



**Connecting
Healthcare**[®]
Engaging Patients[™]

Pharmacy Health Information Exchange

The promise. The reality. The future.

Regulatory and Law Conference
May 19, 2018



Your HIE Preacher:

Walt Culbertson

- President and Founder, Connecting Healthcare®
- Host and Producer Medical Update Show
- Served as Technical and Operations Lead and HIE Project Manager Florida Health Information Exchange
- Served as Regional Center Program Director for Center for the Advancement of Health IT (AHIT) - Florida's largest ONC Regional Extension Center (REC)
- Served as State of Florida Technical Subject Matter Expert for ONC State Health Policy Consortium, Southeast Regional HIT-HIE Collaboration (SERCH)
- Consultant and Subject Matter Expert for HIT, HIPAA, e-Prescribing, and HIE initiatives in FL, GA, KY, TN, OH, MI and VA
- Founding Chief Technology, Security and Privacy Officer, Availity, LLC
Leading Healthcare Clearinghouse created by Blue Cross of Florida & Humana
- *Founding Executive Director of ePrescribe Florida*
President, ePrescribe America



Disclosures

- I declare no conflicts of interest, real or apparent, and no financial interests in any company, product, or service mentioned in this program




Learning Objectives

1. Describe the current state of electronic clinical exchange between pharmacies, physicians and other medical providers
2. Provide an overview of the existing methods of electronic connections within the pharmacy/provider community such as electronic prescribing
3. Discuss the evolving foundations for better engaging Health Information Exchange (HIE) for clinical information flow that can support Medication Therapy Management to optimize drug therapy and improve therapeutic outcomes for patients



HIE The Promise



A man wearing a dark cowboy hat and a green jacket with a fur collar is holding a photograph of a large crowd. In the background, a dog is sitting on a brown saddle. The scene is set in a desert-like environment with a horse's head visible on the right.

Doctor

Pharmacist

Watch the Video at the Connecting Healthcare® YouTube Channel or website
or directly at <https://youtu.be/krU6txUidKc>

The Promise - Question 1

Is Health Information Exchange a:

- A. Verb
- B. Noun
- C. Both
- D. Neither



The Promise - Question 2

Which of these is not a value of HIE:

- A. Providing more accurate information
- B. Enabling decision support
- C. Enabling better faxed data
- D. Reducing costs of paper documents
- E. All are values



The Promise - Question 3

Electronic Prescribing is an example of what type of HIE:

- A. Query-based Exchange
- B. File Transfer Protocol (FTP)
- C. Directed Exchange
- D. Both A and B
- E. Both A and C



What is Health Information Exchange?

- Electronic Health Information Exchange (HIE) is both a noun and a verb
- Refers to the technical and operational infrastructure and the process of actually exchanging information
 - HIE (the verb) is the process of connecting and exchanging patient information between authorized healthcare and related organizations
 - HIEs (the noun) are networks of unaffiliated healthcare entities and/or other third parties that share/exchange patient clinical/administrative data



Why Health Information Exchange?

- The goal of HIE is to enable stakeholders to better leverage information to facilitate patient care and therapeutic outcomes
 - Electronic health information exchange (HIE) allows physicians, hospitals, nurses, pharmacists, labs, payers, other health care related organizations and patients to appropriately access and securely share vital health care information
 - Enables real-time decision support at point of care

Right Information... at the right time...

for the right person... to the right person!!



Value of HIE

- Enabling decision support at the point of care such as e-Prescribing
- Connecting patient records and data sources for more coordinated, efficient care to effectively diagnose patients, reduce medical errors, and provide safer care
- Providing more accurate, up-to-date and complete information about patients
- Reducing costs and improved safety through; better information, decreased paper flow, reduced duplication of testing and lost or misplaced paper documents and faxes



But What About Paper and Faxes?

- Excessive costs of manual medical records
- Fragmentation caused by paper records
- Lost and misplaced records
- Accessibility of paper medical records
- Quality of manual medical records
- Lost productivity from paper records
- Difficulty in providing records to other providers of care, health plans, patients and caregivers
- Inability to exchange and use discrete data



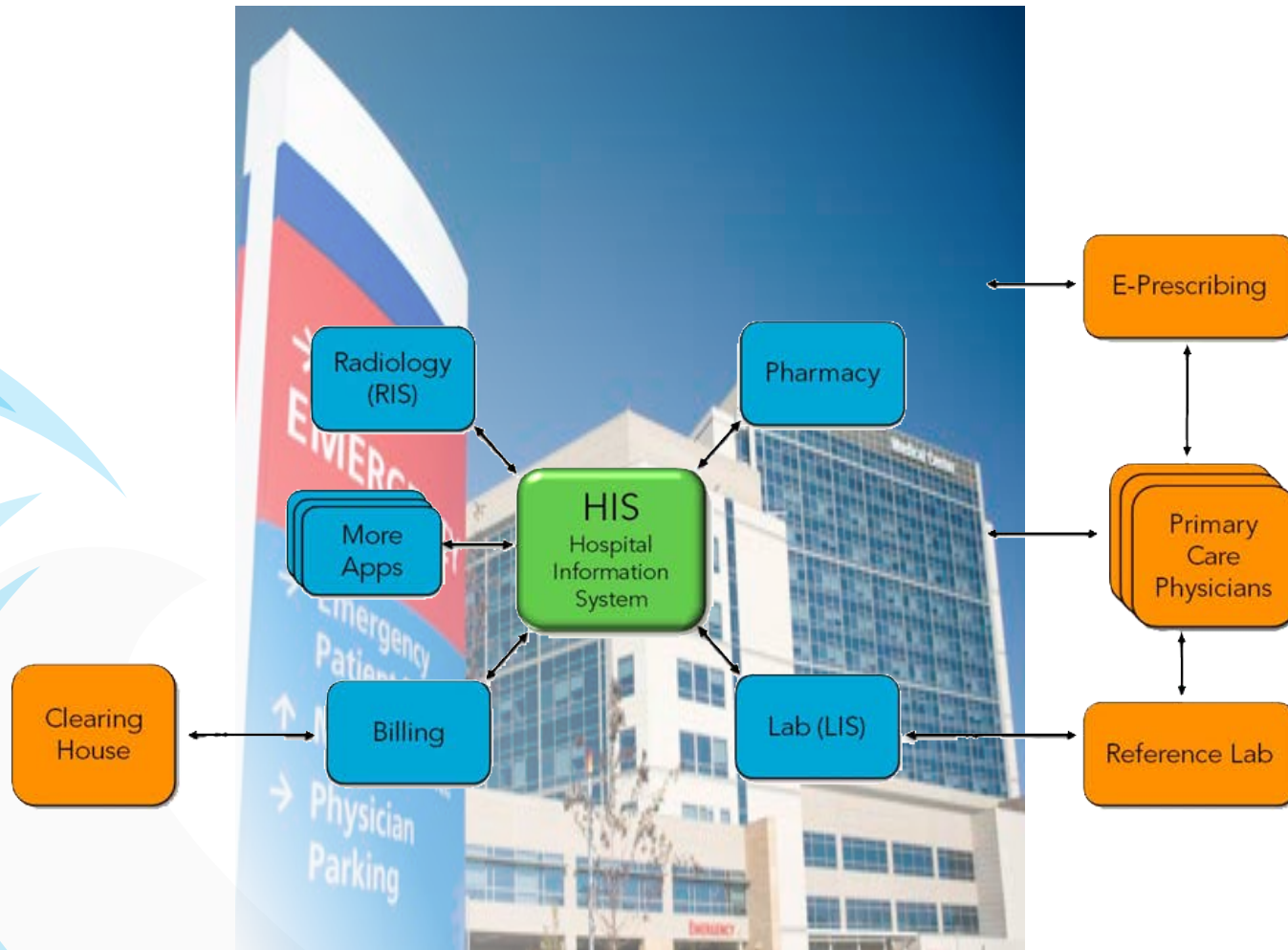
Any doctor can tell you they are buried in faxes. The worst part is that faxes don't go through often, or they get dropped or lost. This is a technology that should have disappeared along with beepers.¹

- Dr. P.J. Parmar, Ardas Family Medicine, October 2, 2014

¹ <http://www.kevinmd.com/blog/2014/10/still-uses-faxes-medical-industry.html>



Don't Have to be an HIE to do HIE!



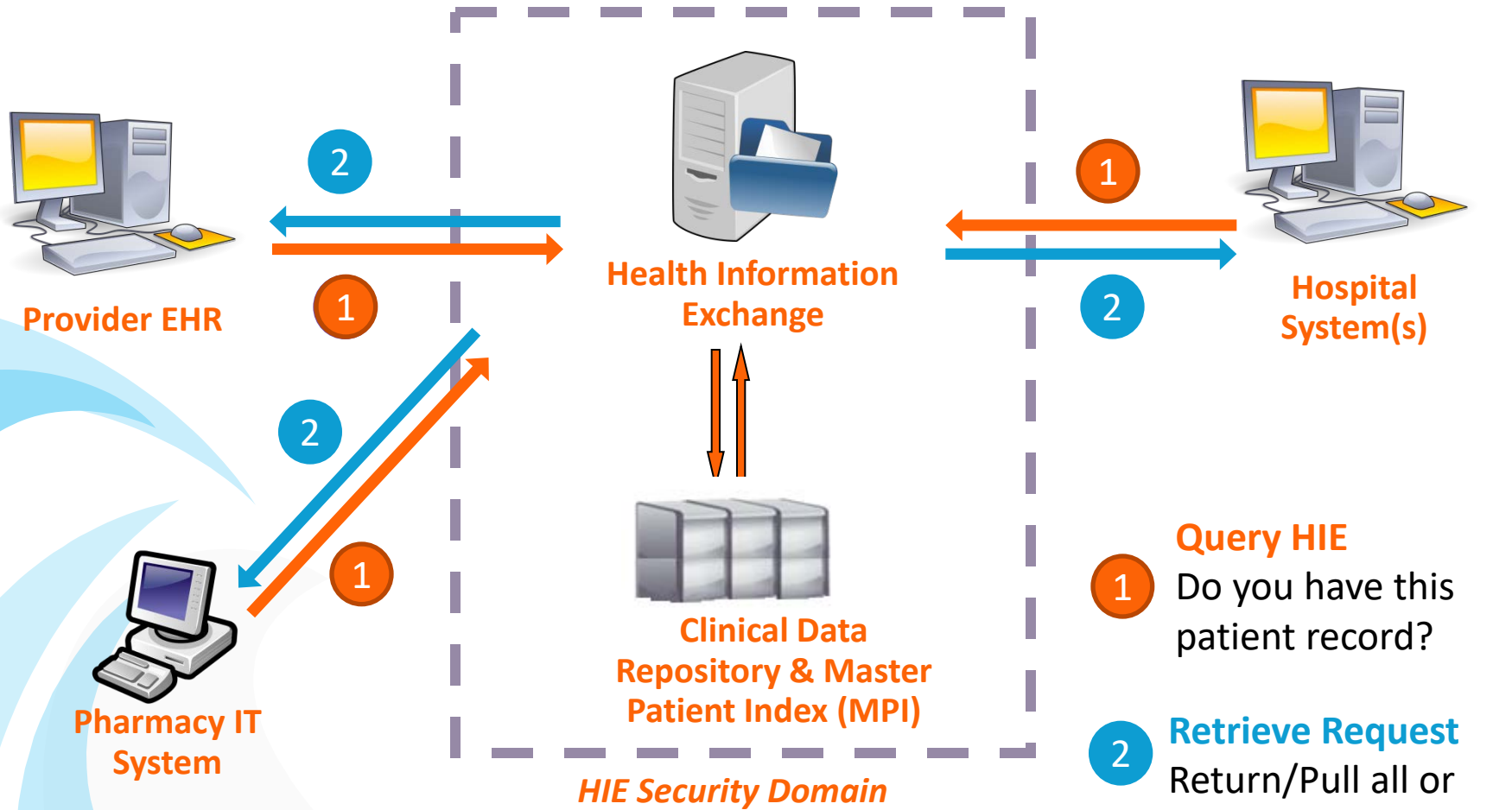
Types of Health Information Exchange

- While there are variations and hybrid versions of these, there are typically three basic forms of HIE²
 - **Query-based Exchange:** ability to find and/or request information on a patient from healthcare providers and other data sources, often used for unplanned care
 - **Directed Exchange:** ability to send (PUSH) and receive secure information electronically between authorized organizations to support coordinated care
 - **Consumer Mediated Exchange:** ability for patients to aggregate and control the use of their health information among providers and consumer health-IT

² <https://www.healthit.gov/providers-professionals/health-information-exchange/what-hie>



Query Based HIE – Central Repository

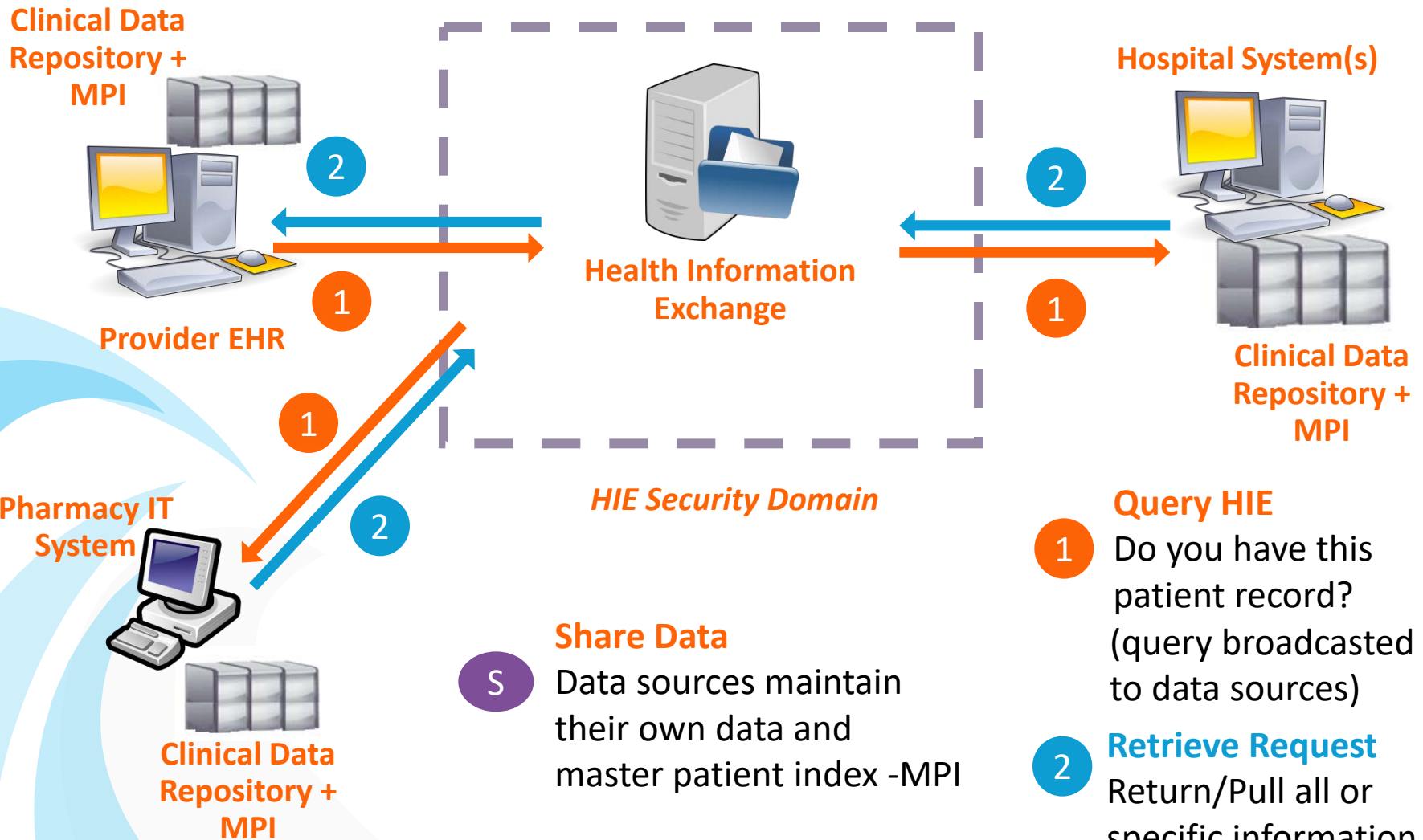


- 1 Query HIE**
Do you have this patient record?
- 2 Retrieve Request**
Return/Pull all or specific information

S Share Data
Data sources provide health information to HIE



Query Based – Federated Repositories



S

Share Data

Data sources maintain their own data and master patient index -MPI

1

Query HIE

Do you have this patient record? (query broadcasted to data sources)

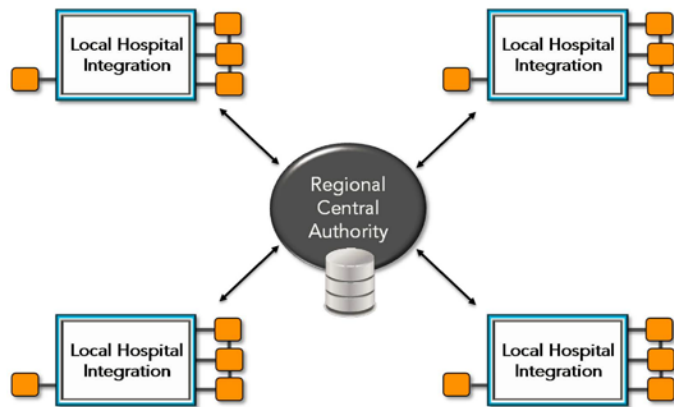
2

Retrieve Request

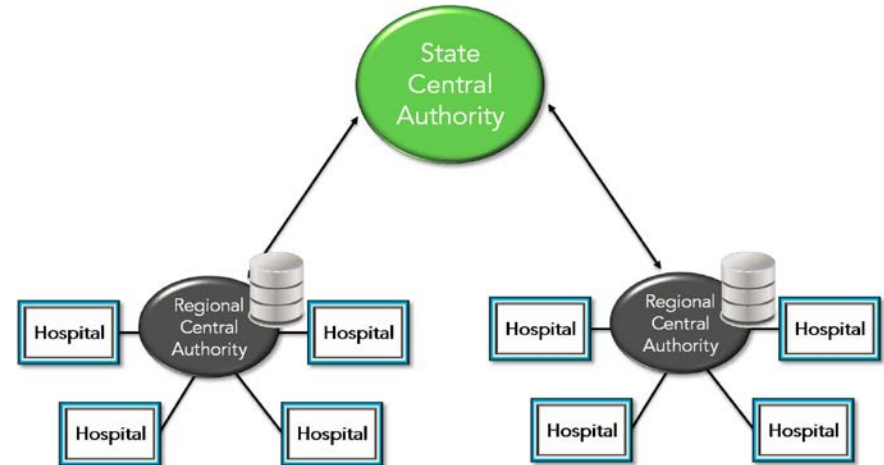
Return/Pull all or specific information from data source

When you have seen one HIE... You have seen one HIE!

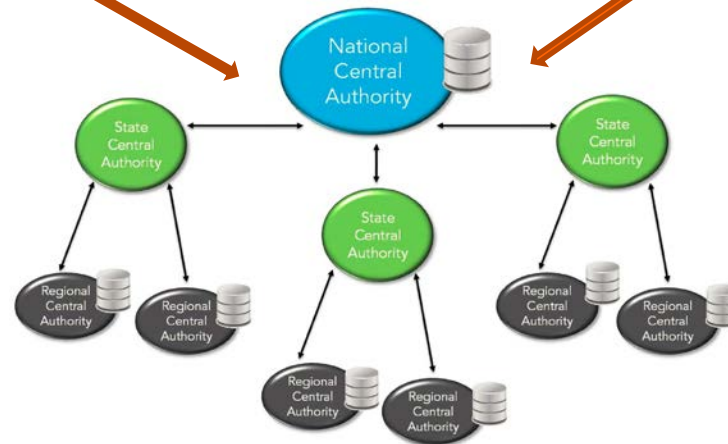
Centralized Model



Federated Model

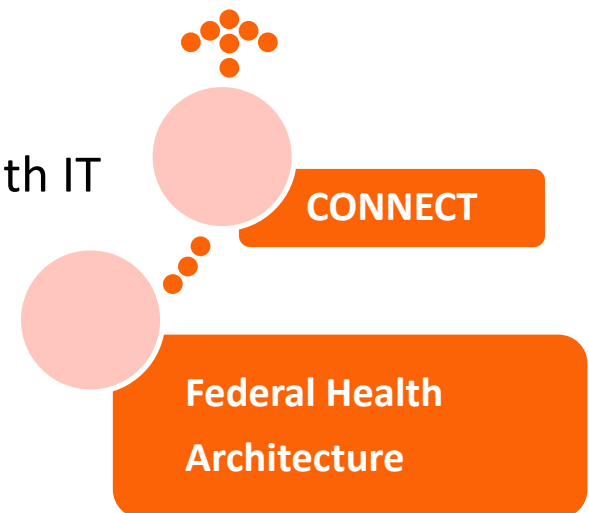


Hybrid Model



Query National Standard CONNECT

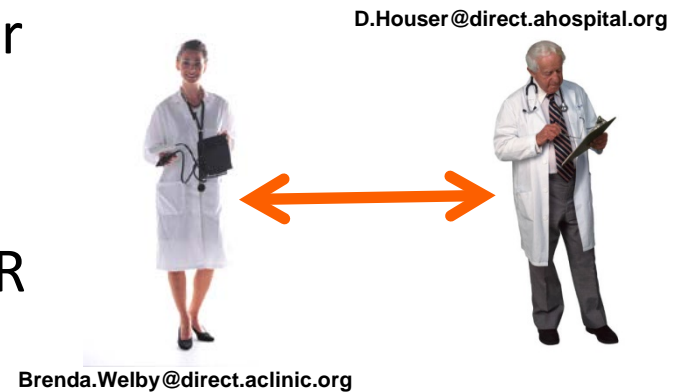
- CONNECT is a dynamic, open source platform for the secure exchange of health information³
- Result of an extensive collaboration effort between the Federal Health Architecture (FHA) and its federal partners including:
 - Health and Human Services
 - Office of the National Coordinator for Health IT
 - Department of Defense
 - Department of Veterans Affairs
 - Social Security Administration
 - Centers for Medicare & Medicaid Services
- Powers the national eHealth Exchange formerly the Nationwide Health Information Network (NHIN)



³ <https://www.healthit.gov/policy-researchers-implementers/nationwide-health-information-network-nwhin>

Push National Standard DIRECT

- DIRECT specifies a simple, secure, scalable, flexible and standards-based way to exchange encrypted health information with known and trusted recipients⁴
- DIRECT functions like regular e-mail with additional security measures and delivery notifications to ensure messages arrive and only accessible to the intended recipient per the Health Insurance Portability and Accountability Act (HIPAA)
- Message contents can be structured or unstructured information and data
 - PDFs, Images, Office documents
 - Consolidated CDA (CCDA), CCD, CCR
 - HL7 lab results, RxNorm, DICOM
- **CMS Certified Electronic Health Record (EHR) systems are required to demonstrate DIRECT messaging capability⁴**



⁴ https://www.healthit.gov/sites/default/files/directbasicstoc_webinar_2013_02_19.pdf

DIRECT Flexibility and Extensibility

DIRECT Communication



← →
Between People



← →
Between People and Computers

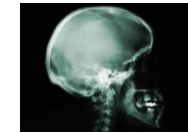


← →
Between Computers



DIRECT Content

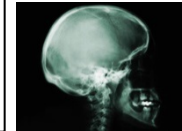
I've attached the x-ray and study of Mr. Culbertson. Thanks for seeing him.



Readable by People

Patient Demographics		SUMMARIZATION OF EPISODE NOTE			
NAME	WALTER PERREBE	MR	19820801		
ADDRESS	8800 HAVENS STREET, HOLLAND, FL 32018	MR	1588002		
PHONE	352-369-0510	MR	1588002		
DOB	1982-08-01	MR	1588002		
ALLERGIES, MEDICATIONS, VACCINES					
DATE	TIME	EMERGENCY	REASON FOR VISIT	STATUS	SOURCE
11/10/2006	14:00:00	Emergency	Head Injury	Active	SNL 0001026
11/10/2006	14:00:00	Emergency	Head Injury	Active	SNL 0001026
11/10/2006	14:00:00	Emergency	Head Injury	Active	SNL 0001026
11/10/2006	14:00:00	Emergency	Head Injury	Active	SNL 0001026
11/10/2006	14:00:00	Emergency	Head Injury	Active	SNL 0001026
11/10/2006	14:00:00	Emergency	Head Injury	Active	SNL 0001026

I've attached an electronic record and x-ray for Mr. Culbertson



Readable by People and Computers

```
EVN|A28|20060501140008|||000338475^Culbertsonr^Walt^RegionalMPI&2.16.840.1.113883.19.201&ISO^L|20060501140008<cr>
```

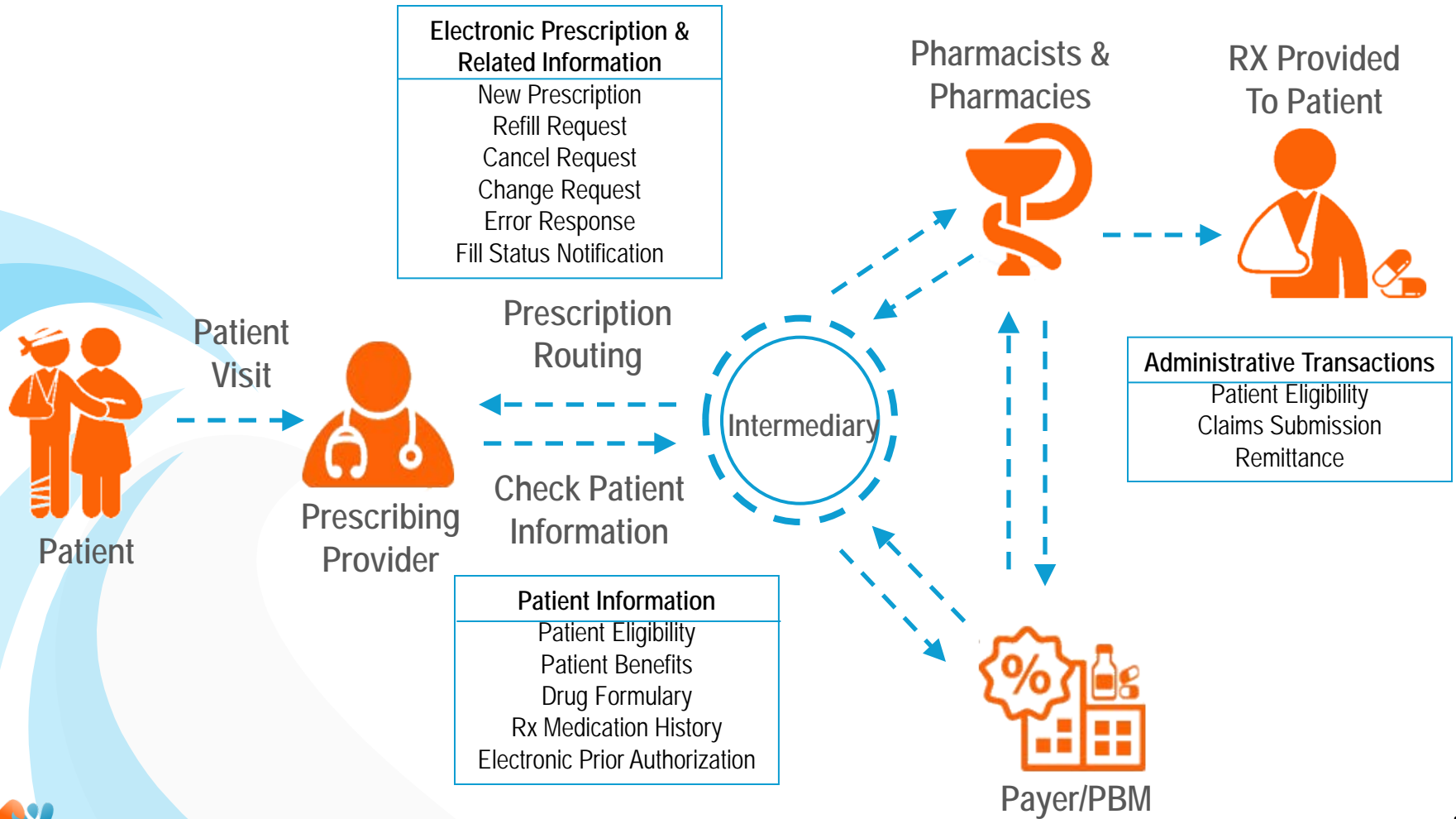
```
EVN|A28|20060501140008|||000338475^Culbertsonr^Walt^RegionalMPI&2.16.840.1.113883.19.201&ISO^L|20060501140008<cr>PID|||000197245^^NationalPN&2.16.840.1.113883.19.3&ISO^PN~4532^^
```



Readable by Computers

So How Does e-Prescribing HIE Work?

Combination of Query and Directed Exchange



HIE Powers ePrescribing

1. Select patient

Start Meds Cart (0) Checkout

Prescriber, Demo 9:03 PM

Today All Patients

Time	Last	First
1:00pm	TYMOREK	STAN
1:30pm	AMBER	CATHERINE
2:00pm	GORMAN	SUSAN
2:30pm	ALBERT	PATTI
3:00pm	ABERNATHY	CRAIG

Select

2. Select Drug and Decision Support

Start Meds Cart (0) Checkout

TYMOREK, STAN 7/5/53 A

Favorites Refills All

- ADVIL TAB 200mg
- Alprazolam Tab 1mg
- AMBIEN TAB 10mg
- Amiodarone Tab 200mg
- TOPROL XL (Metoprolol Succinate)**
50 MG tablet #30
1 tablet orally qd
Refills: 0
Brand Medically Necessary: No

Prescribe

3. Send to Pharmacy or Print

Start Meds Cart (1) Checkout

TYMOREK, STAN 7/5/53 A

1 of 1

TOPROL XL (Metoprolol)
50 mg tablet CR

- e-Retail
PANNELLS PHARMACY INC
- Paper Rx

Send



HIE Powers - Decision Support

Severe Drug Interaction

SPORANOX & LIPITOR

Plasma concentrations of LIPITOR may be increased when co-administered with SPORANOX. Adverse effects, including myopathy and rhabdomyolysis may occur. Use of itraconazole with LIPITOR is contraindicated

Interacting Drug

SPORANOX **\$35**
100 MG capsule

Alternatives

VFEND **\$20**
40 MG/ML recon susp

Buttons: Cancel, Change

Show patient specific drug interactions based on local and PBM-provided drug history

Start Meds Cart (0) Checkout

TYMOREK, STAN 7/5/58 **A**

Favorites Refills

- ADVIL TAB 200mg
- Alprazolam Tab 1mg
- AMBIEN TAB 10mg
- Amiodarone Tab 200mg
- Amoxicillin Tab 500mg
- Apap/Codeine Tab 300-30mg
- Atenolol Tab 50mg
- BENICAR HCT TAB 40-25
- TOPROL XL TAB 50mg

Allergies

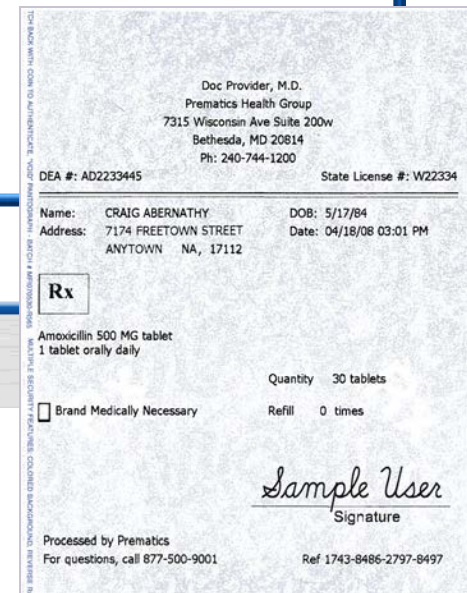
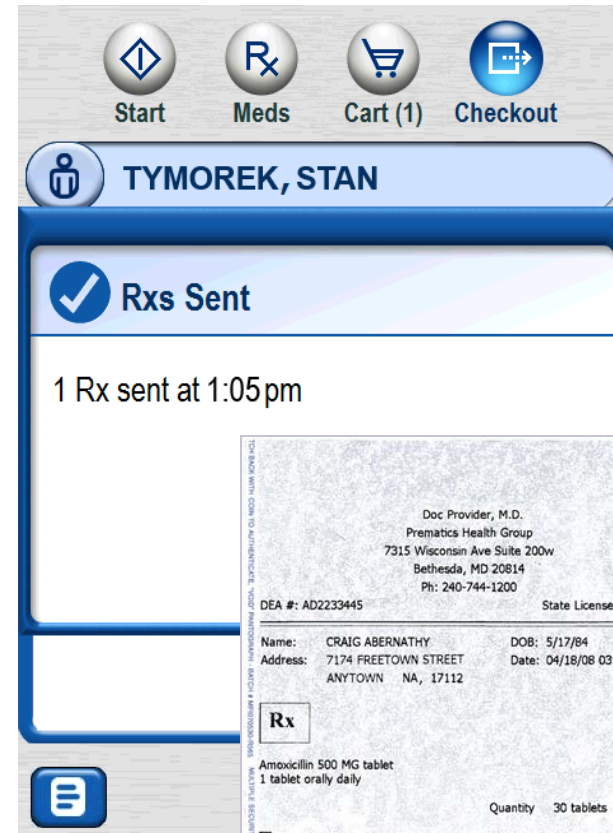
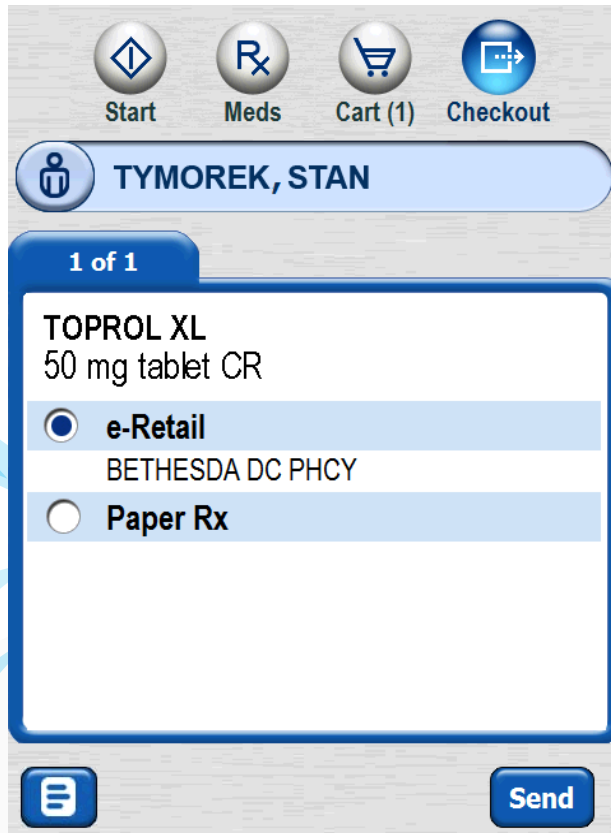
Benadryl
Reaction: Fever
Notes: csacsacs
Date of onset: 09/28/2008
Last modified:
Isabella Eastwood 09/30/2008
Entered by:
Isabella Eastwood 09/30/2008

Buttons: Close

Show patient reported drug allergy information and warnings



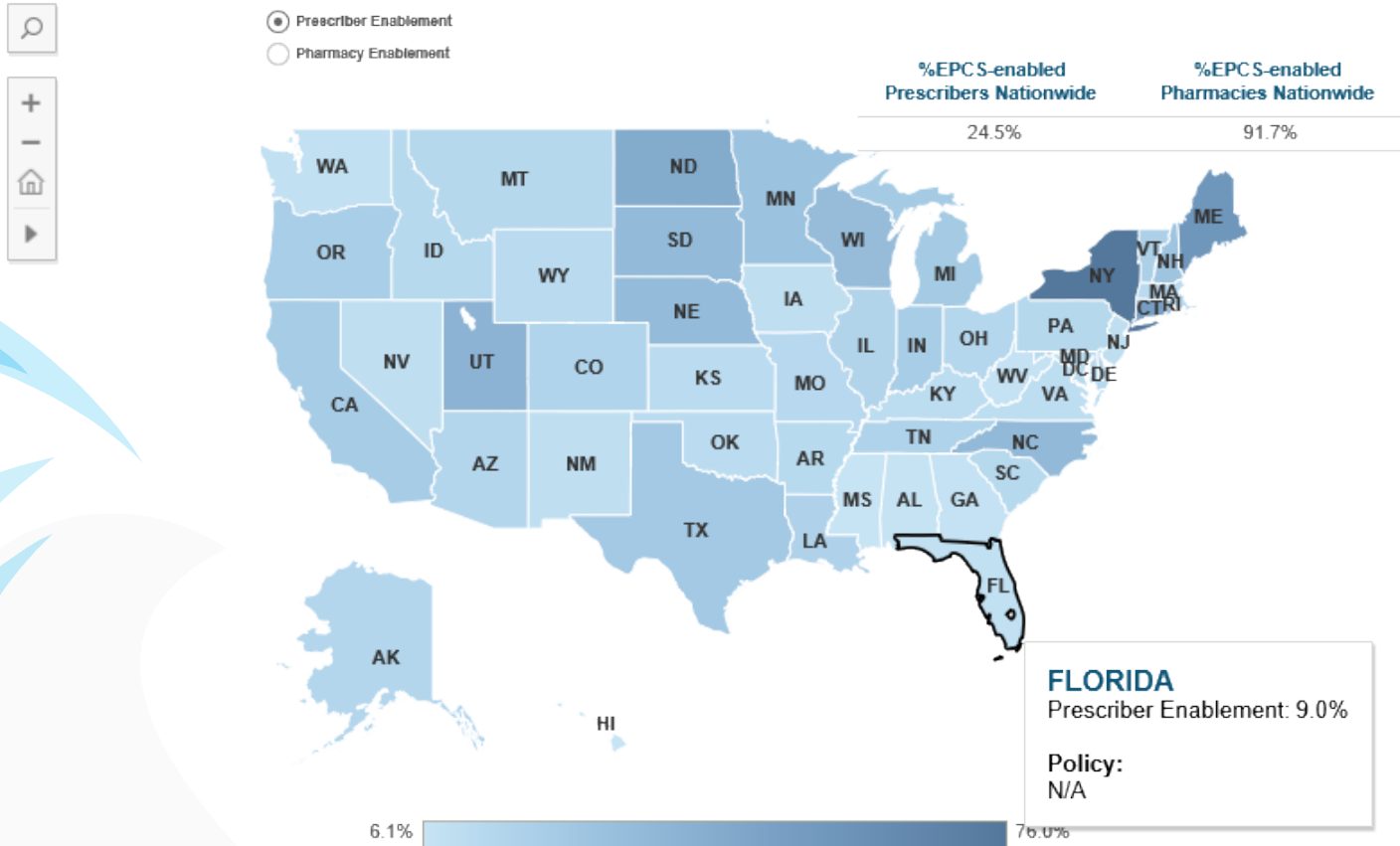
HIE Powers - eScript Transmission



Can transmit prescription electronically (always preferred) or print paper Rx or patient copy

SureScripts® Florida EPCS Update

EPCS Readiness: Which States Lead the Charge?



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HIE The Reality





Watch the Video at the Connecting Healthcare® YouTube Channel or website
or directly at <https://youtu.be/5lnP5ao0Opk>

The Reality - Question 1

All HIE is local:

A. Yes

B. No



The Reality - Question 2

What type of Health Exchange did Florida build with Federal funding:

- A. Prescription Monitoring Exchange
- B. Insurance Exchange
- C. Information Exchange
- D. Patient Exchange
- E. None of the above



The Reality - Question 3

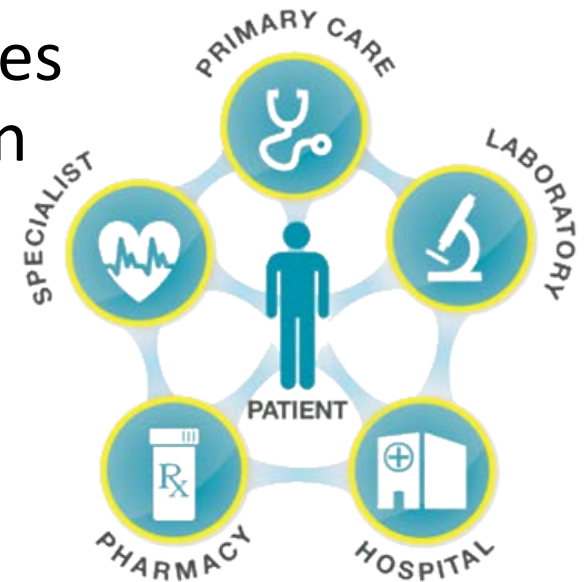
Florida Hospitals are prohibited from sharing admissions, discharge and transfer data (ADTs) with:

- A. Health Plans
- B. Accountable Care Organizations
- C. Providers
- D. All the Above
- E. None of the Above



HIE is Local, Regional, State and National

- HIE exists in many forms and at many levels
- Local and regional hospital systems have established capability to exchange patient information with community providers
- Independent vendors provide services to help with exchange of information
- Florida established a state-wide exchange to connect local networks
- A national network was created to connect states and federal government entities



State of Florida HIE Services

- Florida e-FORCSE - Prescription Drug Monitoring Program
- Florida Health Information Exchange (FL-HIE) Core Services evolving under ew vendor
 - **Query** - Patient Look-Up (PLU) being transitioned to the Sequoia National Network
 - **Push** - Direct Messaging Service (DMS)
 - **Push** - Event Notification Service (ENS)
 - ✓ Primary focus of the FL-HIE



FL-HIE Direct Messaging



- DMS is a secure email message service that can be used via an online portal or through Trust services for Health Information Service Providers (HISPs) using the national DIRECT standard for secure messaging
 - DMS provides an **online portal** for providers with or without an electronic health record (EHR) system, the capability to electronically exchange protected health information⁵
 - DMS allows for simple, HIPAA-compliant, encrypted transmission of Protected Health Information
 - Transitions of care and referrals, orders, records, results, and any other patient related documents can be easily and securely transmitted
 - *\$99/year for 3 Direct addresses*⁵

⁵ <https://www.florida-hie.net/services/direct-messaging/>



FL-HIE Event Notification Service



ens
event notification service

- Provides payers, ACOs and providers with electronic notice of patients' hospital admissions, discharges, transfers (ADTs) and emergency department visits⁶
 - Alerts delivered via DMS or other DIRECT message account
 - Safeguards prevent self-pay information from being provided
 - Speeds up the existing process for notifying stakeholders of patient treatment at participating hospitals
- Stakeholders can use the information to ensure appropriate follow up care coordination
- Hospitals receiving Low Income Pool (LIP) funding are required to participate as data sources



⁶<https://www.florida-hie.net/ENS/index.html>

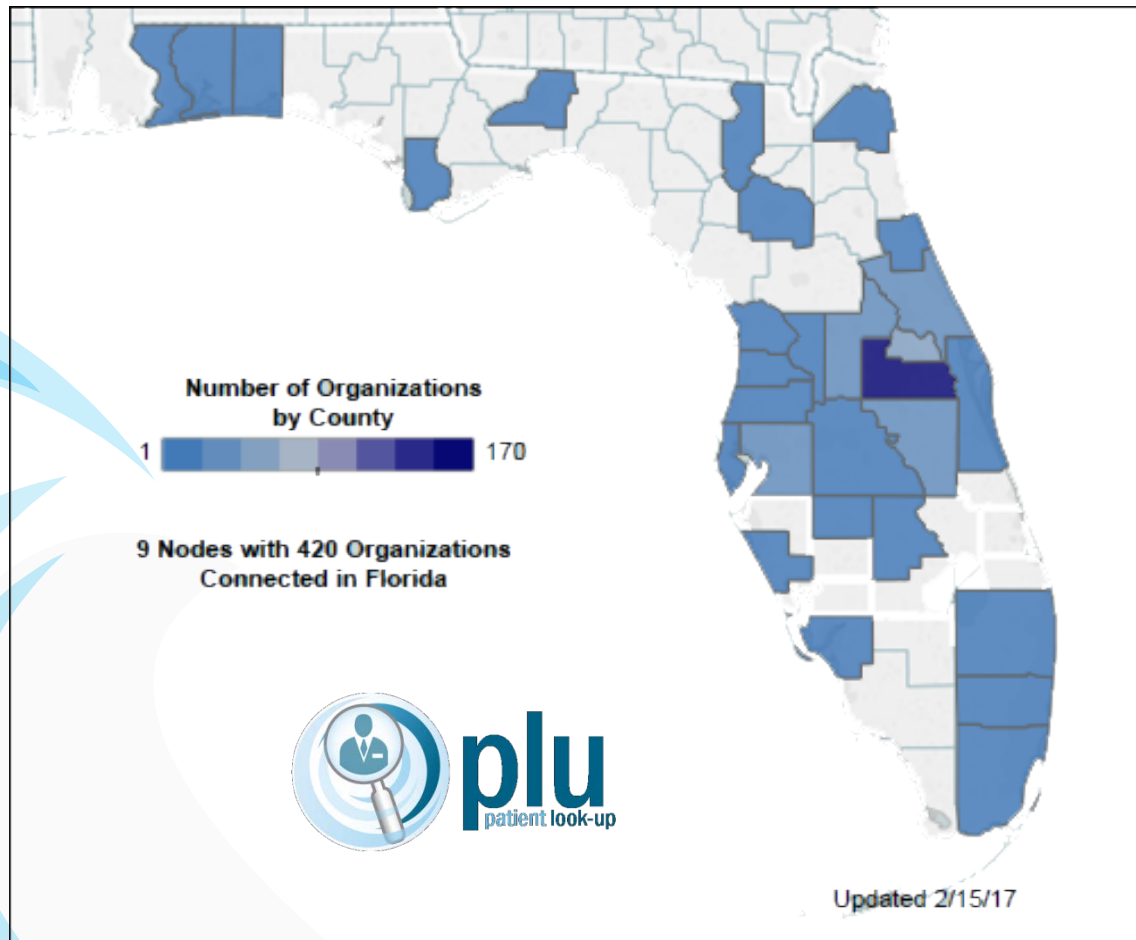
FL-HIE Patient Look-Up in Transition

- Connects local, regional and national HIE services through a **federated** model using the national standard (CONNECT) for patient record query and retrieval (network of networks)
 - No centralized state database or patient index
 - Each PLU participant (node) maintains its own records
 - Each participant required to have safeguards in place
 - Each participant is responsible for vetting user access
 - Being transitioned to the national eHealth Exchange
- Allows users to search participating health care organizations for individual patient records
 - Must have the patient's authorization



FL-HIE Network of Networks

PLU Participants as of February, 15 2017 ⁷



Visit the Florida-HIE for updates on the progress of migrating nodes to the national Network

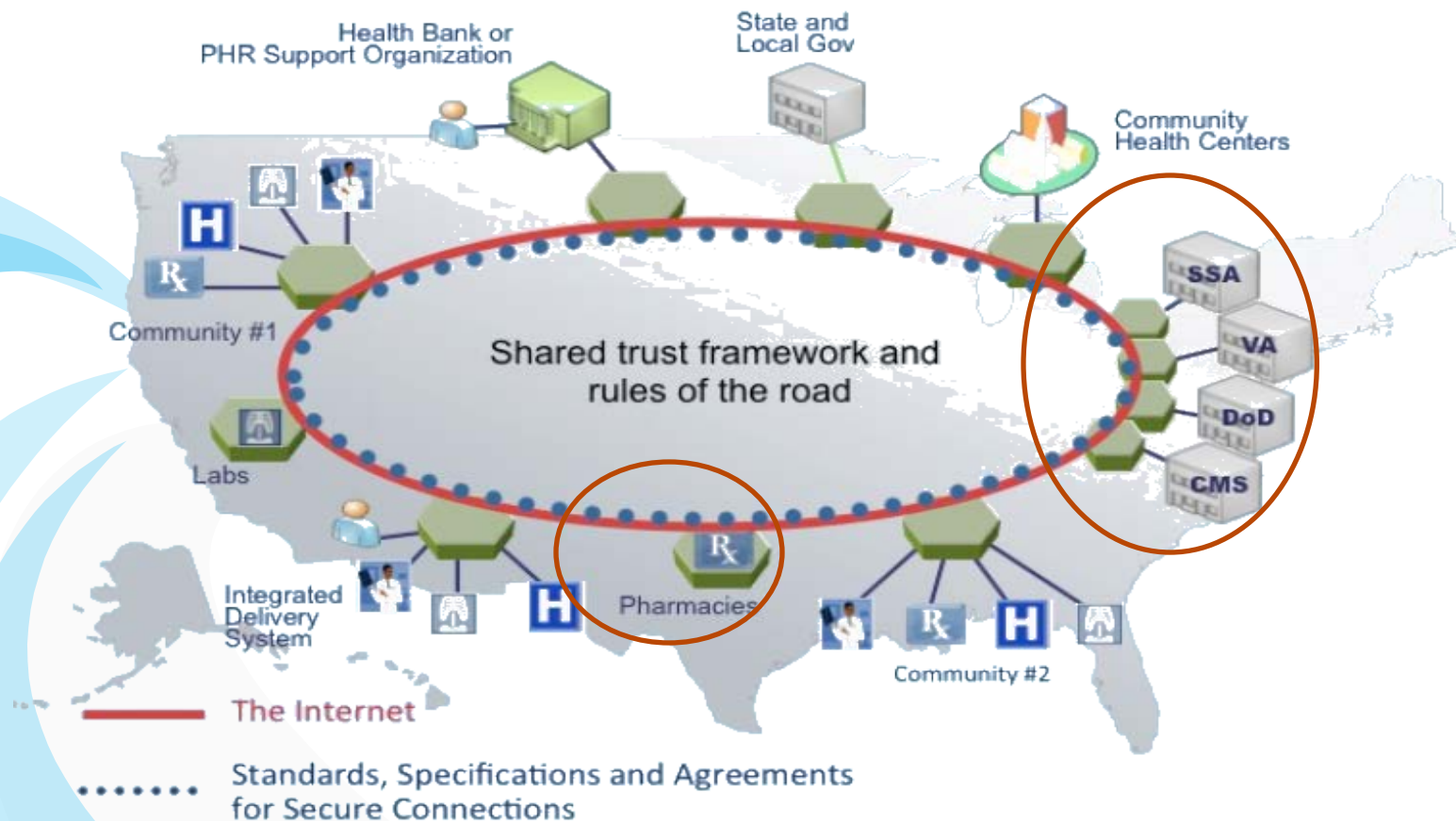
<https://www.florida-hie.net/services/query-solutions/>

⁷ <http://www.fhin.net/kms/graphs/plucoverage.shtml>

National Health Information Network

NwHIN⁸
eHealth Exchange

the
sequoia
project



⁸ <https://www.healthit.gov/policy-researchers-implementers/nationwide-health-information-network-nwhin>

Florida eFORCSE

- The purpose of the PDMP is to provide the information collected in the database to health care practitioners to guide their decisions in prescribing and dispensing highly-abused prescription drugs⁹
- Impacts all dispensers of scheduled controlled substance prescription in schedules II, III & IV starting September 1, 2011



⁹https://www.deadiversion.usdoj.gov/mtgs/pharm_awareness/conf_2012/march_2012/rposton_0329.pdf

Proposed ePrescribing and HIE

Objectives and Measures

Inpatient Prospective Payment Systems (IPPS) proposed rule ¹⁰ :

- ePrescribing Objective (pages 1350-1352. Also see pages 1371-1387 for a detailed overview of the measures ¹⁰) contains three measures (2 new):
 1. The existing ePrescribing measure: up to 10 points available in 2019 and 5 points in 2020.
 - At least one permissible prescription written by the MIPS eligible clinician is queried for a drug formulary and transmitted electronically using certified electronic health record technology (CEHRT).
 - Measure Exclusion: Any MIPS eligible clinician who writes fewer than 100 permissible prescriptions during the performance period
 2. **Query of Prescription Drug Monitoring Program (PDMP) [NEW]: up to 5 points**
 3. **Verify Opioid Treatment Agreement [NEW]: up to 5 points**

¹⁰ <https://s3.amazonaws.com/public-inspection.federalregister.gov/2018-08705.pdf>



Overview of New Objectives and Measures

Health Information Exchange Objective (page 1352. Also see pages 1388-1402 for a detailed discussion of the measures¹⁰)

- Contains two measures (both new) both of which would be required to be reported: Support Electronic Referral Loops by Sending Health Information Measure [RENAMED]: up to 20 points
 1. To create this measure, CMS combined the pre-existing measures, “Request / Accept Summary of Care” and the “Clinical Information Reconciliation” into a single new measure
 2. Support Electronic Referral Loop by Receiving and Incorporating Health Information [NEW]: up to 20 points
 - To create this measure, CMS took the pre-existing measure, “Send Summary of Care” and renamed it.

¹⁰ <https://s3.amazonaws.com/public-inspection.federalregister.gov/2018-08705.pdf>



HIE The Future



The State Health Policy Consortium

Watch the Video at the Connecting Healthcare® YouTube Channel or website
or directly at <https://youtu.be/zm7KobJSpQ>

The Future - Question 1

Health Plans were the first to support real-time claims adjudication:

- A. True
- B. False



The Future - Question 2

MTM stands for:

- A. Medication Therapy Management
- B. Medical Team Management
- C. Medication Therapy Model
- D. Model Therapy Management
- E. None of the above



The Future - Question 3

The Pharmacists role on the health care team is:

- A. Limited
- B. Central
- C. Remote
- D. Changes
- E. All of the above



Pharmacy Leads the Way!

- Throughout the evolution of adopting health information technology, pharmacy has often led the way:
 - The pharmacy industry has traditionally been an early adopter of HIE
 - Pharmacy was the first to have real-time claim submission and adjudication
 - Pharmacy led the way in receiving orders electronically (e-Prescribing)
 - Pharmacy adopted technology to facilitate patient communication (refill reminders and requests)



Pharmacists Role in Patient Care

- The Pharmacist's role in health care delivery has been evolving in a variety of expanding settings given medication complexity, inventory and frequency of use
- Leveraging Pharmacists' knowledge and patient interactions requires continued and new innovation to leverage the benefits of HIE:
 - Medication therapy management (MTM) and care coordination
 - Care coordination for chronic disease management programs
 - Team-based and patient centered care



Pharmacists Serve Critical Care Role

- Pharmacists are critical members of the patient's health care team
- Pharmacists make meaningful medication management contributions and decisions
- Pharmacists are **central** to the health care team model and are positioned to participate in HIE that will ensure more coordinated and complete medical care such as:
 - Medication reconciliation
 - Medication compliance and adherence



ePrescribing Was Only the FIRST Step

- Electronic prescribing (e-prescribing) was the first step in creating interoperability between pharmacists and prescribers
- As interoperable prescription information improves from a one-direction transaction to a bidirectional exchange of information (with the help of DIRECT), the prescription process will become more seamless
- The ability to exchange clarification requests with prescribers in real time will save pharmacists' time and may decrease the risk of medication error



Opportunity: More Than Prescription Data

- While many consider electronic prescribing to be the primary form of health information exchange (HIE), there is much more information that can be shared by pharmacists and other providers:
 - Lab values
 - Immunization administration records
 - Allergy and adverse event reporting
 - Documentation of care provided such as medication management counseling



What's Next?

- As Pharmacy organizations continue their efforts to comply with regulatory requirements, such as moving to the next version of SCRIPT, this will allow for more efficient exchange of:
 - **Allergy/adverse event information:** between prescribers and pharmacies
 - **Risk Evaluation and Mitigation Strategy (REMS):** information between prescribers, providers and REMS administrators before prescription arrives at pharmacy
 - **Fill status notification:** between pharmacies and prescribers, with the prescriber able to specify when they want to receive the notice



Medication Therapy Management

- Medication Therapy Management (MTM) services can lead to overall cost reductions and improved health outcomes
- MTM Core Elements Service Model recommends the patient record contain the following information:
 - Patient medication experience
 - Potential problems
 - Comprehensive and accurate medication list, including OTCs
 - Medication-related action plans



MTM Core Elements

11

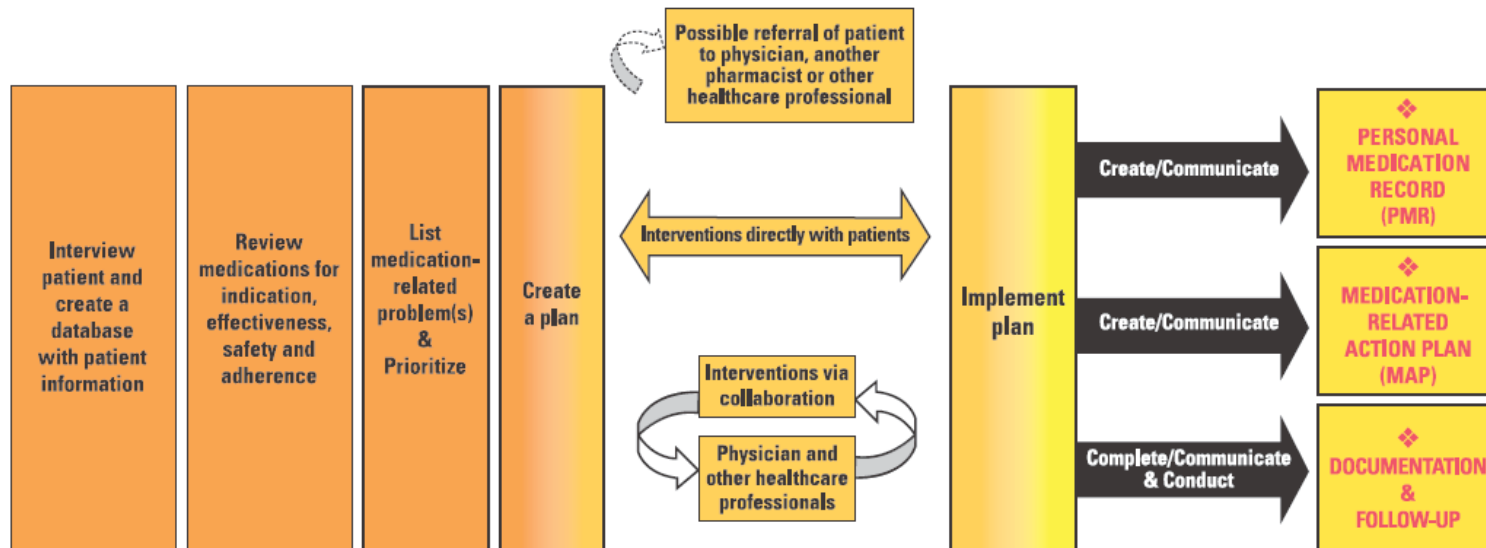
The Medication Therapy Management Core Elements Service Model

The diagram below depicts how the MTM Core Elements (❖) interface with the patient care process to create an MTM Service Model.

Academy of Managed Care Pharmacy

❖ MEDICATION THERAPY REVIEW

❖ INTERVENTION AND/OR REFERRAL

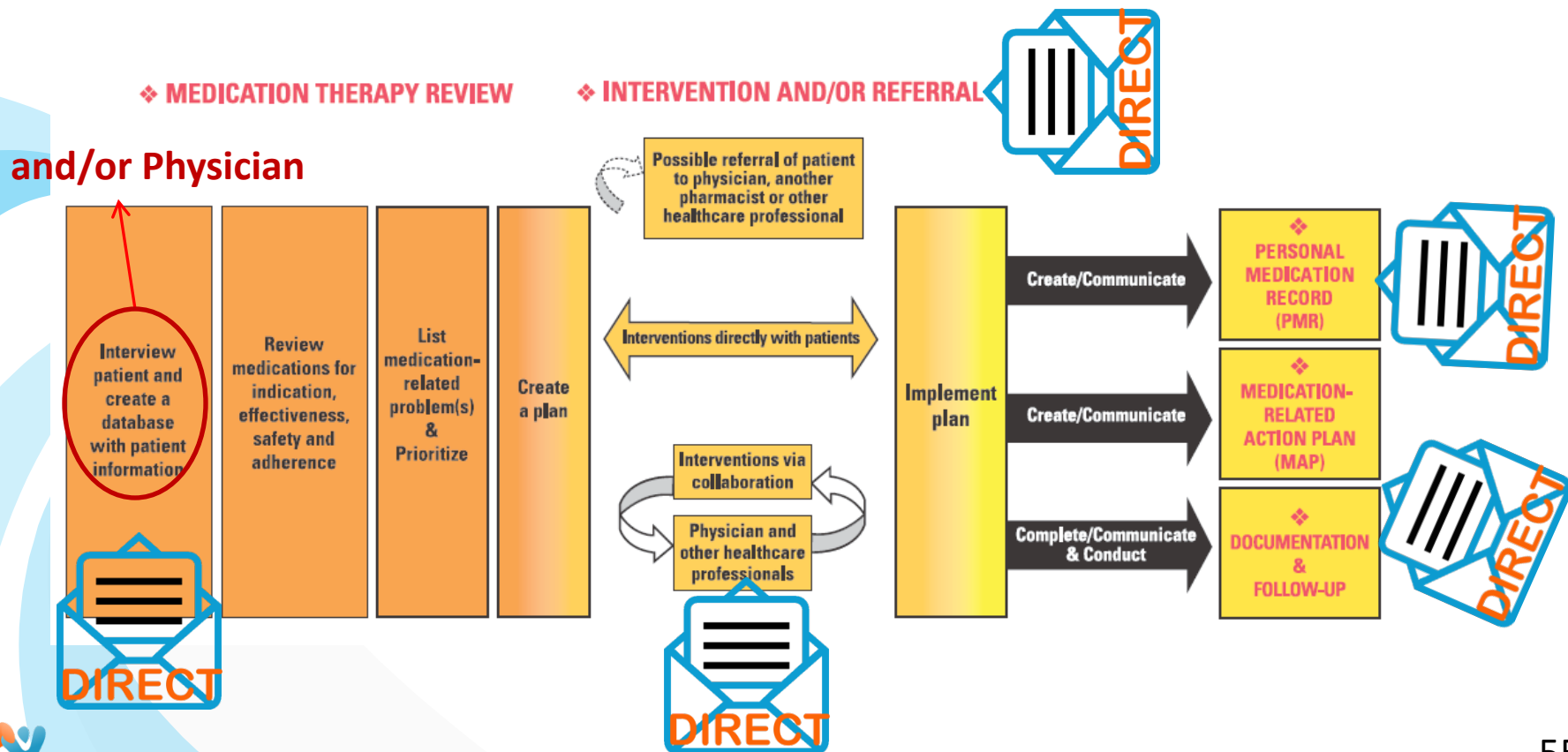


Enhancing Pharmacy Communications With DIRECT Messaging (?)

11

The Medication Therapy Management Core Elements Service Model

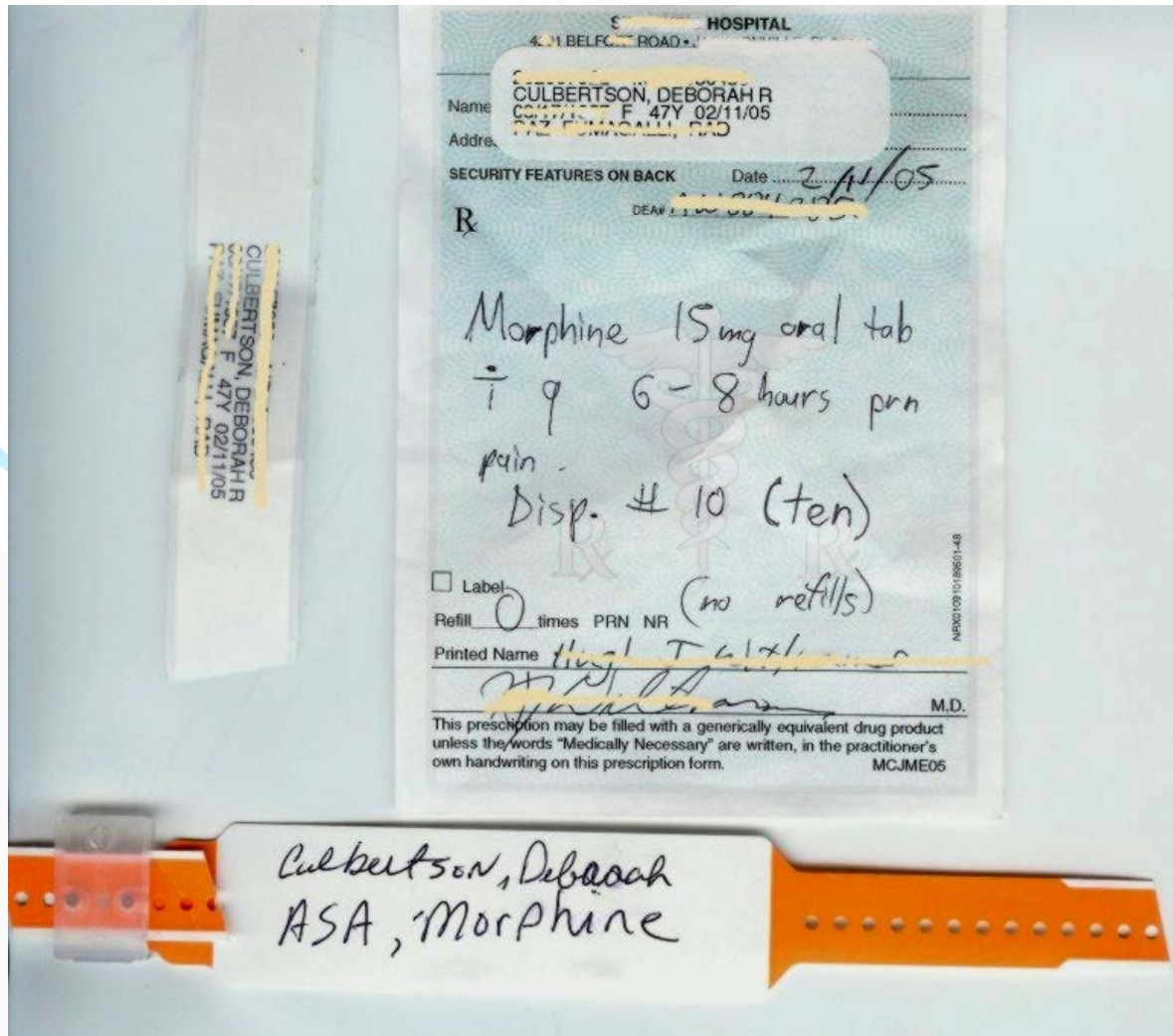
The diagram below depicts how the MTM Core Elements (❖) interface with the patient care process to create an MTM Service Model.



It's a Wrap!



Why We Are HERE!





Have Questions?

Visit our Website,
send us an email,
or give us a call!

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