate resource-intensive PCMH model for Care/Disease Management

## **Unity Community Diabetes Collaborative (CDC)**

Innovative Program – funded by NYS - to Improve Population Health

#### Access

Improved access to information with connected EMRs

### Share

- Create a unified patient view for Unity Health System
- Community interoperability, leveraging Rochester RHIO

### **Care Management**

Tools to support PCMH model for ToCs & chronic disease management

### Analyze

• A longitudinal patient record to support data analysis and decision support

### Engage

• Patient engagement via patient portal outreach



## **CDC** Participants

Those Who Care for Patients with Diabetes

#### **Unity Participants**

- Six Primary Care Practices
- Wound Care Center
- Diabetes and Endocrinology
   Services
- Dialysis Centers
- Vascular Surgery
- Diagnostic Imaging
- Unity Hospital
- Behavioral Health
- Long-Term Care Facilities
- ACM Laboratory

#### **Community Participants**

- Nursing Homes
- Lifetime Care Home Health
- University Cardiovascular Associates
- Two Podiatry Practices
- Nephrology Associates
- Radiology Practice
- Several Ophthalmology Practices
- Rochester RHIO
- Payers: Excellus & MVP

## **Upstate NY RHIO Situation 2010**

### **Rochester RHIO:**

- Rochester RHIO well established by 2010 with connectivity to 15 hospitals, over 800 physicians and 2,500 users
- Messages flying, data not normalized / organized
- Lofty goals yet limited data to-date
- Providers not utilizing data
- Limited ability to rapidly add providers



### NYS DOH Introduced HEAL 17 with the objectives to:

- Advance New York's HIT infrastructure with SHIN-NY
- Use HIEs locally to drive PCMH, chronic disease, mental health

### **How Did Unity Accomplish This ?**

• Program management: teams with broad representation based on referrals

• Collaboration with providers involved in care and defined:

- Transitions of Care (TOC)
- Data, Images & Process Change to improve TOCs
- Longitudinal record across facilities
- Diabetes protocols (based on NCQA standard)
- Patient engagement based on complete record
- Purchased, built, & integrated systems using Public & Private HIEs
- Clinical adoption of analytics, tools and new processes
- \$6.5 million in NYS Grant funds

## **Interoperability within Unity & the Community**



### u.Net Connect – Longitudinal Patient Record

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### **Types of Data Available in u.Net Connect**



Demographics: Age, Gender, Language, Marital Status, Race, Ethnicity, Religion



Diagnoses (ICD-9 / 10), Labs, Radiology, Pathology (reports)



Medications



Encounters: Hospitalizations (ED, Inpatient), physicals, consult, Outpatient



Immunizations, vaccinations (ordered and administered), Procedures (CPT)



Problems, procedures, allergies



Documents: Digital & scanned documents consultant reports, discharge summary, etc.



Vitals: Temp, pulse, blood pressure, body mass index



Doc Management: Links to systems with scanned documents

#### ROCHESTER RHIO



Images: Radiology and Cardiology



Subscription: hospitalizations and other event notification



eResults: labs, radiology, cardiology, and hospital reports



#### u.Net Connect Today

Planned u.Net Connect

Provided by RHIO

### **RHIO Clinical Sharing Modes Available**

- VHR: Virtual Health Record including access to Images
  - **Pros:** Web-based, query tool on-demand with Diagnostic image viewer
  - **Cons:** Performance, password management, patient match, not normalized
- **eResults:** EMR Integration reports and
  - Pros: Delivers lab results, radiology reports, other transcribed documents (discharge, etc.) into EMR inbox – with links to images via IERD
  - **Cons:** Only for providers that ordered or were copied on order
- **DIRECT:** Secure Messaging, HIPAA Compliant
  - Pros: Effective for secure messaging between providers with ability to include attachments (CCDs, Images, Documents Care Plans, etc.)
  - Cons: Not yet widely used
- Subscription: Patient Content
  - **Pros:** All relevant content available for patients with consent
  - **Cons:** Need to increase content, cost is per patient, lower eMPI match
- Alerts: Awareness of Impactful Events (ED, Admission)
  - **Pros:** RRHS Interface Engine and HIE can do more with a simple ADT alerts
  - Cons: Alerts should include RHIO eMPI ID (exact look-up for Query-based access)

## **HIE is a Foundation for Population Health**



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### u.Net Connect Supports Care Management

Combining Tools, Process & Organizational Change

### Offices

- View hospital discharge reports
- Med Reconciliation
- Diabetes Education notes
- Social Work/CM notes
- Utilization information
- Self care goals
- Blood glucose downloads

### Hospital

- Last PCP encounter
- Office Care Management Notes
- Med Reconciliation
- Utilization information
- Diabetes Education notes
- Self care goals
- Blood glucose downloads

## **Disease Management – ID Gaps in Care**

#### Diabetes Care Technology

- Registry of patients with profile
- Intensive insulin management protocols
- Blood glucose download in office or remote in community
- Perioperative protocols
- Diabetes online community

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## **Case Study**

Image Exchange in New York





NEW YORK eHEALTH COLLABORATIVE





Regional Health Information Organization





# Image-Enabling HIEs Image Exchange Use Cases & Workflow



#### Image Exchange Use Cases

- **1. Provider HIE Wide Patient Centric Query**
- 2. Rad HIE Wide Search, Collaboration & Download to PACS
- 3. Image Enabled Results Delivery link to EHR
- 4. Urgent Care Referral
- 5. Statewide Patient Centric Query
- 6. Patient Engagement & Image Management

### Image Exchange Adoption in New York

- Implemented and Operational in 4 RHIOs
- Under contract, implementation complete, outreach underway in two more
- Significant usage helping avoid unnecessary images, reduce time/effort to access images





## **Case Study**

Defining Requirements to Share Data within a Community

NY DSRIP – A \$6.2B Medicaid Redesign Program

Finger Lakes Performing Provider System (FLPPS)



### **DSRIP** Overview

**Delivery System Reform Incentive Payment (DSRIP) program:** CMS initiative, engaged in NY to redirect Medicaid funds to radically transform the Medicaid delivery system and address uninsured.

- Incentivizes healthcare and community-based providers to collaborate and introduce innovative system transformation to better serve Medicaid and uninsured populations who often experience greater healthcare disparities.
- \$6.42 billion allocated to NYS DSRIP with payouts based upon achieving predefined results in system transformation, clinical management, and population health.

**Overarching Objective:** Improve clinical outcomes and reduce avoidable ED use and hospital admissions by 25% over five years.

Five program principles:

- Patient-centered
- Transparency
- Collaboration
- Accountability
- Value-Driven

### Finger Lakes Performing Provider System Rochester Area PPS

#### **FLPPS Overview:**

- Sponsored by two competing health systems
  - University of Rochester Medical Center
  - Rochester Regional Health
- The largest, most dispersed PPS in NY, with a mix of urban and rural sub-populations





#### **DSRIP Projects:**

- 2.a.i. Integrated Delivery System
- 2.b.iii ED Triage
- 2.b.iv. Transition of Care
- 2.b.vi Housing
- 2.d.i. Patient Activation
- 3.a.i. BH-PCP Integration
- 3.a.ii BH Crisis Intervention
- 3.a.v. BH-SNF Integration
- 3.f.i. Maternal / Child Care
- 4.a.iii BH/Substance Abuse
- 4.b.ii Chronic Care Mgmt

Improving data available for ToCs deemed critical to success

### **ToC Exchange Gap Methodology**



4. Defined and documented functional requirements for Provider types by use case

Data G	aps in Use Case	1: Hospital to I	Home	Construction     C
Recipient	Data	Desired But Not Yet Receiving		1 Our Required by Huster Huma
РСР/РСМН	Patient Contact Into     Brief summary of Stay     Expected course     Responsibility to f/u on tests	Tests/appontments needed t     Patient specific red flags     Advance Directives/MOLST     Notification regarding signific	o be scheduled ant ToCs and care events	Oren Regions by Hones Can Agency     Oren Regions by Hones Can Agency     Oren Regions by China Can Agency     Oren Regions by China     Oren Regions by Behavioral Hauth Substance Above
FQHC	BH and SA history if available	Notification significant ToCs a	and care events	10 Cela Regional by PTOT 1
Health Home	BH and SA history if available     Health Home     referrat/eligibility/data sharing     Care team and care plans	PAMI, functional/cognitive sta Social History Home Care Information Notification regarding signific	itus ant ToCs and care events	10 Observant of Teams      10     10 Ange American and Construction     10 Data Sounding and Construction     10 Data Sounding and Construction     10     2000 Data Sounding and Construction     2000 Data Sounding and Construction     2000 Data Sounding and Construction
DD / CBO (variable)	Patient Contact Info     CDA, Demographics, Problems     Functional/Cognitive Status     Notification significant ToCs	Encounter Information     Care team, care plans, mgr     Medicaid Service Coord,     Transportation needs	Adv. Directives / MOLST     BH/SA     Eligibility info     Housing needs	Aggenda - Canopers or AVXI IVX Represents
Home Care	Discharge Summary (CDA)     NLC LTPAC Requirements	Notification regarding signific	ant ToCs and care events	
BH/SA	CDA     BH/SA history patient & Family	Behaviors affecting health     Development screen (peds)	Depression screen (10+)     Notify significant ToCs	Define and collect information on data recipients to understand data elements mounted by care recovers for toxices/ull care tensions while the finger Laws Performing Provide System (FLPHS) in adjument and Dolary System Ration Involvine Reprint (DSDF) program.
PT/OT	CDA     Care team, care plan, care mgr     Prior functional status	Fall and seizure risk     Pain information	Therapy evals / treatment     Other requirements TBD	The pursue of this document is to define functional requirements for Transition of Care Use Case 1. Histoplial in home. - Data required by provider type - Addocum data requested by provider type when available
Specialist	Same as PCP	· Other requirements based	on specialty	Outs requirements that are outside of Meaningful Use 2 standards     Prefered method of transmission by provider type
Patient	Scheduled appointments, tests, t	further referrals, pending tests, n	otify significant events	NUMER IN CONTROL OF A DECISION OF A DECISIONO OF

2. Researched Standards, Best Practices; Interviewed Providers for Capability and Data Requirements.



5. Prioritized data gaps by entity, effort, importance, and ability to address.

#### Rank Value/Cost/Work



#### 3. Crosswalked Data from MU, PCMH, INTERACT, MIPS, etc. to ID gaps & needs



6. Determined Highest Impact Priorities with the Lowest Relative Costs/Work



### Industry Standards Resources for ToCs

### Focus on LTPAC?



\$4MDA 15 (2014) 182-170

**D**rocesses

Coordinator (ONC) grant-funded project designed to improve care transitions using an enhanced electronic Universal Transfer Form (UTF) and Electronic Health Information (HIE) exchange.

### Data Gaps in Use Case 2: Hospital to LTPAC

A physician executive recently said that post-acute care has long been an archipelago of small islands, with no bridges, poor transportation, and limited communication options to the rest of the health care system. Deloitte Center for Health Solutions, Viewing post-acute care in a new light: Strategies to drive value

Recipient		Data Not Receiving						
LTPAC	<ul> <li>Referrer contact for questions</li> <li>O2 sat, pain info (eg. non-verbal)</li> <li>Detail functional / cognitive status</li> <li>Pre-hospital admission meds</li> <li>PT/OT care &amp; abilities / willingness</li> </ul>	<ul> <li>Pressure ulcers/ skin/ wounds</li> <li>Detailed nursing care: nutrition, hydr devices, therapies</li> <li>Advance Directives / MOLST</li> </ul>	<ul> <li>Pressure ulcers/ skin/ wounds</li> <li>Detailed nursing care: nutrition, hydration, devices, therapies</li> <li>Advance Directives / MOLST</li> </ul>					
PCP / PCMH	<ul> <li>Patient Contact Info</li> <li>Brief summary of Stay</li> <li>Expected course</li> <li>Responsibility to f/u on tests</li> </ul>	<ul> <li>Tests/appointments needed to be set</li> <li>Patient specific red flags</li> <li>Advance Directives / MOLST</li> <li>Notification regarding significant Tot</li> </ul>	cheduleo Cs and c	d care events				
нн	Notification regarding significant ToCs and care e	events						
DD / CBO (variable)	Patient Contact Info CDA, Demographics, Problems Functional/Cognitive Status	Encounter Information Care team and care plans Medicaid Service Coord.	ncounter Information Adv. Directives / MOLST are team and care plans BH/SA ledicaid Service Coord. Eligibility info					
Home Care	Discharge Summary (CDA) NLC LTPAC Requirements*	Notification regarding significant ToCs an	Iotification regarding significant ToCs and care events					
PT/OT	CDA Care team, care plan, care mgr Prior functional status	Fall and seizure risk Pain information	Therap Other r	Therapy evals and treatment Other requirements TBD				
Specialist	Clinical contact person at LTPAC	Brief summary of stay	based on specialty					
Patient	Scheduled appointments, tests, further referrals, pending tests, notification for significant events							

### **Data-Standards Crosswalk**

MU, PCMH, MCMS, etc.

- 390+ discrete data elements
- 28 Industry standards, local standards, datasets and templates compared
- 8 ToC Use Cases, 13 Provider/Recipient Types

Vocabulary and Terminology					Standards and DataSets												
TOC Data Element Matrix					Federal		LTPAC								-	Primary C	are
ar of 2015 11 20	MU Terminology	NLC LTPAC	MCMS Vocabulary	Other (FLPPS,	MU2	PCMH	NLC	INTERAC	Mass UTF/	TMDS	IMPACT	SJH	Safe		JSL LTC	Summary	MCMS
as of 2015-11-50		Vocabulary		PCMH,			LTPAC	т	IMPACT	SNF-ED		Nursing	Transition		Admit	of Care	PCP to ED
				INTERACT)			TOCs					Referral	Resident		from PCP	Record	admission
Immunizations	Immunizations				х	х	х	X	х						х	х	х
Administered during Visit	Immunizations Administered				х	х	х	x	x						x		х
Pneumovae and Flu vae												x					
Vitals																	
	10. 1 ·				x	х	x	х	х			х				x	
Vital signs (height, weight, BP, BMI)	vital signs (height, weight,				X	Х	X	Х	х			Х				X	
	HP, BMI)				X	Х	X	Х	Х			Х				X	
O2 Saturation		O2 Saturation					X	Х	Х								
FS blood glucose									х								
Mental Status at Discharge		Mental Status at Discharge					x	x				x					
Diagnostics/Lab																	
	1				X	х	х									X	
Laboratory Tests/Value(s)/Result(s)	Taste (Malus 6.) Thereby				X	х	X									X	
	resco vinde(s) (cesen(s)				X	X	X									X	
Results of tests during stay			Results of tests done during st	ay.				X									
Relevant Lab results (1-3 months)								Х	X								
Relevant Lab results (1-6 months)															Х		
BUN												X					
Creatinine											L	Х					
Diagnostics/Imaging											L						
	Laboratory				X	X	X				L					X	
Laboratory Tests/Value(s)/Result(s)	Tests/Value(s)/Result(s)				X	X	X	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>		<b></b>	X	
					х	х	х		<u> </u>	<u> </u>					<u> </u>	х	
Relevant x-rays and diagnostic test								v	v						v		
Care Plan								^	^	<u> </u>	<u> </u>				^		
Care Film																	
Future Appointments	Future Appointments				x	x	x	x	x				x				
Future Scheduled Tests	Future Scheduled Tests				X	X	X	Х					Х				
Referrals to Other Providers	Referrals to Other Providers				X	х	X	Х					Х				
Care plan field(s), including goals and	Care plan field(s), including																
instructions; Future Scheduled	goals and instructions; Future				X	X	X		х				X			X	
Appointments; Referrals to Other	Scheduled Appointments;				X	X	X		х				X			X	
Diagostic Test(s) Pending; Future	Diagostic Test(s) Pending;																
Scheduled Tests	Future Scheduled Texts		Present fallowing on an		х	х	х	х	X	<u> </u>		<u> </u>	х		<u> </u>	х	
Person fallouine en fature teste			Fusion sollowing up on														
Follow up tests and appointments			Follow up tests and specialty	Recommendad							<u> </u>				<u> </u>		
needed/recommended			appointments that need to be	follow-up.				x									

### **Stratify & Rank Data Gaps**

Prioritize: Value to Recipient, Effort & Cost – Use Case 2: Hospital to LTPAC

### Content

### **Clinical Documents**

• PAN	11
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• Labs

- Diagnostic Images
- Clinical Documents
- Referral Admin Info
- Claims
- Insurance Info

Data Desired by LTPAC	Recipient Priority	Source Availability	Ease of Extraction	CDA Compatibility
Referrer Contact for Questions	High	High	High	Mod
)2Sat	High	High	High	Mod
Detailed Pain Information	High	Mod	Low	Low
Detailed Functional and Cognitive Status	High	Mod	Low	Low
Pre-hospital admission meds	High	High	High	Mod
PT/OT care, abilities and willingness	Mod	High	High	Mod
Pressure ulcers / skin / wounds	High	High	High	Mod
Detailed Nursing Care: nutrition, hydration, devices, herapies	High	High	Mod	Low
Advance Directives/MOLST	High	High	Mod	Low
Relative Notified of Transiton of Care?	Mod	Mod	Mod	Low
/endor Supply / Info	Mod	Mod	Mod	Low
Notification regarding ToCs	High	High	High	N/A

## **Thank You**

### Al Kinel President of Strategic Interests

