



**eHEALTH INITIATIVE**  
Real Solutions. Better Health.

# **Connecting Communities – Advanced HIE Services**

**Tuesday, January 22, 2013**

**2:00 – 3:00 pm ET**

# Reminder

*Please mute your line  
when not speaking  
(\* 6 to mute, \*7 to unmute)*



# Reminder

*This call is being recorded*

# Agenda

- Welcome and introduction
- Roll call
- Overview of objectives
- Presentations: Advanced/value-add HIE services
- Discussion/Questions
- Next Steps

# Overview

- Workgroup will:
  - identify gaps in knowledge & highlight best practices of how HIE can improve/support population health
  - discuss how emerging trends & issues will redefine face of HIE in 2013 & beyond
  - explore the **context, capabilities, & components of HIE for population health** in relation to relevant events looming on horizon (e.g. MU 2/3, NwHIN governance, HIPAA, and the administration next year)





# HIT: Connecting Communities Whatcom County, WA

eHealthInitiative  
January 22<sup>nd</sup>, 2013

# A little history

- In 1996 - Hinet, a private health information intranet, was created through collaboration between a hospital and payor
- E-mail and Hospital EMR on 105 pcs at each physician office in the county.
- In 2000 - Providers started paying their fair share for network operations

# Today - WHO

- All Physician Offices and their staff
- All SNFs
- The Health Department
- The Jail
- Payor and Ancillary Providers
- The Hospital Medical Center System
  
- PATIENTS *aka PEOPLE*



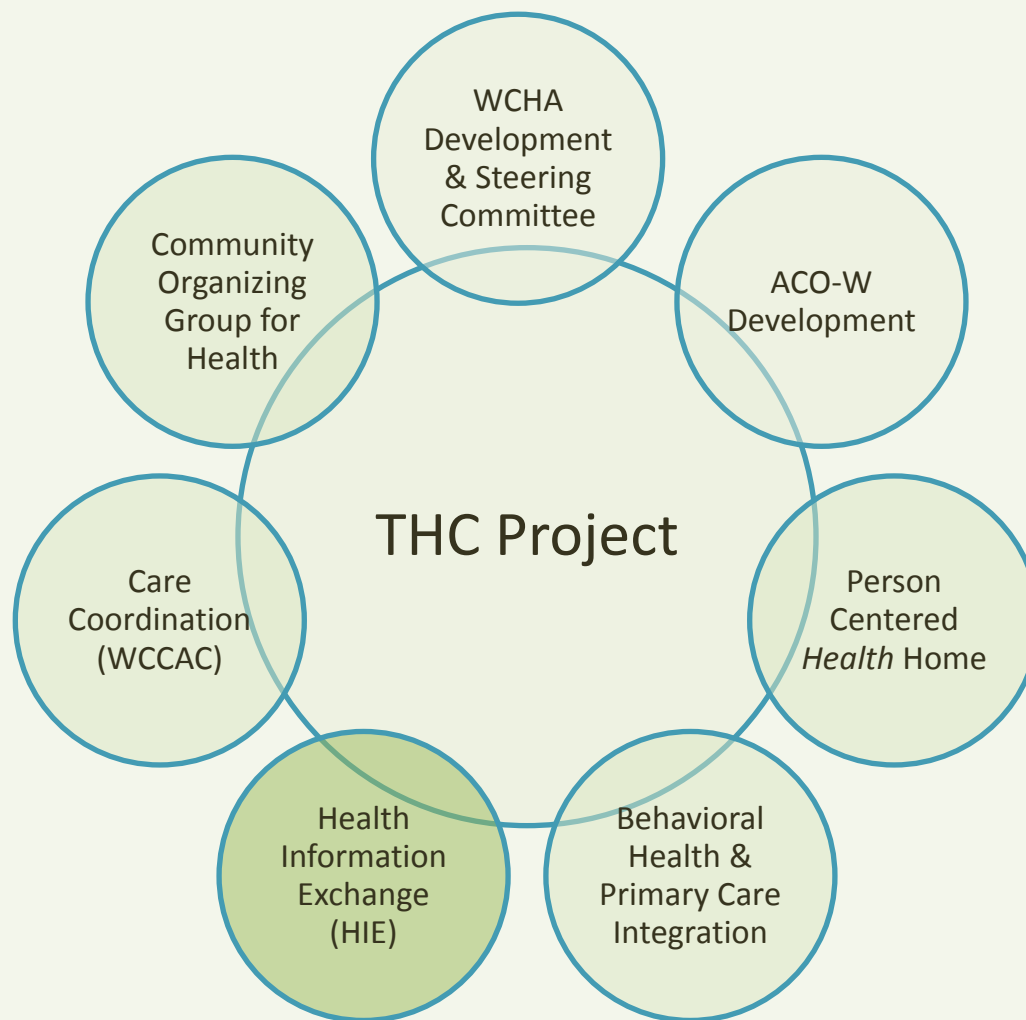
# Today - WHAT

- These 2700 users on nearly 3000 pcs have:
  - Internet Access
  - Anti-virus and spam protection
  - Subscription Medical References
  - Images available online
  - Labs available
  - HelpDesk and Consulting svcs
- >80% of docs have EMRs (>95% of PCPs)
- A robust HealthVault connected PHR available [www.sharedcareplan.org](http://www.sharedcareplan.org)

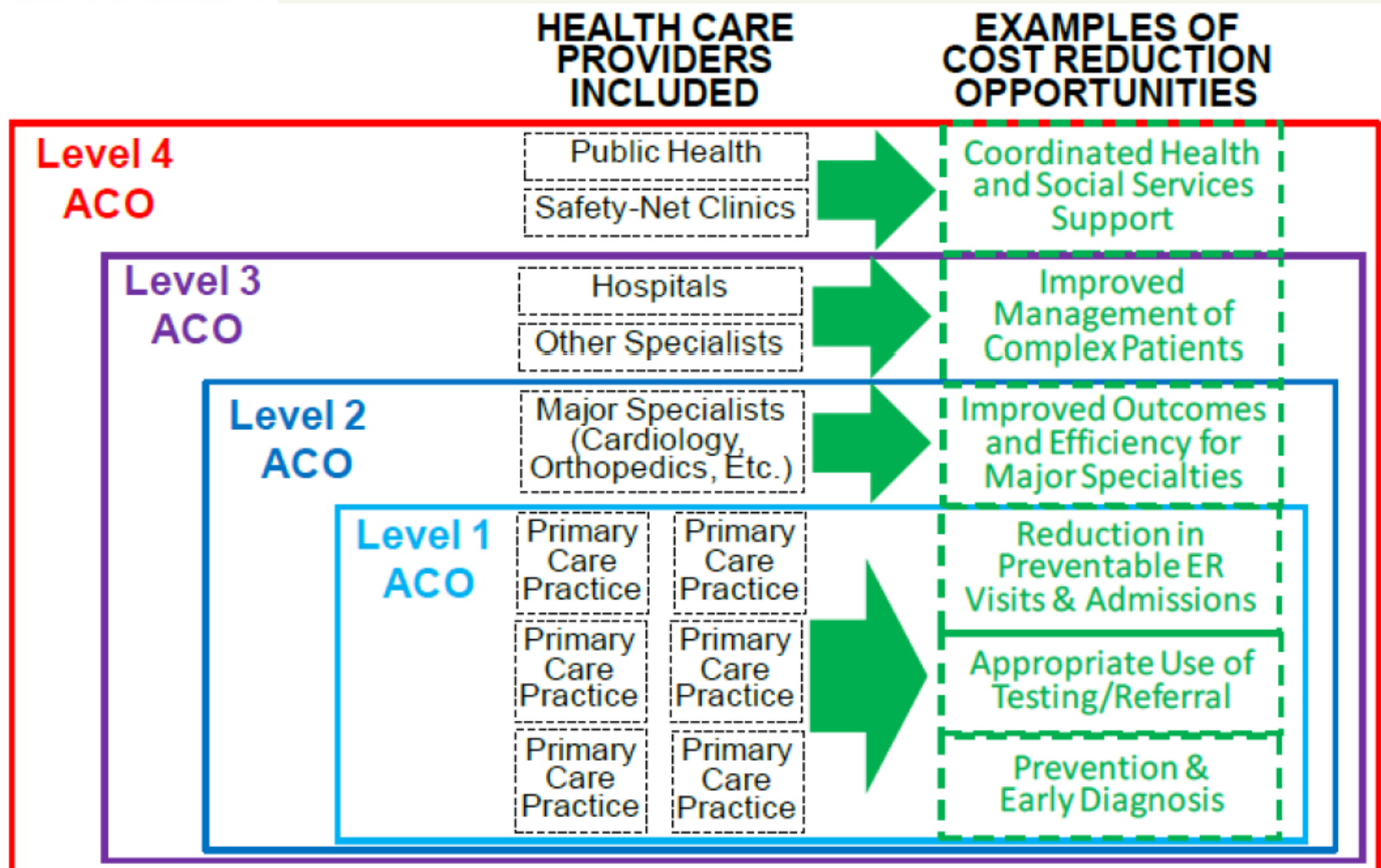
# Hello Houston?

- Dozens of EMRS and Practice Management systems in use
  - No view across systems
  - No ability to provide population health
- Need to support the workflow of providers and patients - in the practice setting and at home
- A set of community solutions is needed to transform how health and healthcare are delivered and supported
  - Enter Whatcom Alliance for Health Advancement

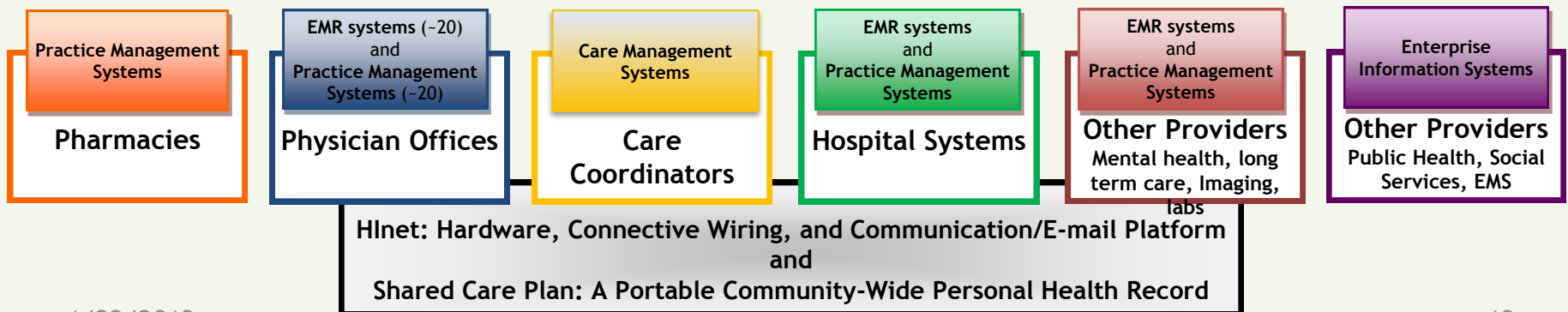
# Transforming Healthcare Task Forces

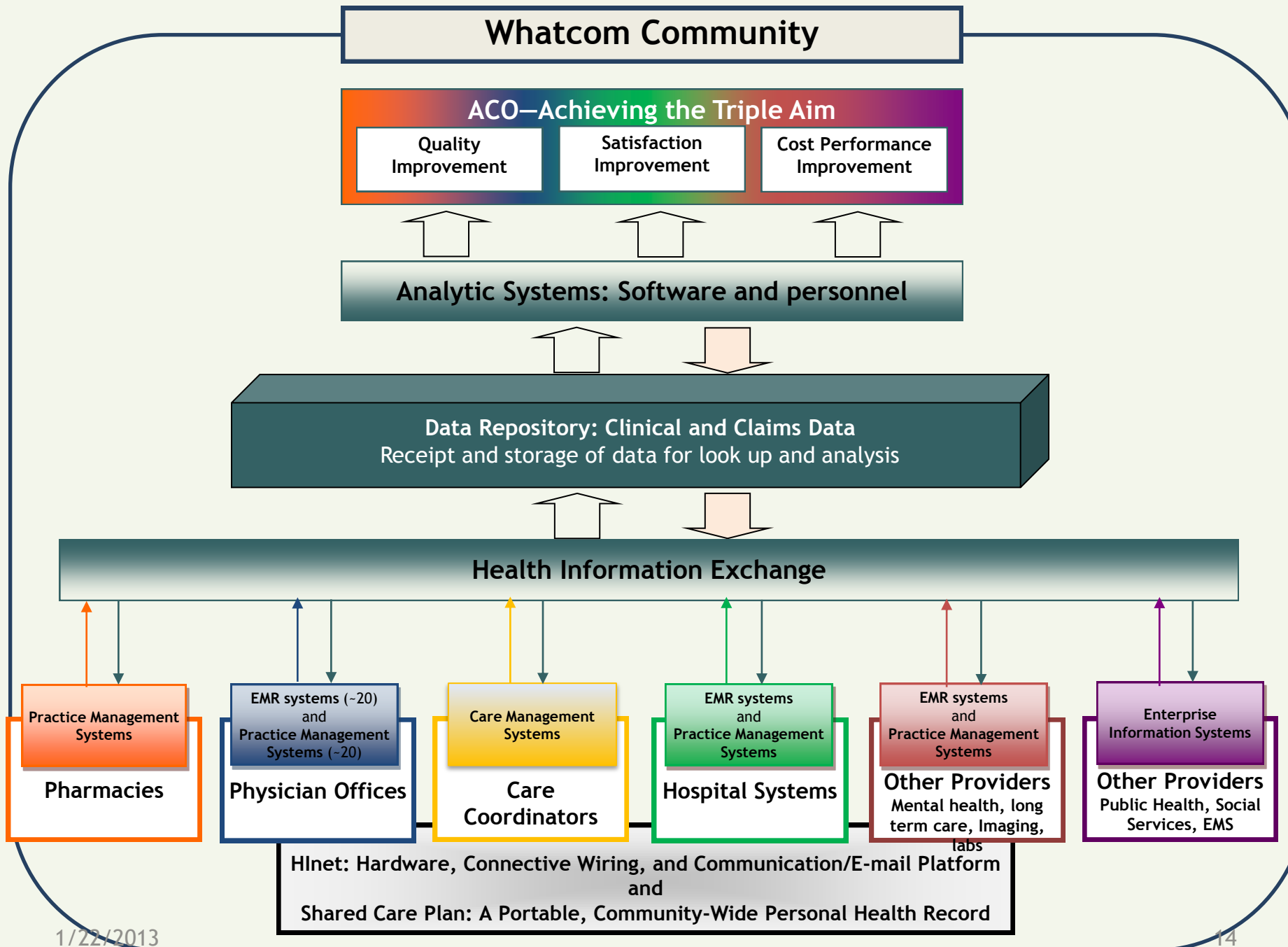


# A community-wide, level 4 ACO



# Whatcom Today





# Currently underway

- HIE software finalization
- Governance discussions
- Engaging care coordination providers & Consumers
- Designing integrated care delivery model
- Business plan finalization



**Thank you!**  
*Your questions welcome ...*

Lori Nichols

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360.671.6800 x 203





## Emergency & Image Exchange Services

*Improving Patient Care and Reducing Costs*



Regional Health Information Organization

# Background On Regional Footprint

HIE service area covers 13 counties, with a total population of 1.4 million

Over 850,000 patients have provided consent to allow HIE access to their care providers

Today over 70 organizations provide data to the HIE, among them 19 regional hospitals, regional reference labs, radiology practices, EMS and elder care agencies.

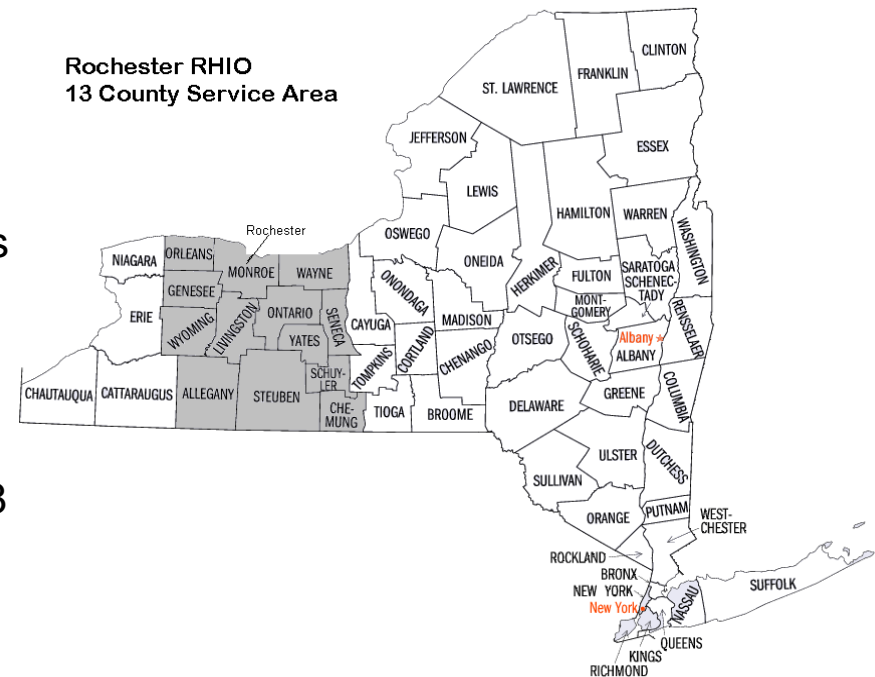
Currently connecting 1300 of the areas 3000 Physicians.

Services include both query and push based results delivery

Averaging around 30k queries each month

Averaging ½ million reports sent each month to 208 Physician practices

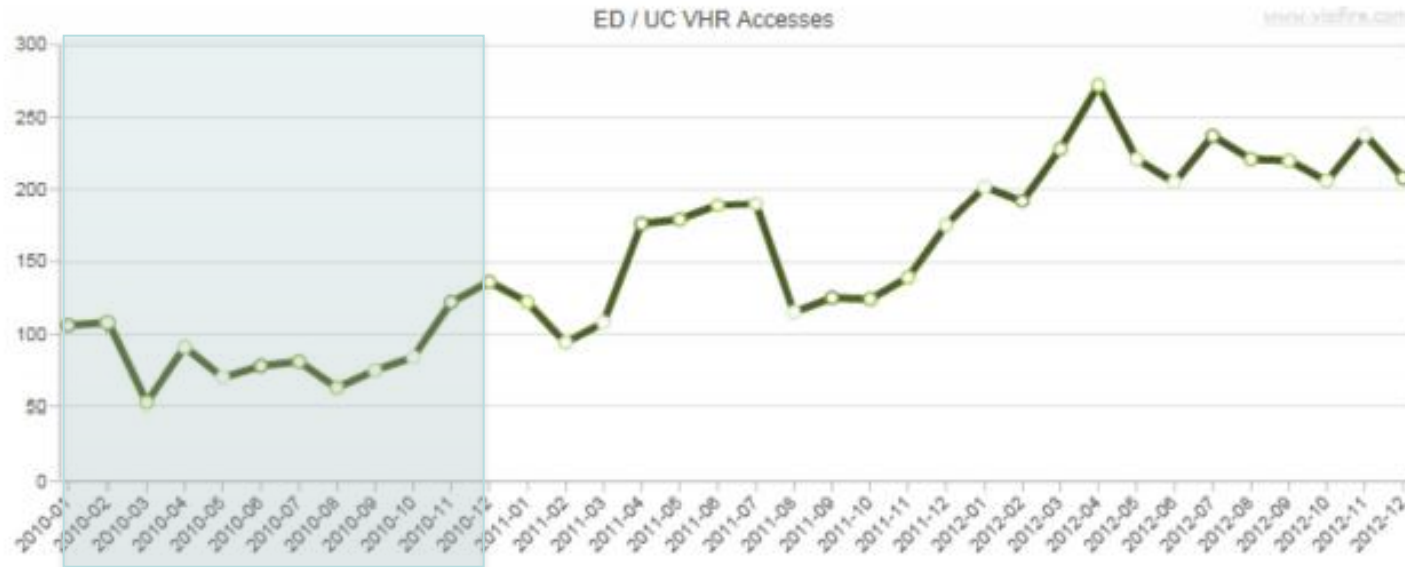
Interfaced to 20 different EHR Vendor Systems



ROCHESTER RHIO

*Today's focus: a particular care setting  
and a particular type of information...*

# Use Of HIE In The Emergency Department Resulted In Fewer Hospital Admissions



The HIE was accessed on average 75 times each month in 5 Emergency Departments during the study period of 2009-2010

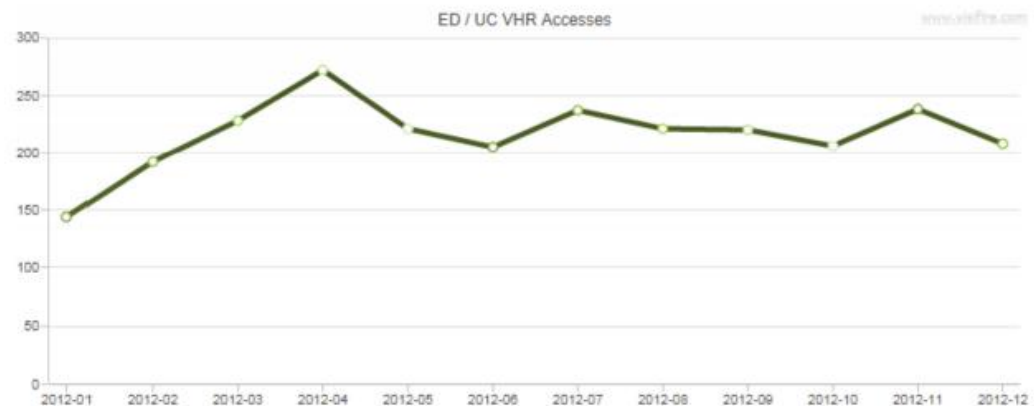
 Study Period

HIE is currently accessed more than 200 times each month in the 5 Emergency Departments studied

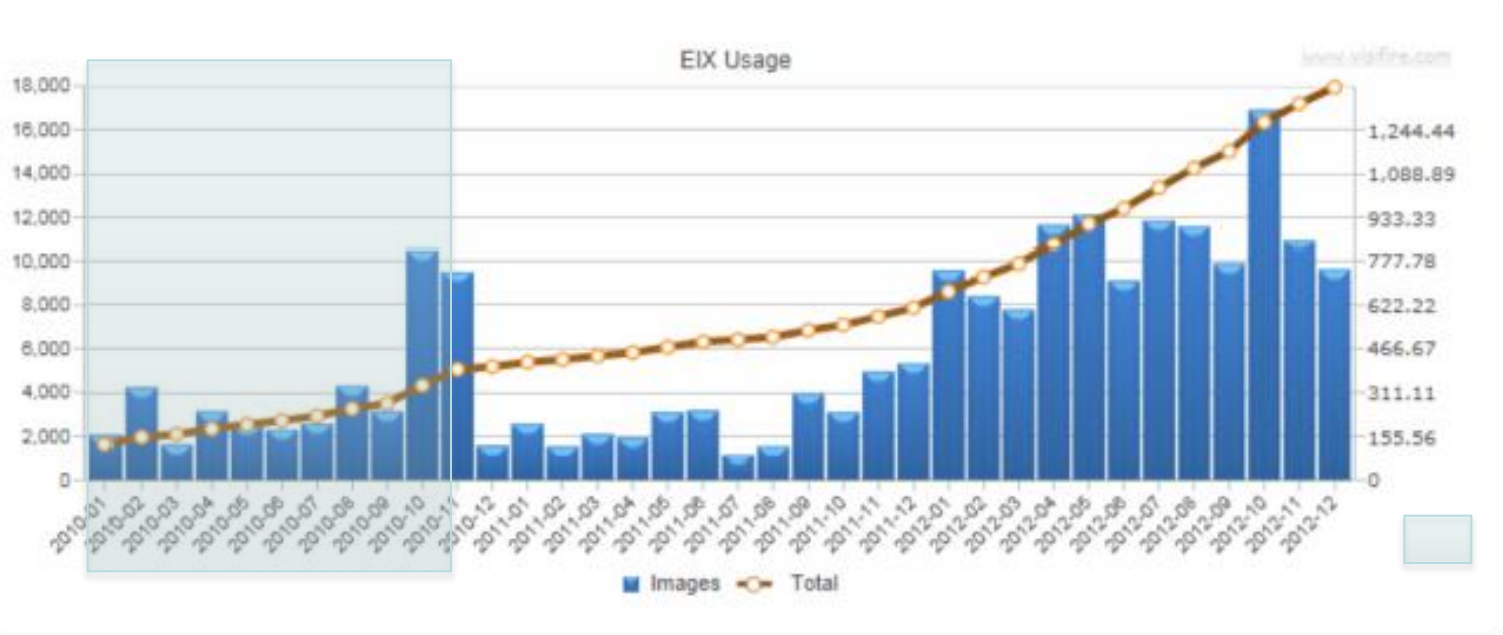
In addition to core HIE services, emergency services include ED landing page, NEMSIS pre-hospital care data, and Emergent Image Exchange

## Monthly Emergency Department / Urgent Care VHR Patient Utilization

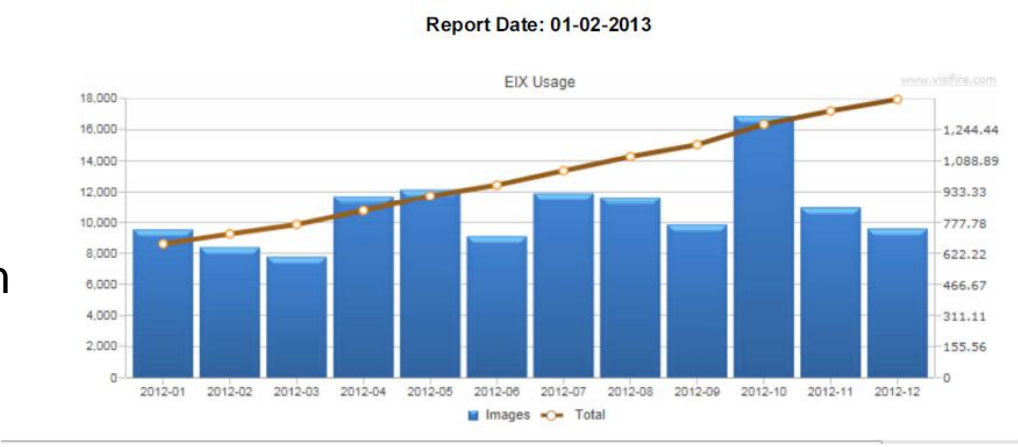
Report Date: 01-10-2013



# Image Exchange Through HIE Reduced Probability Of Repeat Imaging Services & Realized Significant Administrative Savings



Today we we see an average of over 600 images viewed per month



# Image Exchange Through The HIE

A screenshot of a patient record in a Zero Footprint viewer. The interface shows a patient summary for Austin, Betty, with a date of birth of 04/29/1912, gender F, and race 234. The record includes a CT scan of the brain with a final radiology report. A blue arrow points from the 'Results Overview' tab to a red circle highlighting an X-ray icon. The X-ray icon is a black square with a white hand silhouette. The patient record shows details for Austin, Betty, including her date of birth (04/29/1912), gender (F), and race (234). The record also shows a CT scan of the brain with a final radiology report.

**FINAL RADIOLOGY RESULTS FROM GENERAL HOSPITAL**

AUSTIN, BETTY ID: 234567[GEN] DOB: 29-Apr-1912 Age: 99 Sex: F PT

Ordered STAT by Than Nguyen

CT BRAIN W/O

REASON FOR CTBRAIN W/O: PAIN POST FALL ON FLOOR, LAC TO FOREHEAD

Impression:

1. Study is significantly limited by patient motion.
2. No acute appearing changes are identified and no acute intracranial injury or skull fracture is seen.
3. Atrophy, deep ventricular white matter small vessel ischemic changes and right frontal infarct are without significant change.

**Report**

Head CT without contrast done 11/1/03.

Comparison is made to 6/11/02.

History: Pain after fall.

Technique: 7 mm thick contiguous axial sections through the calvarium with 5 mm thick sections of the posterior cranial fossa.

Findings: There is motion artifact in the majority of images. Ventricular size and configuration are unchanged and remain prominent. There are no obvious intra or extra-axial fluid collections or masses. The

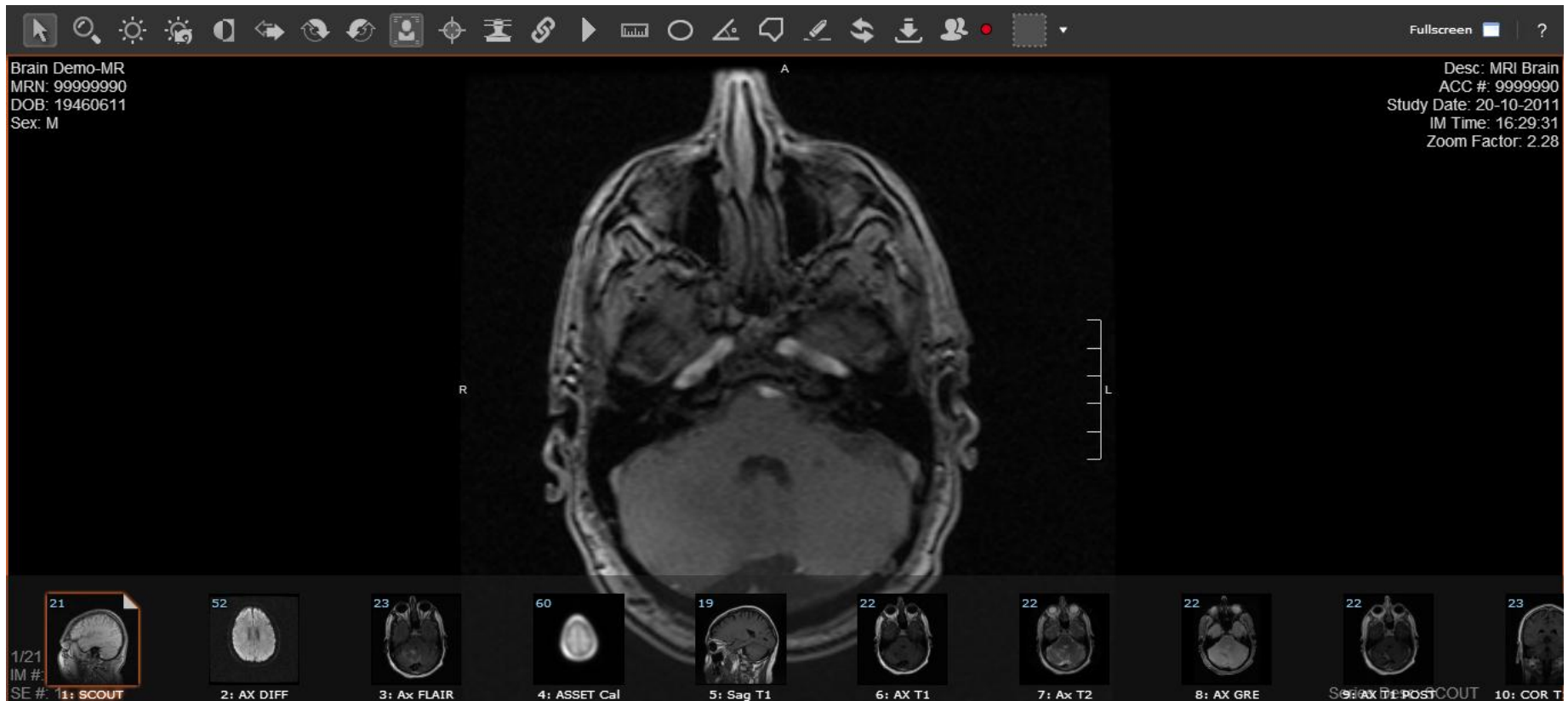
Authorized HIE users can access images from multiple imaging providers

With a single click from the patient record, the image is displayed with a diagnostic quality “Zero Footprint” viewer

Zero Footprint viewer makes deployment and upgrades across region much easier



# Regional Image Viewer



Viewer lets physicians analyze images, including X-rays, MRIs, CT scans, and ultrasounds and make side-by-side comparisons, similar to the PACS software used by radiology professionals

“This offers a tremendous advantage over traditional methods to obtain and view medical images. This new method of distributing patient images throughout the community allows us to access diagnostic quality images, right from the patient’s record,” – area Radiologist

- Image Exchange contains radiology and cardiology images from 12 hospital systems and diagnostic imaging providers
- DICOM quality images
- Zero footprint viewer requires no software to be downloaded or installed for easier deployment
- Recent 30 days of images are cached for fast access, over 30 days perform ad hoc query
- Emergent Image service established to send images immediately for consultation
  - Service does not require waiting for signed reports
  - Assists diagnosis and treatment of patients in ED
- Real-time image collaboration feature allows control of image viewing simultaneously by multiple users
- Q2 Services
  - Forward images to PACS
  - Send image to EHR



# Emergency Care & Image Exchange Focus 2013

- Increase education and deployment of emergency department and imaging services
- Increase education outreach to promote emergent image service
- Outreach and marketing of imaging collaboration feature
- Increase number of imaging providers
- Work with HIE and image vendor on forwarding images to PACS
- Work with HIE vendor and image vendor to pilot image interoperability with EHR vendor
- Re-pour study data at current utilization rates



# Indiana Health Information Exchange

Better Outcomes. Delivered.

## Indiana Health Information Exchange Profile of Value-added Services January 2013



## Indiana Health Information Exchange

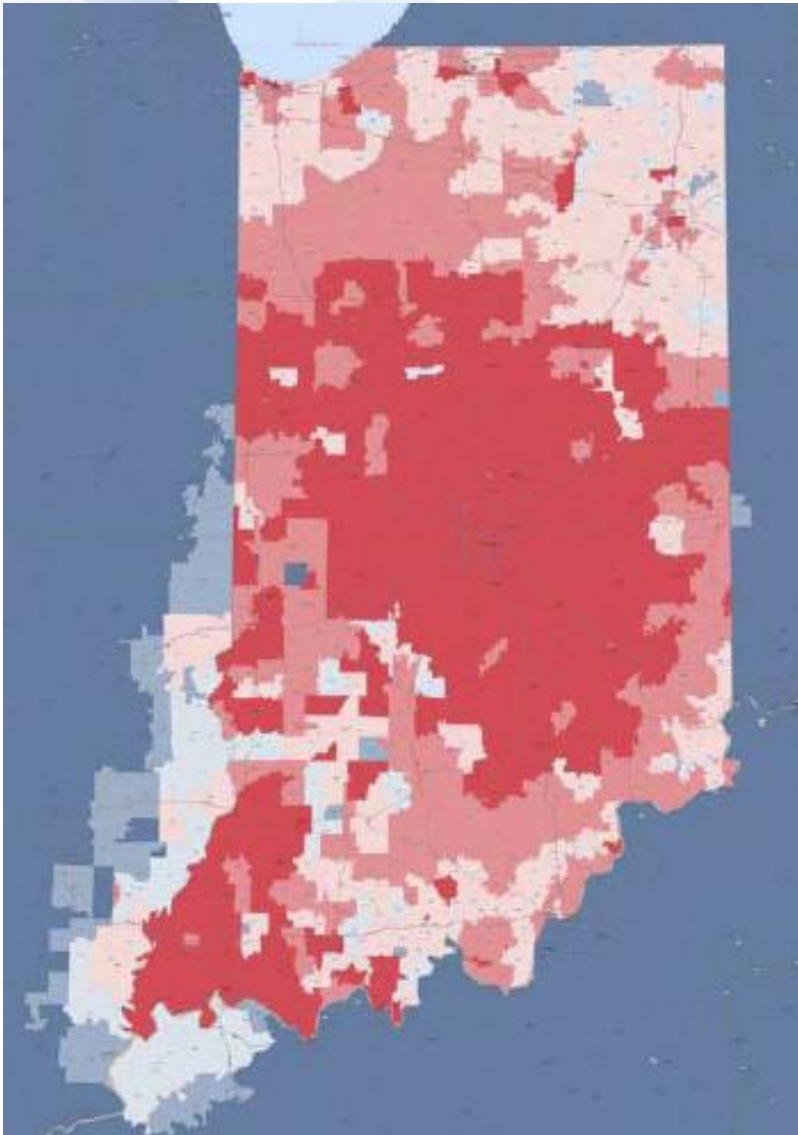
The nation's largest health information exchange:  
93 Indiana hospitals and 25,000 physician participants

*Enriched by*  *Regenstrief Medical Informatics*

 BioCrossroads



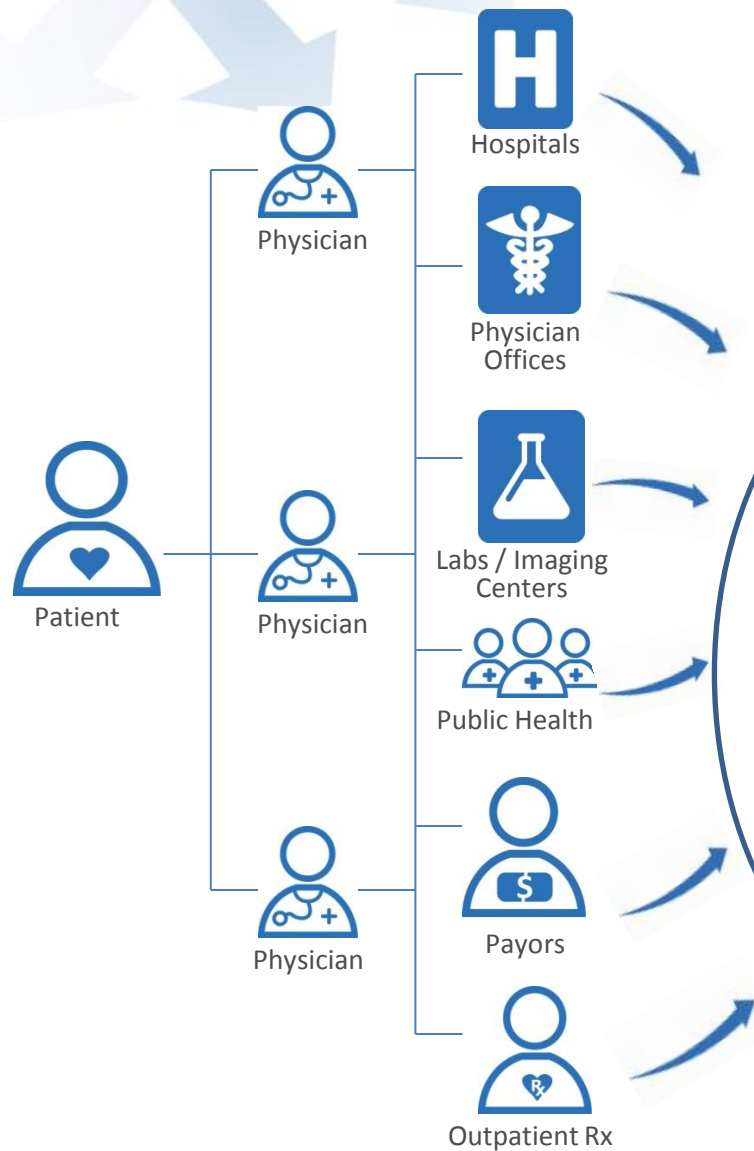
# IHIE Statistics



- Nation's largest HIE
- Founded in February 2004
- Based on the technology, knowledge, and experience of the Regenstrief Institute
- 75 employees
- Providing services to 93 hospitals (23 health systems), 25,000 clinicians, and 5 payors
- Serving an area with a population of about 6 million people



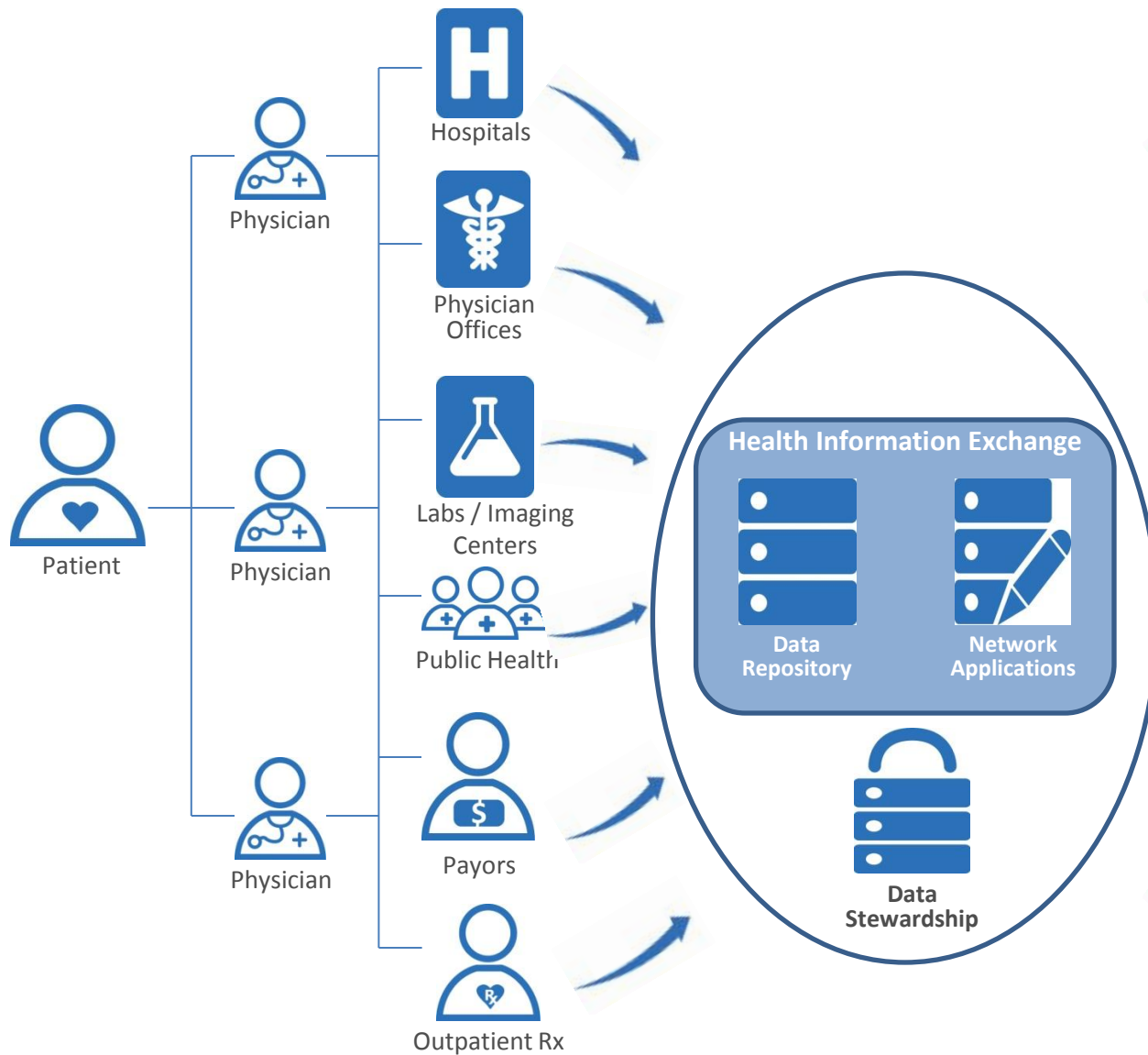
## Health Data Sources



## Value-Added Services



## Health Data Services



## Value-Added Services

Docs 4 Docs<sup>®</sup>  
Service

INPC<sup>™</sup>

Quality Health First.  
Program

ImageZone<sup>SM</sup>  
powered by see my radiology .com

Indiana Health Information Exchange  
*Professional Services*  
*ACO & Analytic Services*

**PHESS**  
*Public Health Emergency  
Surveillance System*





# IHIE's Services





## Service Profile of the Indiana Health Information Exchange:

- Public Health Services
- DOCS4DOCS® Clinical Messaging Service (D4D)
- Indiana Network for Patient Care™ (INPC™)
- Quality Health First® Program (QHF®)
- ImageZone<sup>SM</sup>
- ACO & Analytic Services
- Professional Services

In 2010, IHIE began employing a more formal Product Management view of its profile of services.





# Public Health Services

With the Regenstrief Institute, IHIE offers a variety of services which support the Public Health system in Indiana and support the achievement of meaningful use by health care provider organizations

## **IHIE / Regenstrief Institute Services supporting Public Health**

- **Public Health Emergency Surveillance System (PHESS)**
  - Statewide infrastructure for the early detection of public health emergencies for the Indiana State Department of Health
  - Example of HIO-to-HIO interoperability
- **Automated reporting of Notifiable Conditions**
- **Electronic routing of Immunization data**

## The DOCS4DOCS<sup>®</sup> Service is:

- An **electronic results delivery** service

*More than 25,000 physicians in 17 states are set up to receive patient results via DOCS4DOCS at no cost to the physicians*

- **A single source for information** such as lab results, radiology reports, transcriptions, pathology and hospital admissions reports, discharge and transfer reports from all participating Indiana hospitals, physician practices, labs and radiology centers.

*Results can be viewed through a web-based portal or delivered directly into an electronic medical record system.*

**“While many major metropolitan areas have similar systems, (IHIE’s) was one of the first and is viewed by many as one of the best...”**  
– *Indianapolis Star, June 2007*





## The Indiana Network for Patient Care<sup>®</sup> is:

- A patient-centric community health record for a growing number of Indiana citizens (the “jig-saw puzzle assembler”)
- Includes provider, payor, and public health data
- Growing to serve over half the population of Indiana
- Used primarily in EDs but also accessible to approximately 1/3 of ambulatory care physicians in the Indianapolis market



## The Quality Health First<sup>®</sup> Program is:

- A **multi-payor, value-based pay-for-performance chronic disease management** and preventive care program

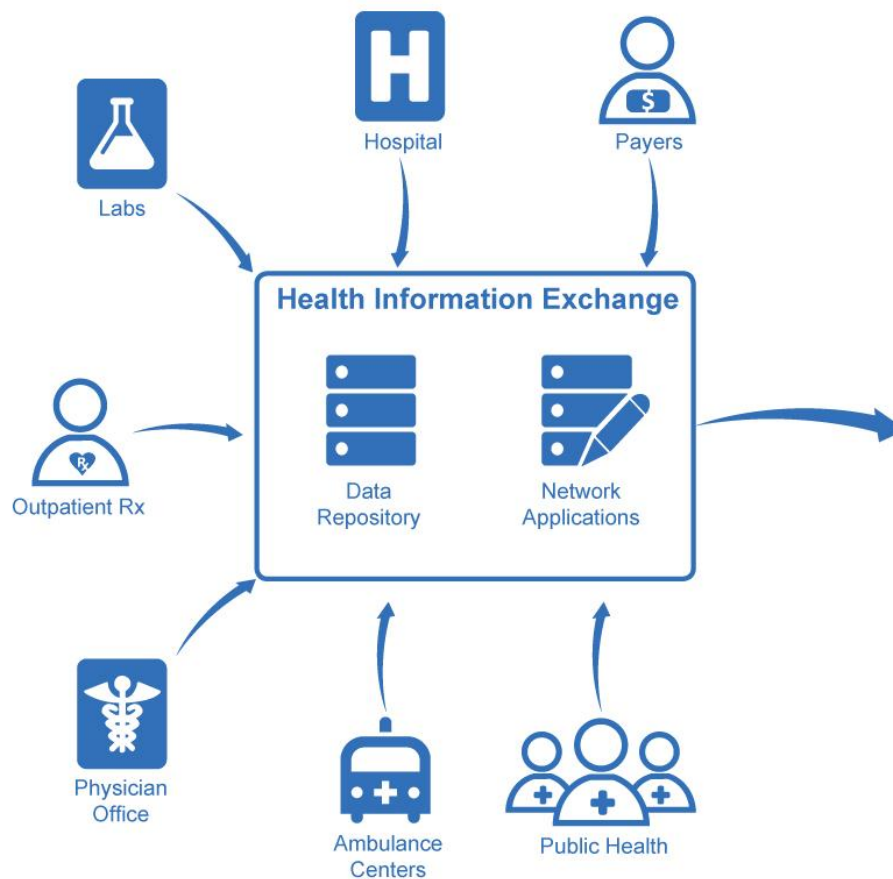
*More than 2,200 physicians in 70 communities participate, covering over 1 million patients in Indiana*

*Anthem BCBS, UnitedHealthcare, Unified Group Services, Medicare, Medicaid participate*

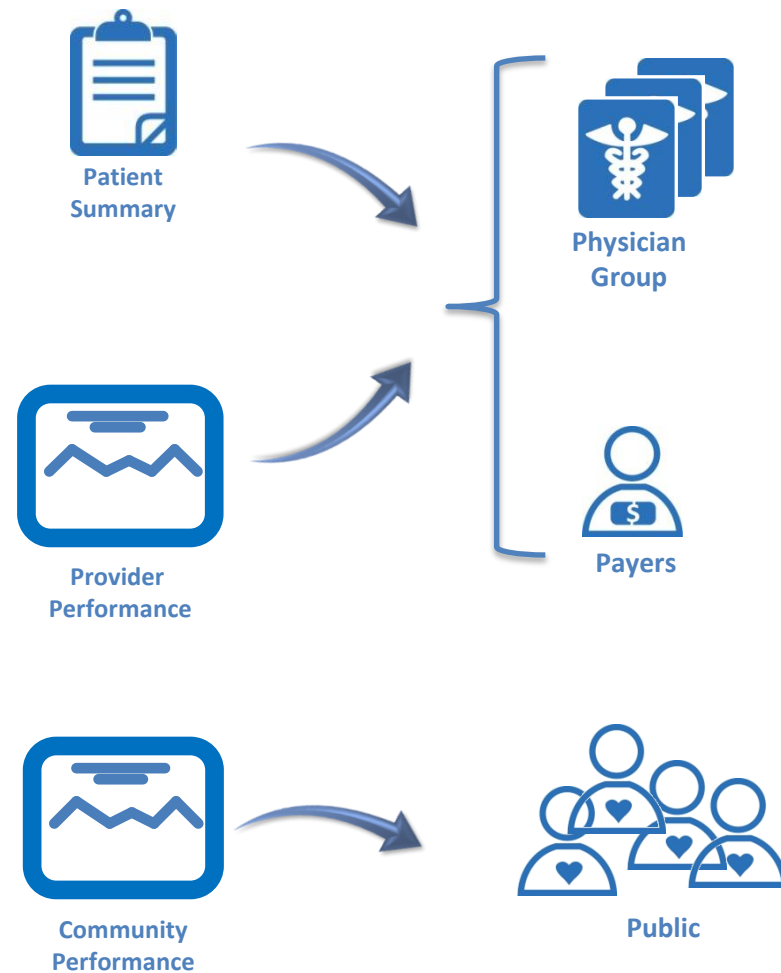
- **Helping physicians identify and prioritize** health screenings and other testing; provide early interventions and consistent support
- Providing an avenue for **enhanced reimbursement** for physicians
- Focused on **cancer screenings, diabetes care, heart disease care**



## Data Management



## Quality Health First® Program



## ImageZone is:

- **A cloud- based medical image sharing** service that enables instant image access and enhances quality of care for:
  - Trauma Transfers
  - Referrals and consultations
  - Referring physician communications
  - Enhances communication with referring physicians and builds loyalty



**Sharing Images. Saving Lives.**







Indiana Health Information Exchange

*ACO & Analytic Services*

## **IHIE's ACO & Analytic Services Include:**

- ADT Alerts for Hospital Admits or ED Visits (ACOs, Medicaid Payer)
- INPC Careweb Access for ACO Care Managers
- Attribution Services – who are PCPs and/or Specialists for a Patient Population
- Data and/or Calculations for Quality Measures (ACO, QHF, others)
- CCDs for attributed Patient Populations
- Predictive Analytics for Various Use Cases
- Population Management Analytics
- Impact Analysis for Chronic Disease Management





Indiana Health Information Exchange  
*Professional Services*

## **IHIE's Professional Services Overview**

**Planning, advisory and HIE management services to public HIEs, private HIEs, CMS ACOs, and Commercial ACOs, including:**

- Strategic, Tactical, and Operational Planning
- Sustainability, Business Models, Value Proposition
- Governance, Contracts, Policies, and Procedures
- Stakeholder Engagement, Trust, Commitment
- HIE role in supporting ACOs
- Executive and Operational HIE Management







# Indiana Health Information Exchange

Thank You

317.644.1750

[www.ihie.org](http://www.ihie.org)





# ClinicalConnect Health Information Exchange

*A collaboration of regional providers*

## eHI Connecting Communities Meeting

*“Innovation in HIE”*

Laura Mosesso, Client Services Manager

*Tuesday, January 22nd, 2013*

# ClinicalConnect HIE Members and Participants



## ClinicalConnect HIE – *Background*

- Pennsylvania **non-profit** Corporation - 501(c)(3)
- Governed by Board of Directors
- First member live Summer of 2012
  - Team currently onboarding remaining members and new participants
- First HIE in Western Pennsylvania
  - Largest in the state
- **Currently 7.6 million patient records in database**
- **Volume of participating patients has exceeded the 1.3 million mark**

## ClinicalConnect HIE – *Background*

- **Opt-out model** (i.e. the data is exchanged unless the patient requests to not participate)
  - Opt-out model is consistent with Pennsylvania state law (*ACT 121*)
- Patient's participation decision (consent) is captured through each participant's registration system
- Technically ClinicalConnect HIE tracks all patient consent decisions and honors the last consent received

## ClinicalConnect HIE – *Technology Vendors*



DbMotion technology is used to leverage capabilities of members; it offers semantic interoperability and a centralized repository of aggregated normalized data.

IBM Initiate integrates with existing systems and data sources to accurately match and link different representations of provider data to create a master view.



# Security

## ClinicalConnect HIE – *Security Model*

- **ClinicalConnect HIE Model** = *leverages the best security practices of members*
- ClinicalConnect HIE provides local control over who accesses patients' information while allowing secure data exchange capabilities to be built into each organization's workflows
- All security and access is directed by the member so that ClinicalConnect HIE does not validate the users



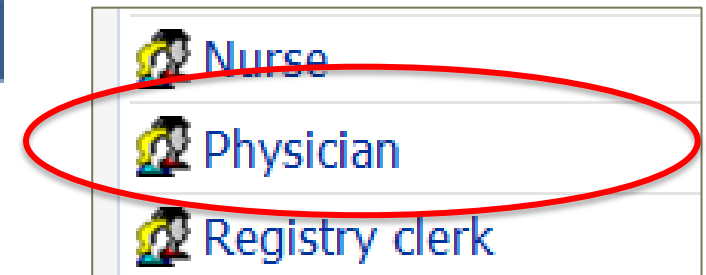
## ClinicalConnect HIE – Roles

- Clinical roles are mapped within the dbMotion application based on the clinician's role within the member EHR
- Set of roles are defined within ClinicalConnect HIE

**System A: Physician, ER Physician, Resident**

**System B: Pediatrician, Anesthesiologist**

**System C: Physician**

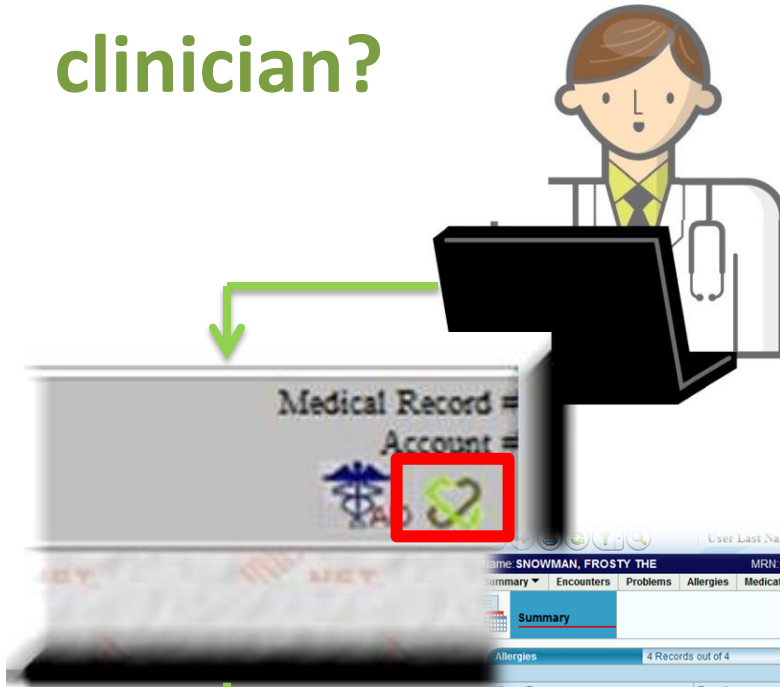


**ClinicalConnect HIE  
Roles**

## ClinicalConnect HIE – *Security Model*

- ClinicalConnect HIE users are authenticated and access patient information through their own member's **EHR** systems and related security technologies
- Once they gain authorized access, they can access ClinicalConnect through a hyperlink to launch a search of other data available about the patient from participating organizations

# What does ClinicalConnect HIE look like to a clinician?



- Clinician logs into member EHR and selects patient record
- Clinician clicks a link to ClinicalConnect HIE
- Patient is displayed in context in **dbMotion** ClinicalConnect HIE with data from members and UPMC integrated into one view

Summary | Encounters | Problems | Allergies | Medications | Labs | Immunizations | Documents

Summary

Allegies 4 Records out of 4

Allergy To	Reaction
Keflex CAPS	Swelling
Nonsteroidal Anti-inflammatory Compound...	Swelling, NOS
Lactose	Lactose
Peanuts	Anaphylaxis

Medications 2 Records out of 4

Medication	SIG
Furosemide (Furosemide 40 MG...)	40 mg By Mouth Daily
Warfarin (Warfarin Sodium 3 MG...)	3 mg By Mouth Daily

Encounters 4 Records out of 5

Admission Date	Type	Facility	Attending
5/3/2012 13:35	emergency	Heritage Valley S...	EMERGENCY...
5/1/2012 14:00	General	Heritage Valley S...	EMERGENCY...
4/5/2012	ambulatory	UPMC - UNIV OF ...	
4/5/2012 14:08	ambulatory	NorthWest	FORSYTHE...

Problems 3 Records out of 3

Problem
Urinary tract infectious disease (UTI (urinary tract infection))
Seizure disorder
Atrial fibrillation (Atrial Fibrillation and Flutter)

Labs 4 Records out of 6

Collected	Test	Specimen
4/30/2012 21:48	Electrolytes	
4/30/2012 01:52	Digoxin	
4/5/2012 14:37	AFB Culture - Decontamin...	Abscess
4/5/2012 14:38	PTT Mix	



# Semantic Interoperability

# ClinicalConnect HIE and Semantic Interoperability

- Clinical data is **aggregated** from our members' clinical source systems and this data is then **organized** and **semantically harmonized** (*e.g. medications are grouped by drug classification*) so as to provide a more complete picture of the patient's longitudinal care record.

## Semantic Interoperability – Vocabulary Standards

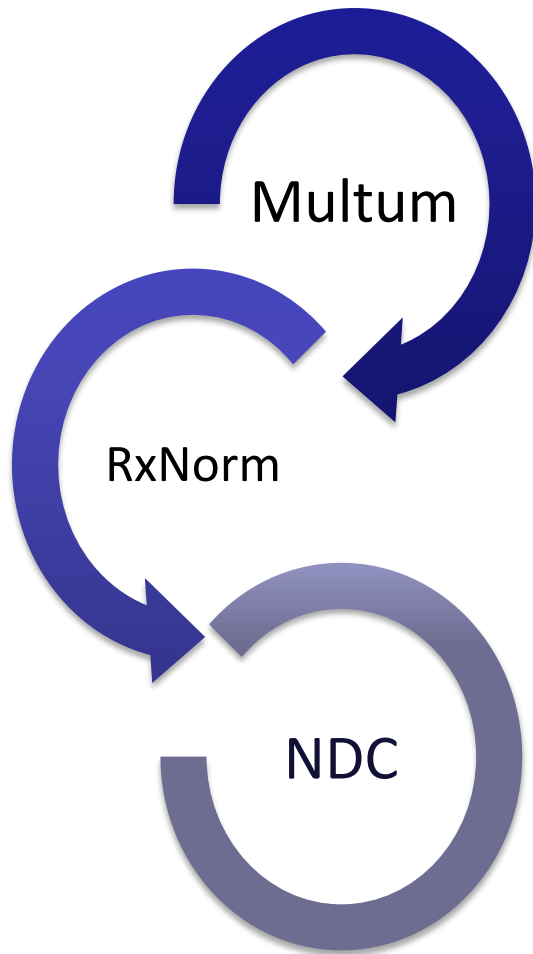
- The objective is to link multiple disparate code vocabularies into a single, organized baseline
- Using a baseline vocabulary will organize data into a cohesive clinical view for all ClinicalConnect HIE member systems

Lab Result	
<i>Code</i>	HBA1C
<i>Interpretation</i>	H = High

Lab Result	
<i>Code</i>	123 = HBA1C
<i>Interpretation</i>	High = High

Lab Result	
<i>Code</i>	HbgA1C
<i>Interpretation</i>	1 = High

# Semantic Interoperability – *Example*



EHR #1 Utilizes Multum for Medications and can “publish” to ClinicalConnect HIE in their format

dbMotion then aggregates and relates to both a “baseline” (RxNorm) and downstream “local”

EHR #2 Utilizes NDC for Medications and dbMotion can “publish” to them in their code

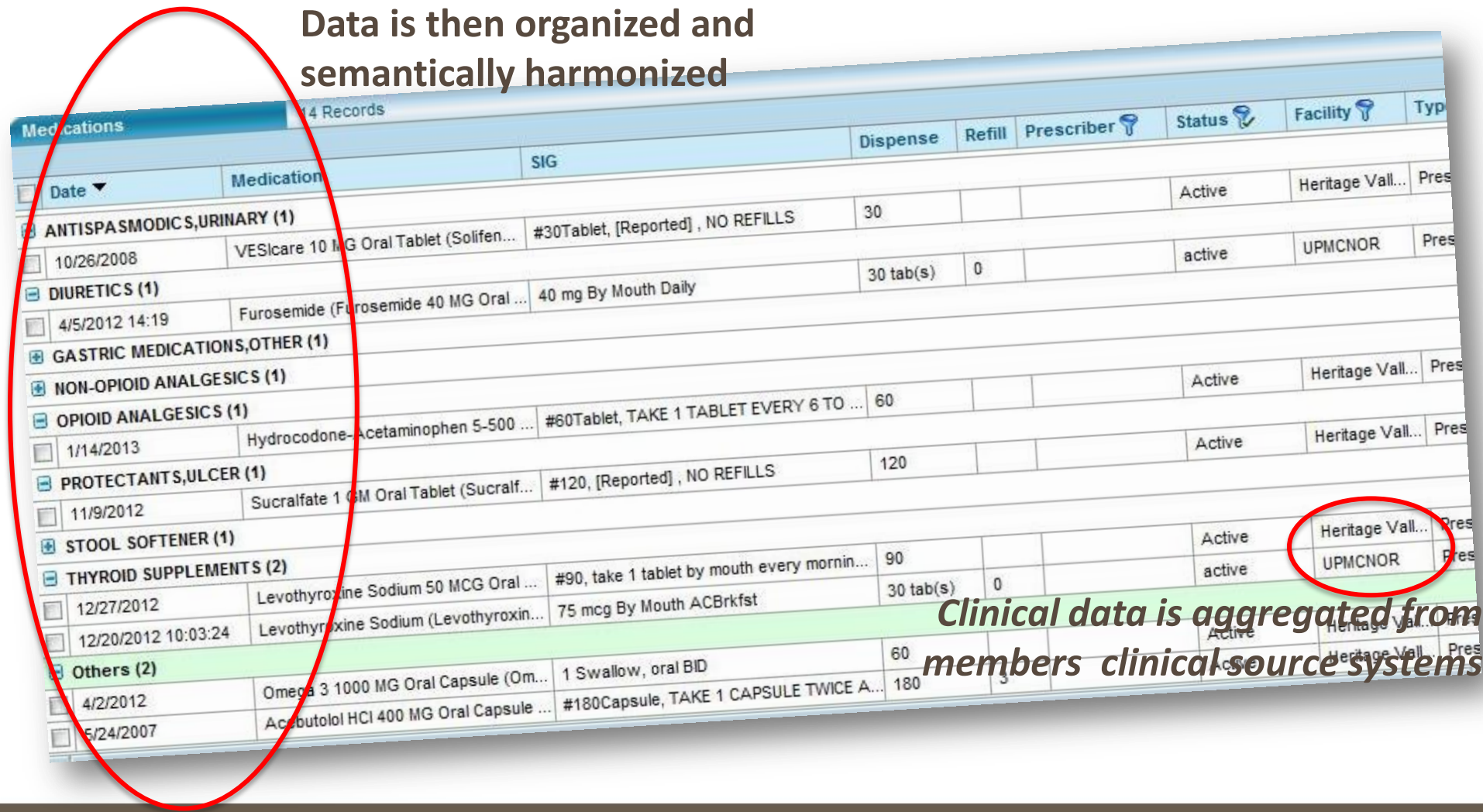
# ClinicalConnect HIE – *Vocabulary Standards*

<b>Medications</b>	<ul style="list-style-type: none"><li>• RxNorm, NDF-RT, NDC, Medispan, Multum</li></ul>
<b>Allergies</b>	<ul style="list-style-type: none"><li>• UNII, NDF-RT</li></ul>
<b>Problems</b>	<ul style="list-style-type: none"><li>• SNOMED-CT, Medcin, ICD-9</li></ul>
<b>Immunizations</b>	<ul style="list-style-type: none"><li>• CVX</li></ul>
<b>Labs</b>	<ul style="list-style-type: none"><li>• LOINC</li></ul>
<b>Unmapped codes</b>	<ul style="list-style-type: none"><li>• Will display in “OTHER” category</li></ul>



# ClinicalConnect HIE – *Semantic Interoperability Example*

Data is then organized and semantically harmonized

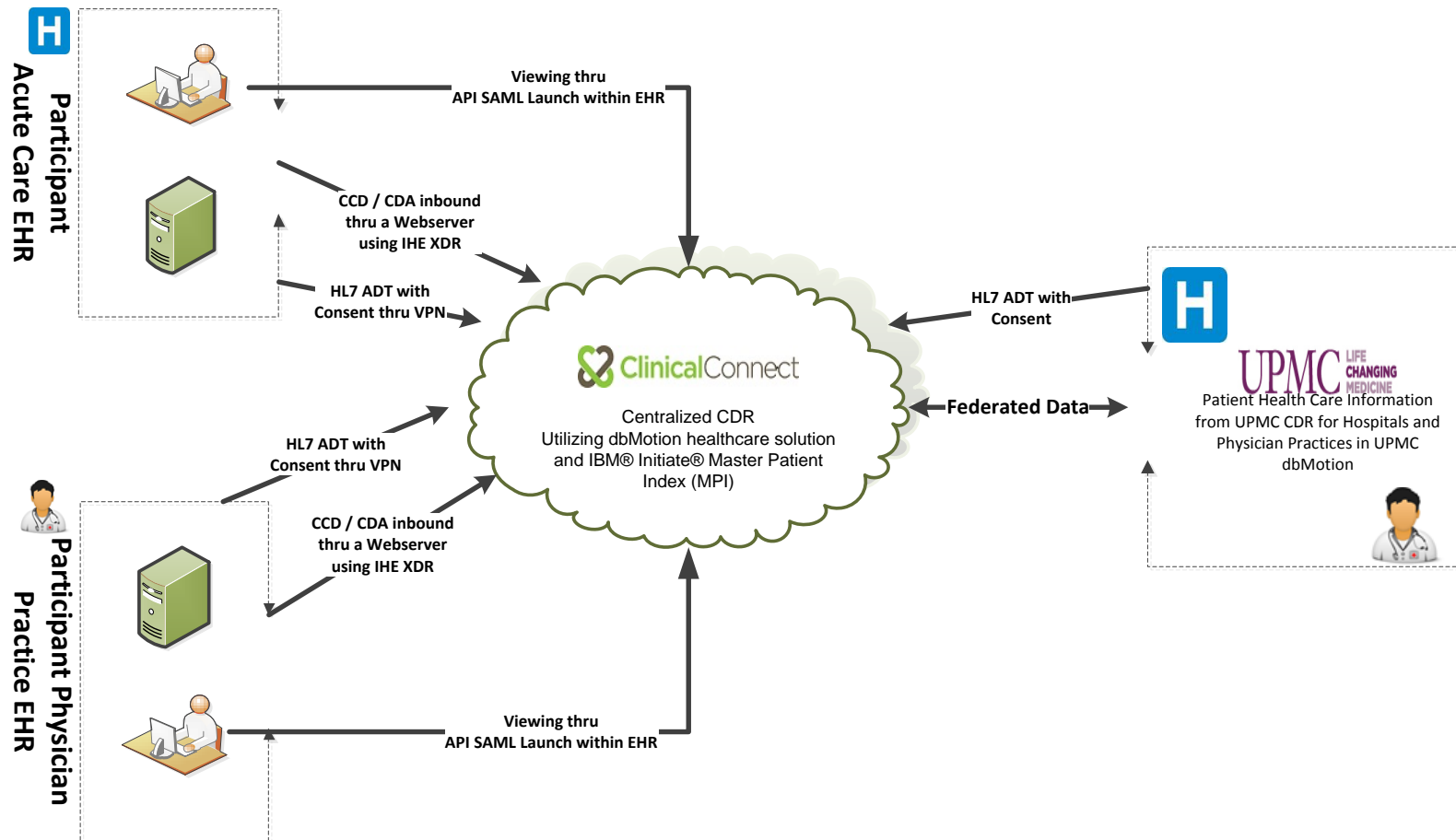


The screenshot displays a 'Medications' table with 14 records. A red circle highlights the first column, which contains medication categories and dates. A red oval highlights the 'Facility' column, showing 'Heritage Vall...' and 'UPMCNOR'. The table columns are: Date, Medication, SIG, Dispense, Refill, Prescriber, Status, Facility, and Type.

Date	Medication	SIG	Dispense	Refill	Prescriber	Status	Facility	Type
	ANTISPASMODICS, URINARY (1)							
10/26/2008	VESicare 10 MG Oral Tablet (Solifen...	#30Tablet, [Reported] , NO REFILLS	30			Active	Heritage Vall...	Pres
	DIURETICS (1)							
4/5/2012 14:19	Furosemide (Furosemide 40 MG Oral ...	40 mg By Mouth Daily	30 tab(s)	0		active	UPMCNOR	Pres
	GASTRIC MEDICATIONS, OTHER (1)							
	NON-OPIOID ANALGESICS (1)							
	OPIOID ANALGESICS (1)							
1/14/2013	Hydrocodone-Acetaminophen 5-500 ...	#60Tablet, TAKE 1 TABLET EVERY 6 TO ...	60			Active	Heritage Vall...	Pres
	PROTECTANTS, ULCER (1)							
11/9/2012	Sucralfate 1 GM Oral Tablet (Sucralf...	#120, [Reported] , NO REFILLS	120			Active	Heritage Vall...	Pres
	STOOL SOFTENER (1)							
	THYROID SUPPLEMENTS (2)							
12/27/2012	Levothyroxine Sodium 50 MCG Oral ...	#90, take 1 tablet by mouth every mornin...	90			Active	Heritage Vall...	Pres
12/20/2012 10:03:24	Levothyroxine Sodium (Levothyroxin...	75 mcg By Mouth ACBrkfst	30 tab(s)	0		active	UPMCNOR	Pres
	Others (2)							
4/2/2012	Omega 3 1000 MG Oral Capsule (Om...	1 Swallow, oral BID	60			Active	Heritage Vall...	Pres
5/24/2007	Acetaminophen 400 MG Oral Capsule ...	#180Capsule, TAKE 1 CAPSULE TWICE A...	180			Active	Heritage Vall...	Pres

*Clinical data is aggregated from members clinical source systems*

# ClinicalConnect Health Information Exchange Technical Model



*\*Note – Each Participant's technical architecture to network with CCHIE will vary based on their internal EHR architecture although the technology will remain the same.*

# ClinicalConnect HIE – CCD Data Exchange

- Encounters
- Medications
- Allergies
- Problems
- Immunizations
- Lab Results
- Documents such as *Discharge Summary and Radiology Reports*

***Current Scope:  
Phase I***

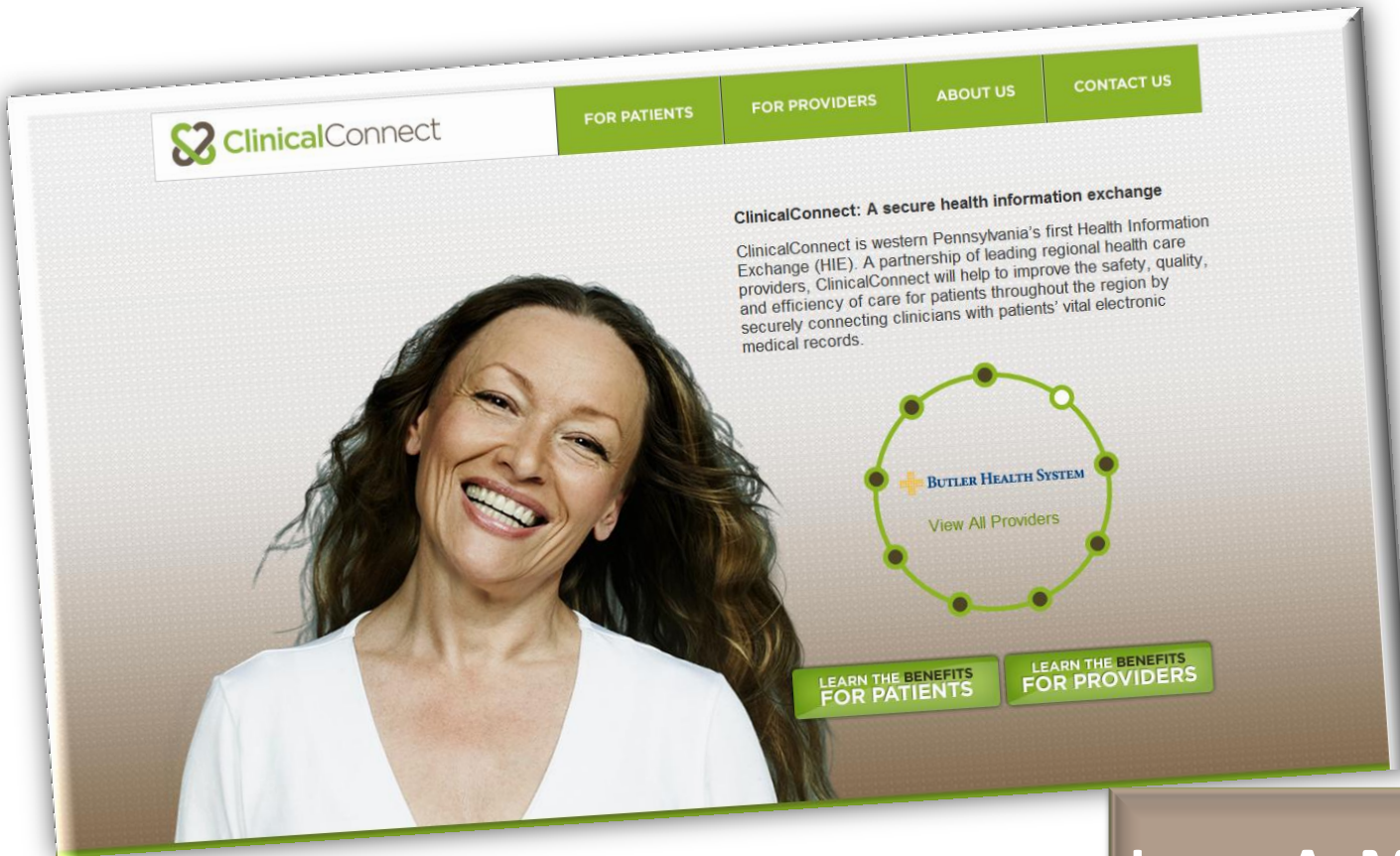
# Semantics – *why they matter for ClinicalConnect HIE*

## Advantages

1. **Point of Care Workflow** – Organized data set that makes sense; makes the “work-flow”
2. **EHR Interoperability** – Flexible code import/export to get more out of existing systems
3. **Population Health** – Point of care disease management, alerts across EHRs
4. **Health Analytics** – Post-care Quality, Reporting, Accountable Care, et al

# ClinicalConnect HIE – *Thank you!*

[www.clinicalconnecthie.com](http://www.clinicalconnecthie.com)



**Laura A. Mosesso**  
Client Services Manager, Outreach  
[mosessol@clinicalconnecthie.com](mailto:mosessol@clinicalconnecthie.com)

# Health Information Exchange Evolution

## *“Today and Tomorrow”*

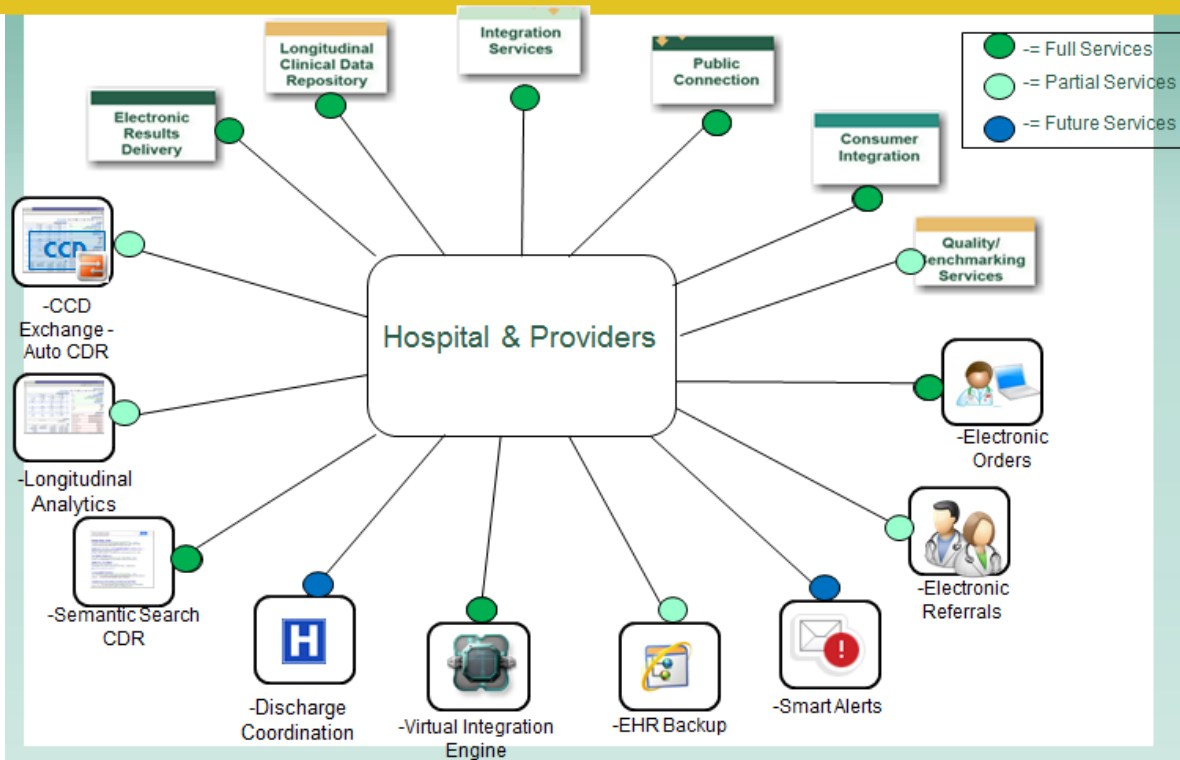
eHealth Initiative Connecting Communities  
January 22, 2013

Tom Liddell, Executive Director, MHIN





# HIE Success: Sustainable. Measurable.



## Key HIE Measures

- 12 Years of Exchange
- EHNAC Accredited
- Over 300 Data Sources
- 10 million Transactions/Month
- Over 1 million online charts
- Over 4,000 users connected
- XDS, Direct, and CDR enabled

1999  
Joint Venture

2002  
Results  
Repository  
(EHR)

2006  
Electronic Inbox  
(MHIN  
Messenger)

2007  
Interoperability  
Services  
(Interfacing)

2009  
Community  
Chart Access

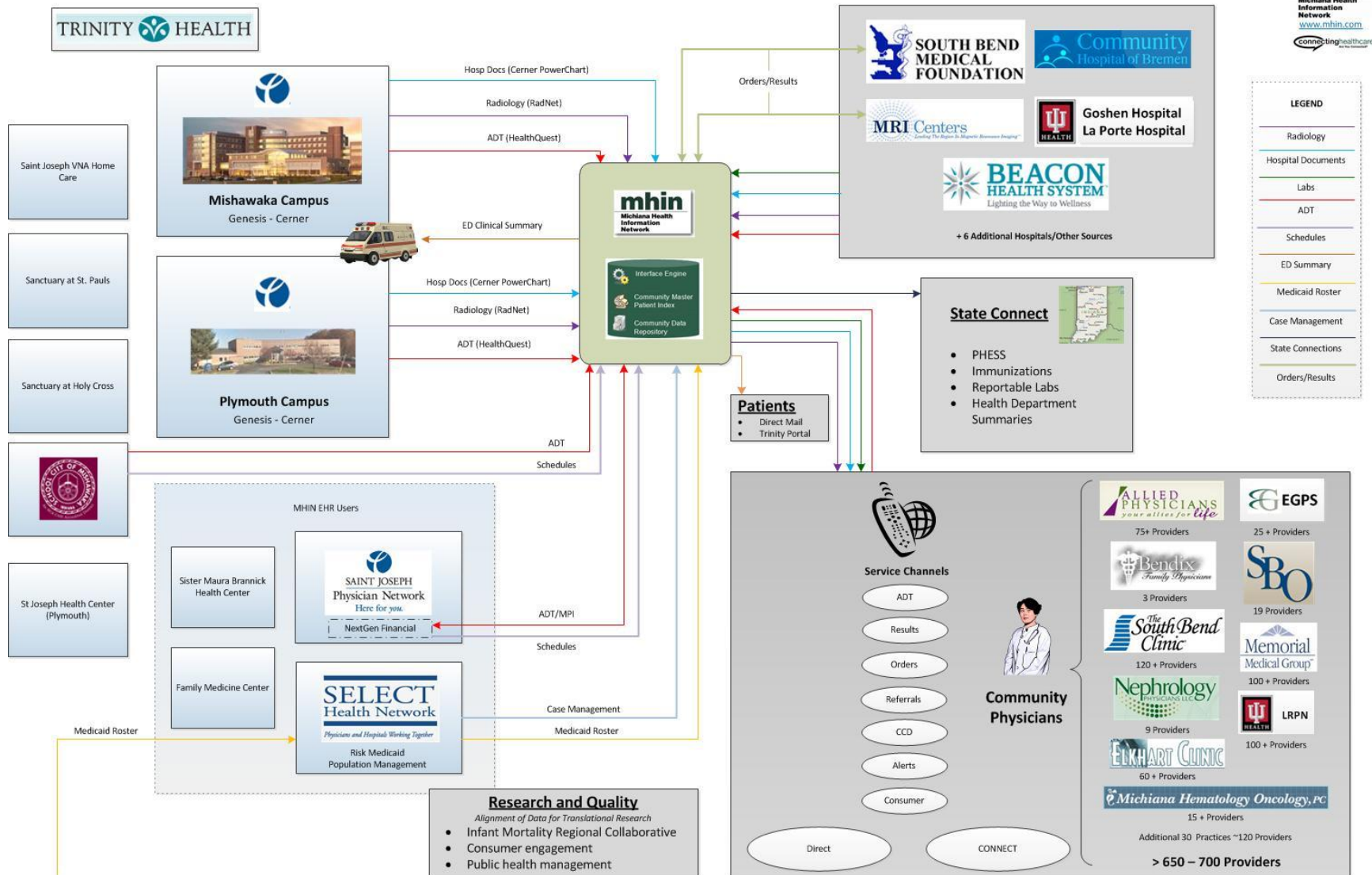
2010  
CCD Summary  
Exchange

2011  
MU (CCHIT  
Certified EHR)

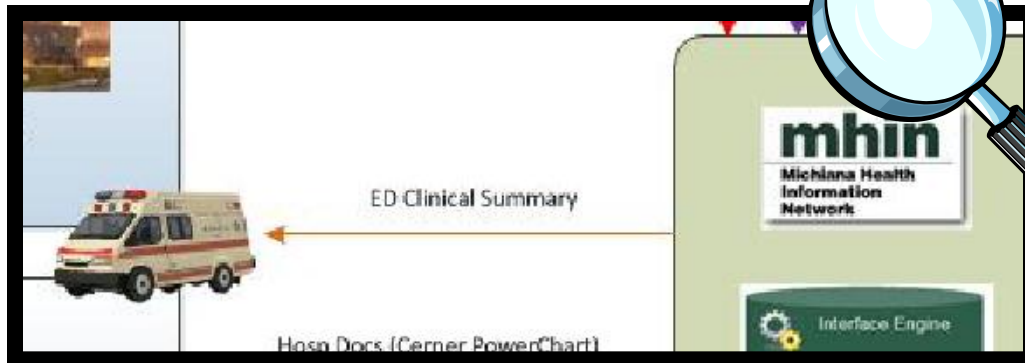
2012  
EHNAC  
Accreditation

## What Does the Exchange Mean in our Region?

### Saint Joseph Regional Medical Center - Health Information Exchange







## Quick Facts

- Generated within less than one minute upon admittance to ED.
- ED Summary includes comprehensive medical information from data sources across the region.
- Relevant information in the hands of the ED physician during an emergency.

## Sample Summary

### 1 Wake Up

## MHIN

Automated processes recognize registrations, query the database, and prepare clinical summaries for viewing via the web or print out.

### 2 Prepare Summary

### 3 Send Back

SAMPLE\_ED2

Michiana Health Information Network Patient Summary

Page: 1 Report Date: 04/29/2011 14:19

Name: XXXXXXXXXXXXXXXXXXXX -- SSN: XXXXXXXXXXXX

Address: XXXXXXXXXXXXXXXXXXXX -- D.O.B.: 01/01/1900

Home Phone: SOUTH BEND, IN 466141536 -- Race: F

Mobile Phone: 574-XXX-XXXX -- Marital Status: F

MRN: 000000000 -- MHIN ID: 00000000

Problems

POSITIVE PPD; Hyponatremia; Tendonitis R TRICEPS; L-Spine Herniated Disc; Mixed hyperlipidemia; Anxiety state, unspecified; DEPRESSION; ATYPICAL HYPERPLASIA - BREAST; Benign hypertension

Allergies

NKA+

Medications

Xanax 0.5 mg oral tablet (alprazolam)

Start: 11/29/2010 -- End: N/A

0.5 mg, 1 tab(s), PO, qday, x 90 day(s), # 90 tab(s), 3 Refill(s)

paroxetine (paroxetine)

Start: 07/08/2010 -- End: N/A -- PO, qday, 0

Paxil 20 mg oral tablet (paroxetine)

Start: 05/24/2010 -- End: 05/13/2012 -- 20 mg, 1 tab(s), PO, qday, # 90 tab(s), 3 Refill(s), faxed to pharmacy

Pravachol 10 mg oral tablet (pravastatin)

Start: 05/24/2010 -- End: 05/13/2012 -- 10 mg, 1 tab(s), PO, qhs, # 90 tab(s), 3 Refill(s), faxed to pharmacy

dyazide oral capsule (hydrochlorothiazide-triamterene)

Start: 05/24/2010 -- End: 05/13/2012

1 cap(s), PO, qday, # 90 cap(s), 3 Refill(s), faxed to pharmacy

benazepril 10 mg oral tablet (benazepril)

Start: 05/24/2010 -- End: 05/13/2012 -- 10 mg, 1 tab(s), PO, qday, # 90 tab(s), 3 Refill(s), faxed to pharmacy

Norvasc 3 mg oral tablet (amlodipine)

Start: 05/24/2010 -- End: 05/13/2012 -- 5 mg, 1 tab(s), PO, qday, # 90 tab(s), 3 Refill(s), faxed to pharmacy

chantix (varenicline)

Start: 05/27/2009 -- End: N/A -- See Instructions.

Instructions: one starter pak, and 3 continuing paks, # 4 Box, 0

Zoster Vaccine (Misc Drug)

Start: 03/30/2009 -- End: N/A -- Zoster Vaccine, See Instructions, 1, 0, 03/30/09 10:43:37, 0, Merrill: please administer zoster vaccine., thanks, Dr Mokfi, Substitution Allowed

hormone cream (Misc Drug)

Start: 09/17/2007 -- End: N/A -- hormone cream, See Instructions, 09/17/07 10:09:23, 0, marmain, for vaginal use, Substitution Allowed

Multivitamin (Multivitamin)

Start: 05/20/2004 -- End: N/A --

Fibercon (polycarbophil)

Start: 05/20/2004 -- End: N/A --

SAMPLE\_ED2

Michiana Health Information Network Patient Summary

Page: 2 Name: XXXXXXXXXXXXXXXXXXXX D.O.B.: 01/01/1900 SSN: XXXXXXXXXXXX

Discrete Lab Results (Most Recent 3)

LEGEND: WBC Hgb / Na C1 BUN PT PTT INR

11/19/2010 10:49

8.55 14.6 / 291 130 90 12

3.9 42.1 22 0.88 98 PT PTT INR

05/17/2010 09:35

132 94 16

4.5 25 0.79 101 PT PTT INR

Other Results (Most Recent 5)

H&P

Operative Note

07/08/2010 ELKHART GENERAL HOSPITAL

07/08/2010 ELKHART GENERAL HOSPITAL

ED Encounters since (Most Recent 5)

05/24/2010 -- Emergency -- MEMORIAL HOSPITAL

06/02/2010 -- Emergency -- S2RNC SOUTH BEND CAMPUS

Healthcare Providers

Ansari, Rafat H

BARBOUR, NINA

DEVIREAUX, JAMES M

Federspiel, Richard

Garcia, Juan C

Lackman-Chuppe, Jennifer

Shaye Nofli, MD

Christopher Norborg, MD

Peterson, Charles E

Tutthill, Linda

Kathleen M. Delnay, MD

Vitals

Vitals on record

Page 2

### Auto Triggered Care Summary: automated, efficient, secure

Goal: Enable the Health Exchange inside your applications and organization

-Registration



-Healthcare Organization



-Providers



-Providers view the prepared summary via a web link



-ADTs

-Notification with web link (and/or CCD) back to sending system

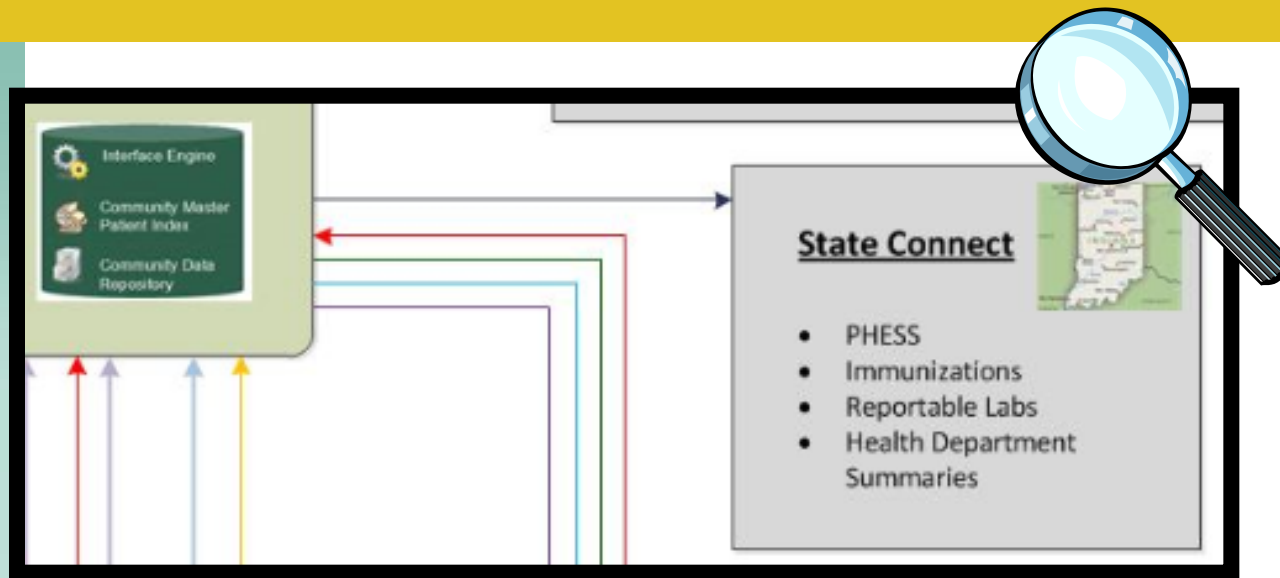
1 -Wake Up

-MHIN

-Automated processes recognize registrations, query the database, and prepare clinical summaries for viewing via the web.

2 -Prepare Summary

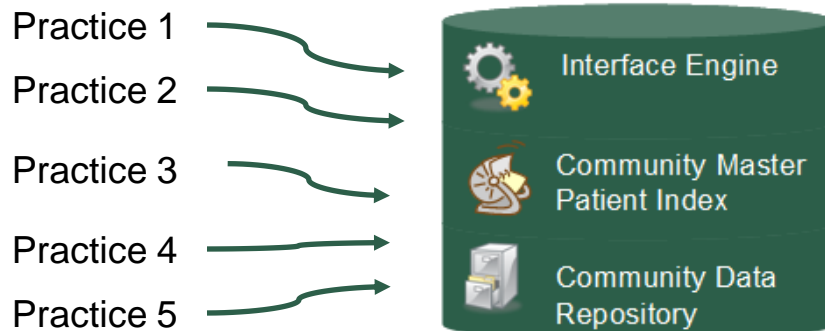
3 -Send Back



## Quick Facts

### 2010- 2013

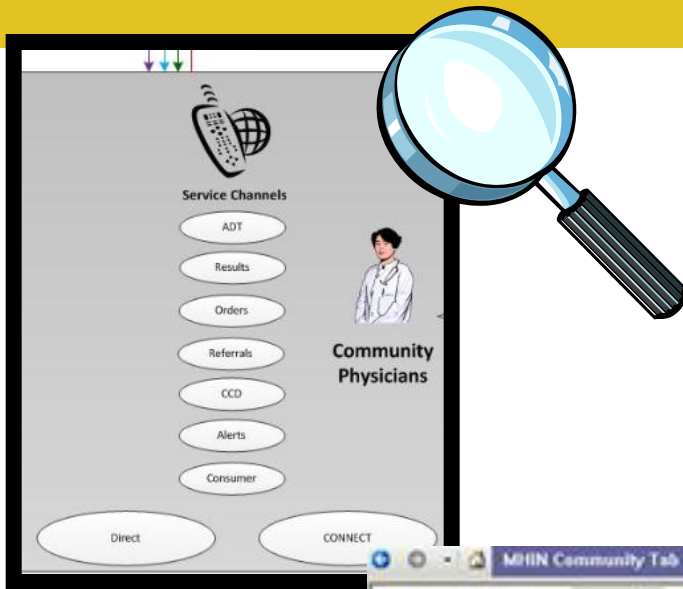
- Bi-directional interface with the ISDH CHIRP.
  - 500 + providers
- Kicked off interstate connectivity with Michigan for cross state immunization exchange.
  - 2013
- Focus on prenatal and postnatal care through collaborative community research.



**CHIRP**

Children and Hoosiers Immunization Registry Program





## Quick Facts

- Cross state exchange and query of Continuity of Care Documents enabled through the CONNECT gateway.
- View of CCDs received and posted to the Community Data Repository.
- Identifies source of data.
- Consolidates into one view and attempts to de-duplicate codified items such as ICD-9 diagnoses/conditions.

CCD

The screenshot displays the 'MHIN Community Tab' interface. At the top, a disclaimer states: 'This record is an aggregate summary of medical information obtained from multiple participating healthcare providers. This clinical summary is intended to support optimal patient care. It is not intended to replace the patient's medical record nor is it guaranteed to encompass all historical information on this patient. It is provided to you in conformation with patient privacy requirements.'

Patient Information: TESTONE MHINCCD Male 35 Years DOB: 09/01/1976 HIE ID: 0000000000 PCP: Home Phone: 574-968-0001

Navigation Panel (Left):

- Conditions(Problems) - [Default: All Historical] - [No Results]
- DIAGNOSIS - [Default: All Historical] - [No Results]
- PROCEDURES - [Default: All Historical] - [No Results]
- MEDICATIONS (RX And Documented Historical/Home Medications) - [Default: All Historical] - [No Results]
- Allergies - [Default: All Historical] - [No Results]
- IMMUNIZATION / VACCINE HISTORY - [Default: All Historical] - [No Results]
- LAB ORDERS - [Default: All Historical] - [No Results]
- LAB RESULTS - [Default: All Historical] - [No Results]
- MICROBIOLOGY - [Default: All Historical] - [No Results]

VITAL SIGNS / CLINICAL RESULTS (Last 4 Results) - [Default: All Historical]

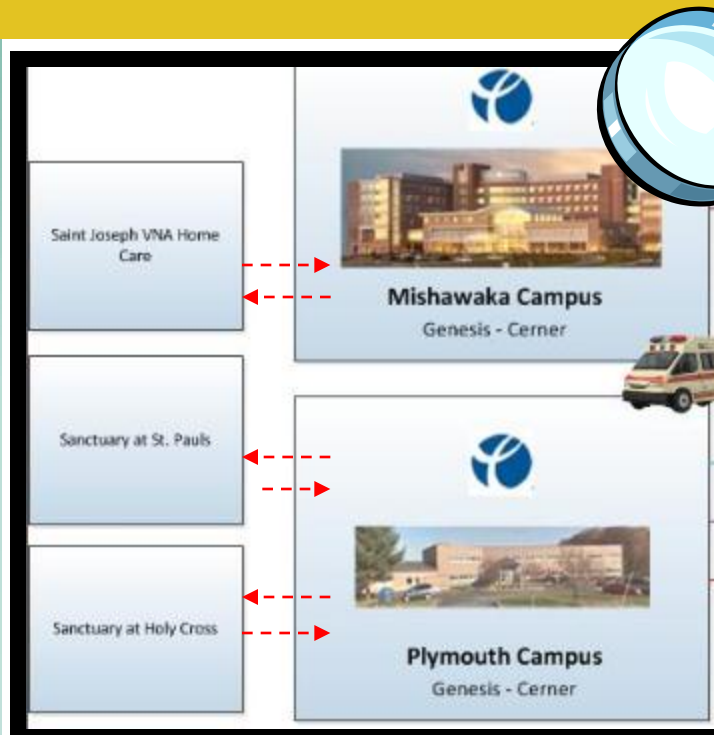
Name/Measurement	Most Recent	Previous	Previous	Previous
Weight	130.0 lb			
Temperature	98.6 DegF			
Respiratory Rate	40			
Pulse Site	Radial			
Height	67.0 in			
Heart Rate	55			
Body Mass Index	20.4			
Blood Pressure - Systolic	110.0 mmHg			
Blood Pressure - Diastolic	60.0 mmHg			

Search: [Text Box] [Search] [Reset]

Additional sections on the right include:

- Radiology - [Default: All Historical] - [No Results]
- History & Physical - [Default: All Historical] - [No Results]
- Discharge Summary - [Default: All Historical] - [No Results]

Footer information: Type: - ERSTOLIC, Ref Range: Undefined, Date/Time: 03/06/2002 03:40:00 PM, Source: 16-01-01-01

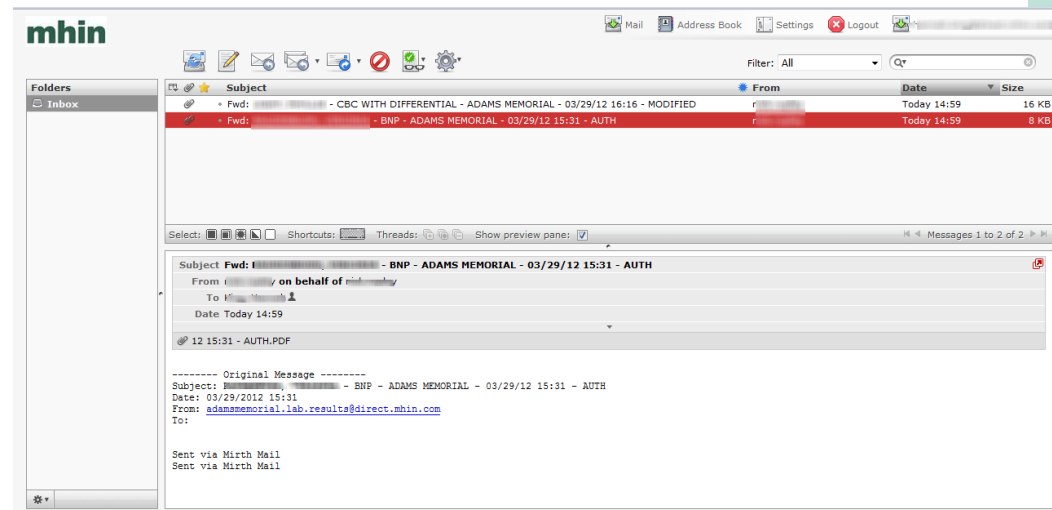


### Quick Facts

- Among first program in the state and nation to implement the Direct Project to improve care coordination.
- Transitions in care coordination through Direct Mail for extended care facilities and acute care facilities.
- Incident reports and discharge summaries exchanged immediately and electronically with the transition of the patient from and back to the extended care facility.

### MHIN Direct Mailbox

Direct Project specifies a simple, secure, scalable, standards-based way for participants to send encrypted health information directly to known, trusted recipients over the Internet.



Thank You.  
Questions?

Tom Liddell  
[toliddell@mhin.com](mailto:toliddell@mhin.com)



# Next Steps

- Please join us for a webinar discussing the newly released HIPAA rule, sponsored by PwC – January 29, 2:00 – 3:30 pm ET.
- Slides from today's call will soon be available at <http://www.ehealthinitiative.org/issues/health-information-exchange-hie/connecting-communities-work-group-materials.html>
- The next meeting will be on **Tuesday, February 26<sup>th</sup> between 2:00-3:00pm EST**
- In the meantime, please contact Alex Kontur at [alex.kontur@ehealthinitiative.org](mailto:alex.kontur@ehealthinitiative.org) with any comments and/or questions

