Learning from the **Florida** Experience

Paving a HealthEHighway

DIRECT "*The Swiss Army Knife of HIE*"

August 2017

What Should Have Been….

Still Can Be!

Discussion Topics

1. 2016 Florida Ambulatory Health Information Exchange (HIE) Study

2. How to Move Forward? Revisit the Past!
   The Florida-HIE DIRECT Story from 2011 - 2014

3. Paving a Health**E**Highway
   DIRECT Building Blocks for Nationwide Interoperability

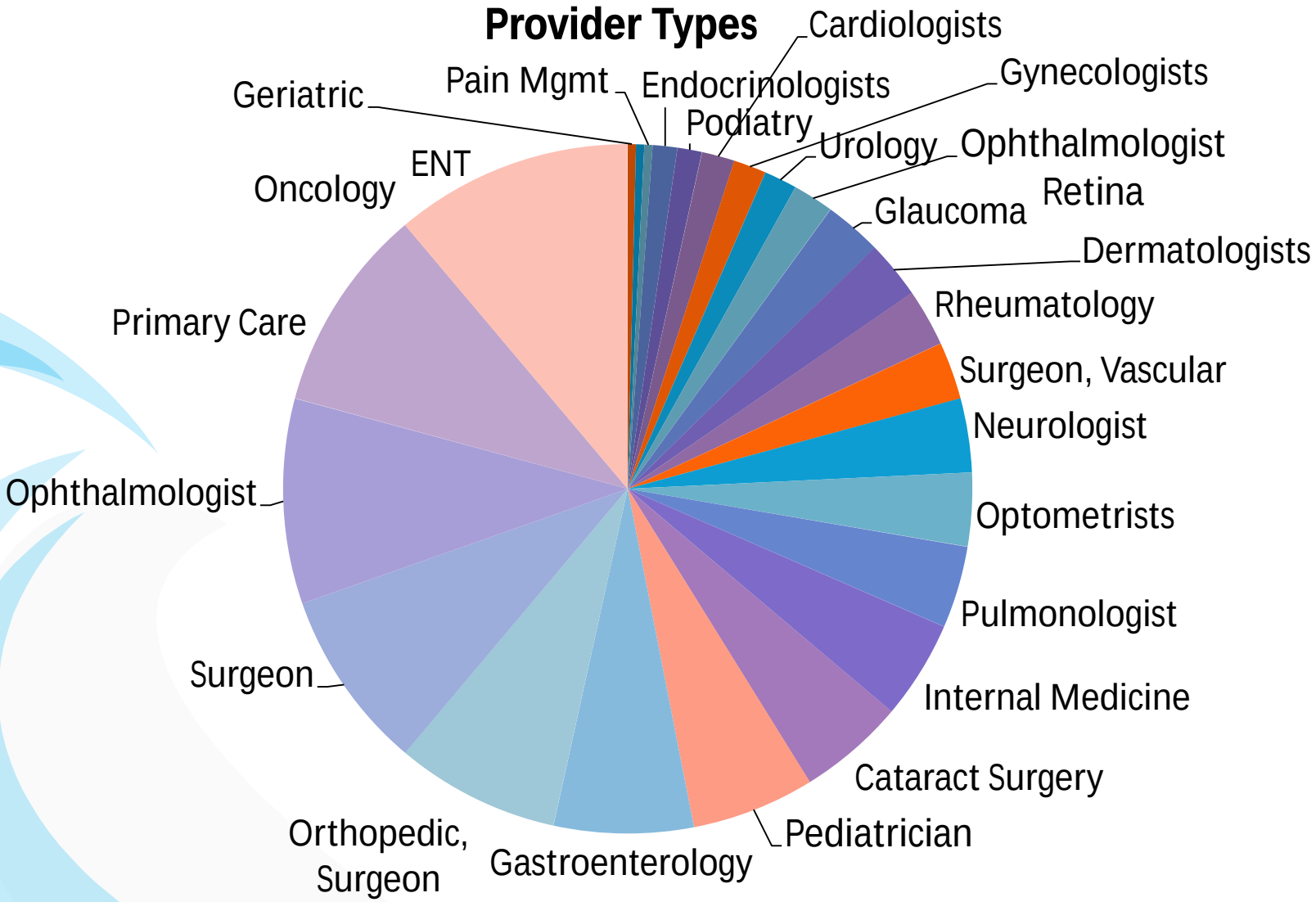
4. Summary Conclusions and Acknowledgments

2016 Florida Ambulatory HIE Study

- From May – December 2016, Connecting Healthcare® studied three major geographic markets in Florida to determine the extent to which ambulatory healthcare providers were
  1. Leveraging an Electronic Health Record (EHR)
  2. Participating in Meaningful Use (MU)
  3. Engaging in any electronic health transactions
  4. Leveraging DIRECT messaging
  5. Engaging community relationships to "connect" electronically
- Methodology was to "interview" and "document" referral and transition of care relationships of volunteer "anchor" providers in the following communities based on reported DIRECT message usage and adoption data from the Florida-HIE [1]
  - Jacksonville/North Florida
  - Miami/South Florida
  - Tampa and Sarasota/West Florida

[1] http://www.fhin.net/kms/graphs/dmcoverage.shtml

260 Florida Physicians Documented

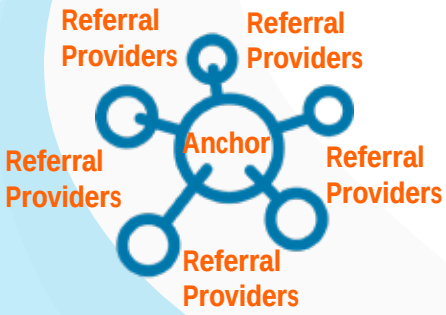


HIESuccess Interview Methodology

Relationship Management

Step 1 - Capture Anchor Physician Connection Information

a) Obtain organization information and MU HIE reporting measures
b) Complete a provider technology environmental scan/questionnaire
c) Establish Anchor Physician Roadmap Relationships list



Step 2 – Research Roadmap Relationships

a) Verify EHR in CH EHR List and ONC CHPL
b) Validate Anchor and Referral providers in HIESuccess Florida Provider Database
c) Research Providers on Roadmap - gather supplemental information, Internet research & provider resources

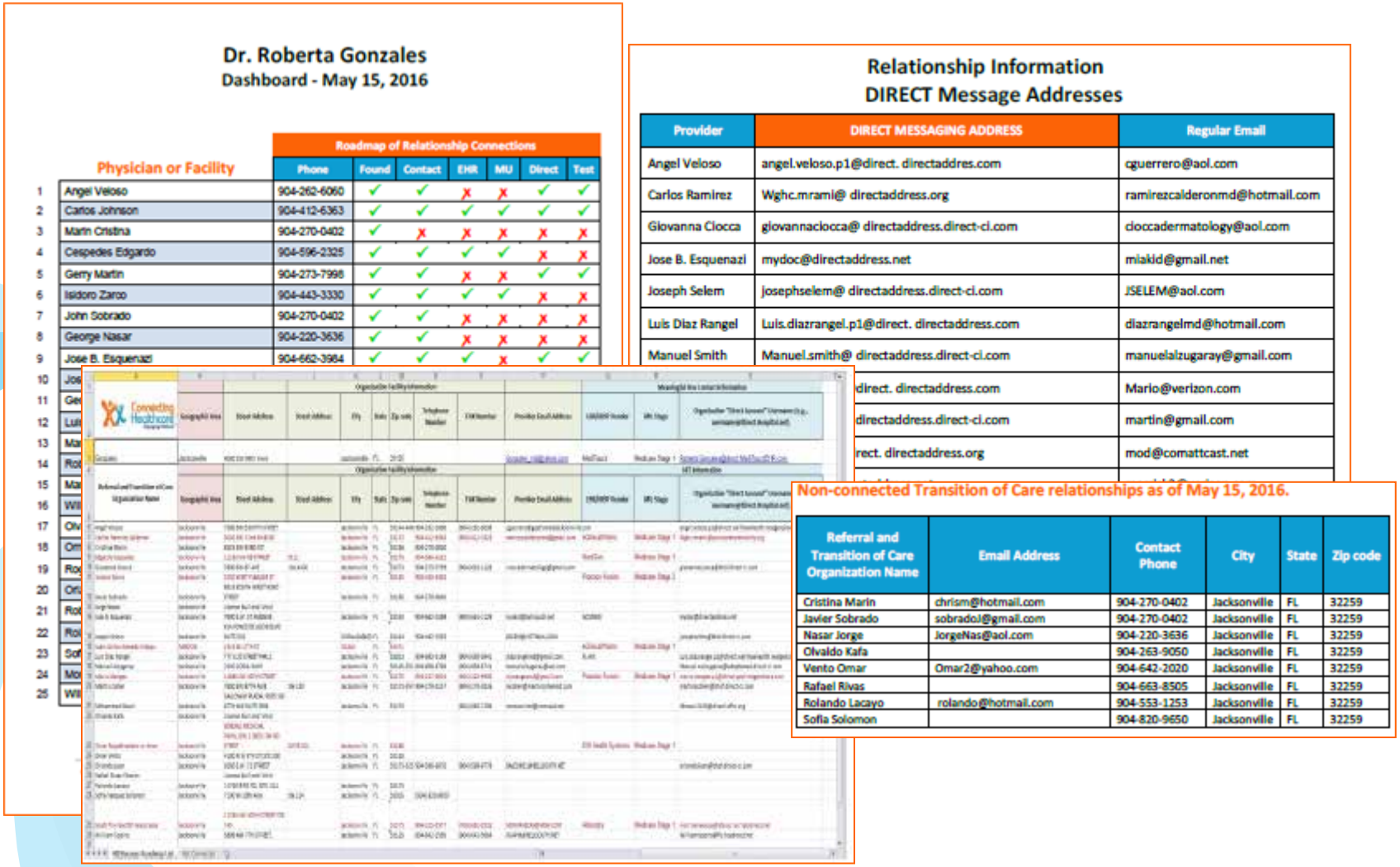
Step 3 - Outreach to Providers on Anchor Roadmap of Relationships

a) Execute Provider Outreach Checklist for engagement and communications (emails, faxes and phone calls)
b) Contact EHR/MU Lead on referral roadmap and determine HIE ability
c) Document capability and DIRECT address information if existing & coordinate test

Step 4 – HIE Roadmap Report and Documentation

a) HIE Roadmap results and analysis of connections
b) Establish Anchor Roadmap of Connections Summary Report
c) Finalize outreach results and Connectivity Roadmap detail - templates and worksheets used

HIESuccess Interview Documentation [2]



Dr. Roberta Gonzales
Dashboard - May 15, 2016

	Physician or Facility	Roadmap of Relationship Connections						
		Phone	Found	Contact	EHR	MU	Direct	Test
1	Angel Veloso	904-262-6060	✓	✓	✗	✗	✓	✓
2	Carlos Johnson	904-412-6363	✓	✓	✓	✓	✓	✓
3	Martin Cristina	904-270-0402	✓	✗	✗	✗	✗	✗
4	Cespedes Edgardo	904-596-2325	✓	✓	✓	✓	✗	✗
5	Gerry Martin	904-273-7998	✓	✓	✗	✗	✓	✓
6	Isidoro Zarco	904-443-3330	✓	✓	✓	✓	✗	✗
7	John Sobrado	904-270-0402	✓	✓	✗	✗	✗	✗
8	George Nasar	904-220-3636	✓	✓	✗	✗	✗	✗
9	Jose B. Esquenazi	904-662-3984	✓	✓	✓	✗	✓	✓

Relationship Information
DIRECT Message Addresses

Provider	DIRECT MESSAGING ADDRESS	Regular Email
Angel Veloso	angel.veloso.p1@direct. directaddres.com	cguerrero@aol.com
Carlos Ramirez	Wghc.mrami@ directaddress.org	ramirezcalderonmd@hotmail.com
Giovanna Ciocca	giovannaciocca@ directaddress.direct-ci.com	cioccadermatology@aol.com
Jose B. Esquenazi	mydoc@directaddress.net	miakid@gmail.net
Joseph Selem	josephselem@ directaddress.direct-ci.com	JSELEM@aol.com
Luis Diaz Rangel	Luis.diazrangel.p1@direct. directaddress.com	diazrangelmd@hotmail.com
Manuel Smith	Manuel.smith@ directaddress.direct-ci.com	manuelalzugaray@gmail.com
	direct. directaddress.com	Mario@verizon.com
	directaddress.direct-ci.com	martin@gmail.com
	rect. directaddress.org	mod@comattcast.net

Non-connected Transition of Care relationships as of May 15, 2016.

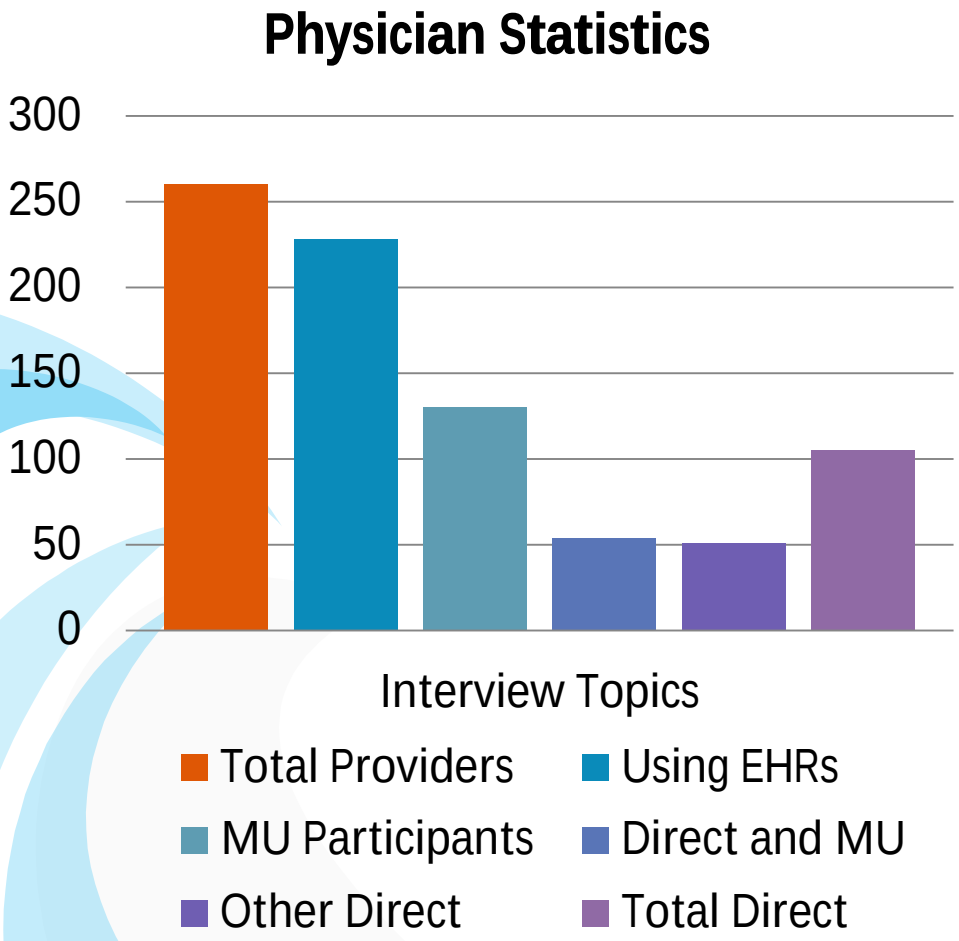
Referral and Transition of Care Organization Name	Email Address	Contact Phone	City	State	Zip code
Cristina Marin	chrism@hotmail.com	904-270-0402	Jacksonville	FL	32259
Javier Sobrado	sobradoJ@gmail.com	904-270-0402	Jacksonville	FL	32259
Nasar Jorge	JorgeNas@aol.com	904-220-3636	Jacksonville	FL	32259
Olvaldo Kafa		904-263-9050	Jacksonville	FL	32259
Vento Omar	Omar2@yahoo.com	904-642-2020	Jacksonville	FL	32259
Rafael Rivas		904-663-8505	Jacksonville	FL	32259
Rolando Lacayo	rolando@hotmail.com	904-553-1253	Jacksonville	FL	32259
Sofia Solomon		904-820-9650	Jacksonville	FL	32259

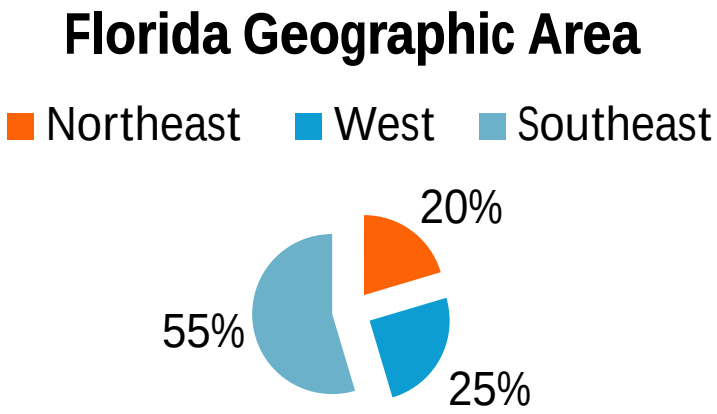
[2] http://www.connectinghealthcare.com/HIE_edu.shtml

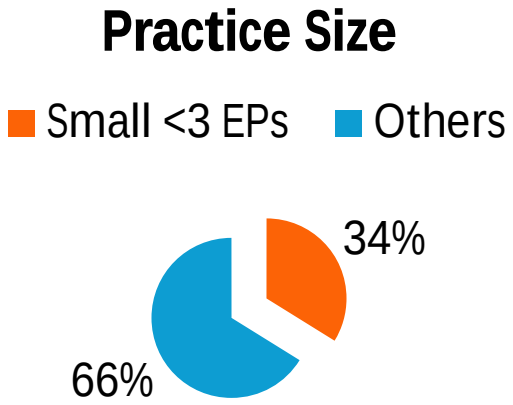
Study Challenges and Obstacles

- Even though all outreaches and communications were on behalf of the anchor participant physicians – it still **proved difficult to engage** referral practices even when outreaching as one of **their referral partners**
- Attempts to leverage email and fax communications for the initial referral practice outreaches were not successful
  - **Email** yielded **< 4%** response (still resulted in many follow-up calls)
  - **Fax** yielded **< 11%** response
- Phone calls were ultimately successful but time and labor intensive
  - **Outreaches** averaged **4.5 calls** a practice and varied greatly in length
  - Difficulty in identifying and reaching knowledgeable staff led to extra calls
  - **Low levels** of staff **understanding** of **health information exchange** even among practices participating in Meaningful Use (MU)
    - Often resulted in "on-the-fly" and "mini-education" sessions to accomplish study objectives
  - **Systematic apathy regarding** the **HIE** opportunity and engaging community and referral relationships to exchange clinical information electronically

Study Key Metrics

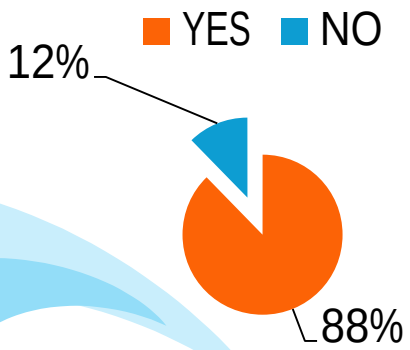




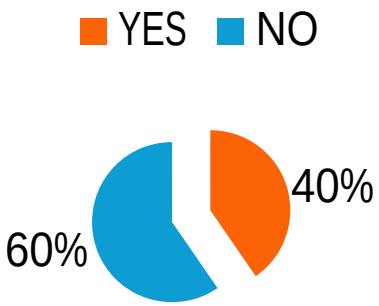


Physician Adoption Dashboard

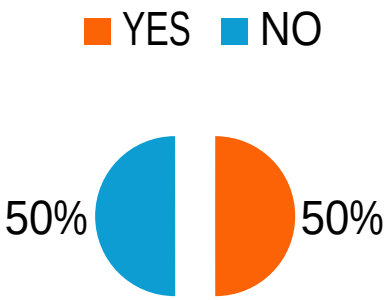
Adopted EHR



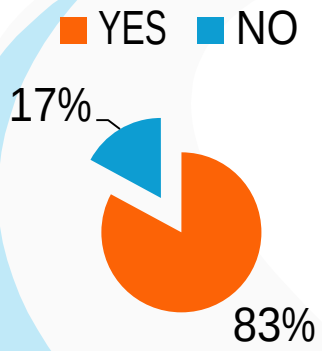
Have DIRECT



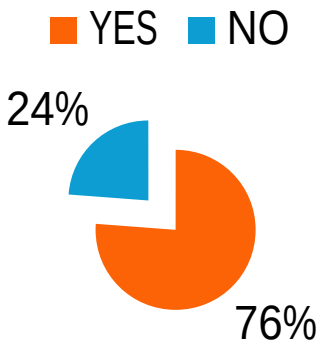
MU Participant



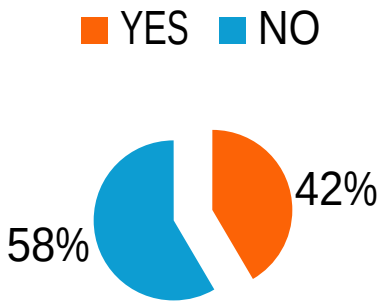
Certified EHR



DirectTrust HISP



MU and DIRECT



Metrics Not Reported - Other HIE

- Interviewers inquired about **other** forms of **health information exchange (HIE)** and clinical data access
  - **No practices** reported use of query-based exchange for clinical information (as best as that could be explained and comprehended)
  - **One** (1) practice reported **using** the **Florida-HIE**
    - Direct Messaging Service (DMS) Impriva Portal
  - Other forms of HIE identified included
    - Electronic Prescribing
    - Immunizations
    - Lab results
  - Other forms of clinical data access that were noted
    - Hospital or delivery system remote access (limited use)
    - The Florida SHOTS™ - Immunization Online portal (limited use)
    - E-FORCSE – Florida Prescription Drug Monitoring Program portal (limited use)

Metrics Not Reported - Testing Results

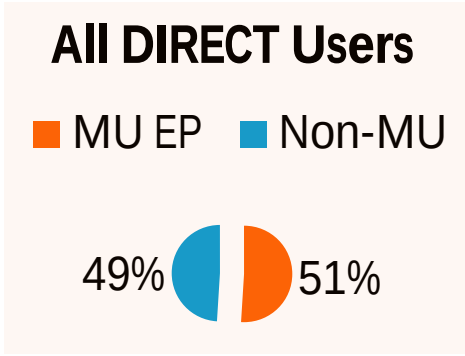
- **DIRECT Testing**
  - An initial **objective** for interviewed referral relationship providers with DIRECT, was **to initiate a TEST** message with the anchor physician
    - Within the first few months of the study this **effort had to be abandoned** because it was proving more time consuming than the study itself
  - Many **providers** were **not able** to successfully **test outside** their **Vendor**
    - Even when the anchor provider and the relationship provider were using DirectTrust HISPs – few positive tests were achieved
    - Providers had **NO knowledge or understanding of Message Disposition Notifications (MDNs)** and had great difficulty trying to determine how to resolve and inspect messages that were not successfully transmitted
  - Vendors in general provided poor support and problem resolution
    - Much frustration with time required to "figure-out" DIRECT to initiate and coordinate testing with other practices
    - Most often providers simply abandoned testing effort after several weeks

Insights and Observations - Limited Solutions

- While **40%** of all **physicians** interviewed **had DIRECT** messaging or at least access to it – **FEW** were **leveraging DIRECT**
- Almost all ambulatory provider DIRECT use was in the context of Meaningful Use (MU) and Transitions of Care (ToC) – *pressing the magic MU button*
  - Most Vendor DIRECT implementations appeared to be designed for the opportunity of narrowly focusing on recording the HIE metric for MU
  - Many **systems** provided **limited** flexibility in the timing of when transitions of care were sent and some assumed only one same day interaction
    - Circumstances often require attaching more than CCDAs and different referral providers downstream with multiple transition of care settings
    - **CCDAs vary greatly** across EHR implementations and **have yet to be** widely implemented, **used or valued** as supporting clinical documentation
    - Providers continue to expect current referral and transition of care clinical information and documentation (mostly non-structured reports and data)
  - **Limited** flexibility, **capability** and support for DIRECT use **outside** of **ToC**
- Few providers seemed concerned about DIRECT message delivery success and ***almost all continued to fax information simultaneously***

Insights and Observations - Limited Use

- Only **42% of the MU** participating eligible professionals (EPs) **had** a **DIRECT address** and very limited knowledge about it – even for ToC
- One of the biggest challenges and consistent complaints for those trying to use DIRECT was the **lack** of **training** and the **ability** to **find** other **providers** with which to exchange DIRECT clinical information
  - One of Florida's largest ambulatory EHRs is not a member of DirectTust
- Vendor DIRECT Directories and connections to other HISPs seemed limited and included primarily only providers on same HISP or EHR
  - **Limited** flexibility and **opportunity** for discovering and **connecting** with other **providers** who have DIRECT implementations
- The **majority** of **Non-MU** providers that **had DIRECT** received capability from affiliated health systems
  - Most had never used the account
  - This was a factor in the difficulty of testing



"Anchor Participant" Physician Perspective

C. Christopher Pittman, M.D.

Dr. Pittman is Medical Director and CEO of Vein911®. He practices minimally invasive vein care in the Tampa Bay area and has been active in medical politics for over 25 years. Sought-after speaker, consultant, and thought leader with HIT public policy expertise and broad experience with EMR, Health Information Exchange (HIE), Telemedicine, and Medical Imaging Informatics. He is a promoter of telemedicine and HIE adoption, growth and control by physicians while seeking optimal collaboration among telemedicine and HIE stakeholders including patients, physicians, hospitals, insurers and vendors.

- Past President, Florida Medical Association Political Action Committee
- Past Chair, Florida Medical Association Advisory Committee on Health Care Information Technology
- Member and Past Vice-Chair, Florida Medical Association Council on Medical Economics and Health Care Delivery Innovation
- Member, Florida Medical Association Board of Governors
- Past President, Hillsborough County Medical Association

"Walt, thanks. I don't even know how I would send a message!

This really speaks to how EMRs have no interest in information exchange. Silos seem to rule.

If I am struggling like this and I am very motivated to do this, a rank and file physician does not have a chance…"

– Chris Pittman, M.D., Vein911® Medical Director & CEO

"Anchor Participant" Physician Perspective

Janet A. Betchkal, M.D.

Dr. Betchkal practices in Jacksonville Florida. After completing her Fellowship in 1989, she spent eight years at UF Health and has worked in private practice for over twenty years based out of St. Vincent's Hospital, focusing exclusively on Glaucoma. Unlike many of her medical colleagues, Dr. Betchkal was anxious and excited about the transition to a fully integrated EHR system. Over the course of many months, Dr. Betchkal researched the various systems available, hired staff with the end goal in sight , embraced the technology and eventually made the successful transition on July 30, 2012. There was a necessarily learning curve, however, Dr. Betchkal and her staff have never regretted the decision to abandon the old paper charts in favor of the new technology.

- Board of Directors for the Florida Society of Ophthalmology
- Past-President or the Florida Society of Ophthalmology
- Secretariat for State Affairs (SSA) Committee and the OPHTHPAC Committee for the American Academy of Ophthalmology
- Past-Chairman for the Department of Ophthalmology at the University of Florida Health, Shands Hospital
- Winner of the 2015 'John R. Brayton, Jr., MD, Annual Leadership Award' recognizing a Florida-based ophthalmologist who exemplifies leadership and dedication to the profession

"Since successfully adopting an EHR throughout my practice, one of our most profound challenges continues to be securely sharing information with my colleagues electronically. Many of us are Meaningful Use participants with Direct messaging, yet we cannot seem to successfully exchange secure email."

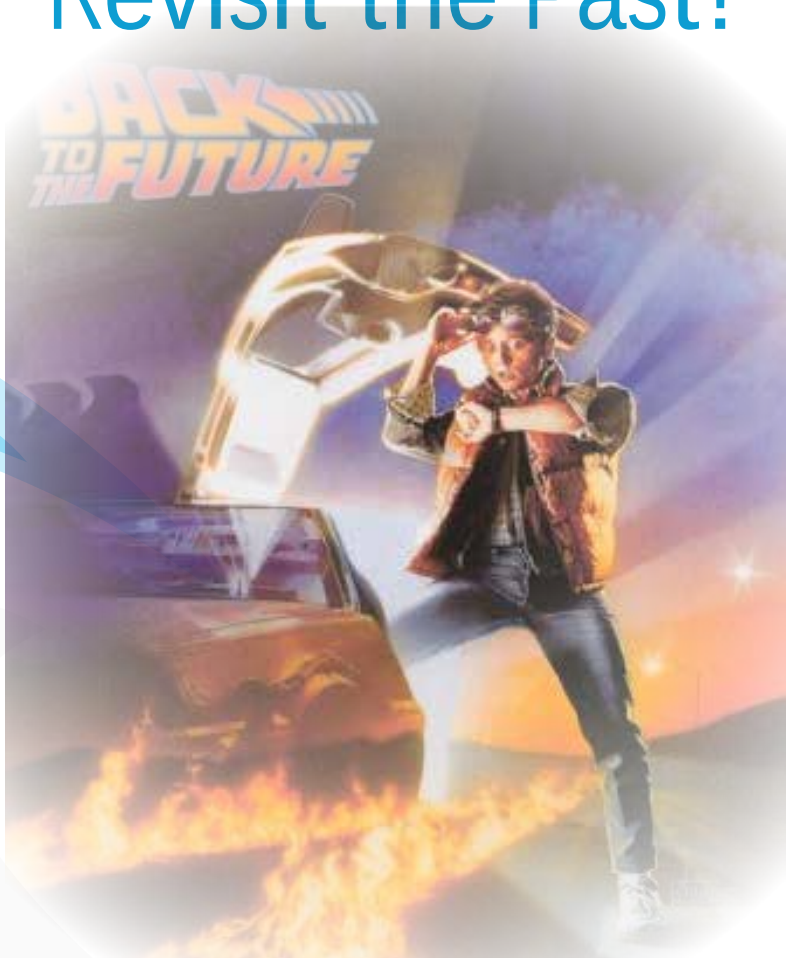
– Janet A. Betchkal, M.D., P.A.

Salient Study Points

- **Providers continue** to **rely** almost completely **on fax** communications
- Ambulatory provider **query-based** exchange in Florida is almost **nonexistent** and few local community efforts appear to be ongoing
- **Florida** has **lost significant ground** since the early days of the Florida-HIE (2011 – 2013) with **DIRECT** adoption and **use**
- Most vendors have not enabled DIRECT's full capabilities and have narrowly focused their implementations on Meaningful Use (MU) with limited training
- Early efforts among those who have attempted HIE with much investment and little results – has disheartened many within the healthcare community
- HOWEVER, **DIRECT** has been more **widely deployed** (40%) than originally expected even among non-EHR and MU providers
- **OPPORTUNITY** exists to **refocus** DIRECT **solutions** for success
  - Remarket **DIRECT** "*The **Swiss Army Knife of HIE***" good for MIPS & more
  - Help connect providers that MU missed and get those on MIPS using it
  - **GET-OFF-THE-FAX** with DIRECT campaign

How to Move Forward?

Revisit the Past!



The Florida-HIE **DIRECT** Story

Florida was an Early Adopter of DIRECT

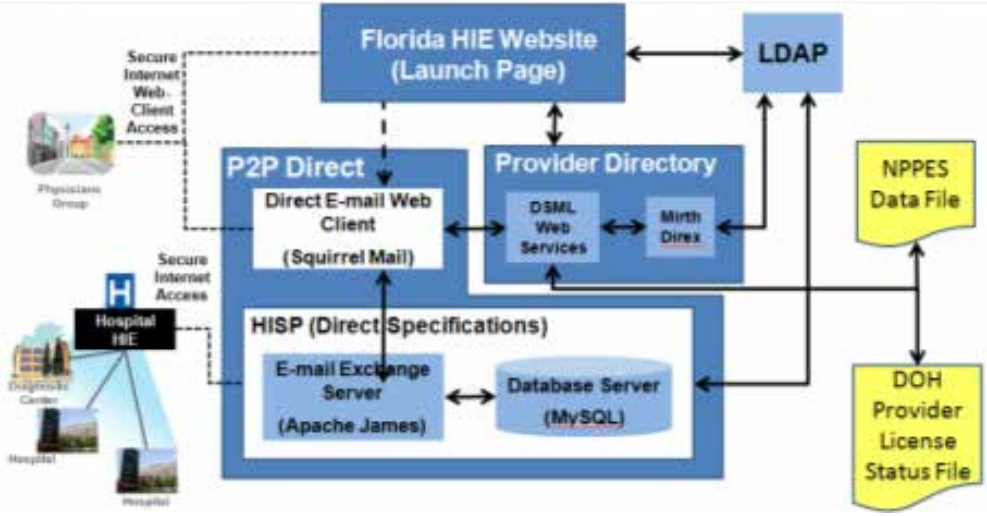
- The Florida Agency for Healthcare Administration (AHCA) executed a contract with Harris Corporation on February 2, 2011 to build and operate the Florida Health Information Exchange[3]
  - Initially funded from a state cooperative agreement with ONC
- The **first service completed** and made available to the Florida community was **Direct Secure Messaging (DSM)** in **July 2011**[4]
- The Florida-HIE strategy was to **pave** a Florida **health-e-highway** by **freely providing DSM** to **ALL** qualified healthcare **providers**
  - Health plans and other HIE service fees expected to cover the costs

Ambulatory Surgical Centers	Certified Nurse Midwives
Clinical Laboratories	Chiropractic Physicians
Community Mental Health Centers	County Health Departments
Department of Health	Dental Practices
Hospices	Nurse Practitioners/Skilled Nursing Facilities
Federally Qualified Health Centers	Ophthalmology/Optometry Practices
Hospitals	Physicians (Allopathic and Osteopathic)
Nursing Home Facilities	Pharmacies
Rural Health Clinics	Health Plans (for a fee)

[3] https://www.healthit.gov/sites/default/files/plan-summary-fl.pdf

Florida-HIE Self Developed its DIRECT HISP

- In early **2011** the **Florida-HIE pioneered** one of the first generation of HISPs leveraging the **DIRECT** specification[4] created by The Office of the National Coordinator for Health Information Technology (**ONC**)



- Objective was a **highly efficient** and **scalable** application and operation supporting **large volumes** of users **cost effectively**
- Goal was to quickly **achieve a critical mass** of DIRECT use

[4] https://www.harris.com/press-releases/2011/08/florida-health-information-exchange-goes-live-with-harris-direct-secure

Collaboration and Engagement Model

- **Outreach** and rollout strategy **focused** on targeting organizations within specific communities and regions starting with **education**
- Organizations and areas identified as ready and highly interested in using DIRECT were on-boarded first
- **Clustered Geographic Implementations** in phased approach making adoption relevant building towards a tipping point
  - Encourage those connecting to connect their relationships
  - Engage local hospital systems
- Close **collaboration** with Florida's four (4) **Regional Extension Centers**

Florida-HIE DSM Targeted Alliances

Florida Department of Health
Florida Hospital Association
Florida Medical Association
Florida Academy of Family Physicians
Florida Osteopathic Medical Association
Florida Chiropractic Association
Florida Nurse Practitioner Network
Florida Dental Association
Florida Podiatric Medical Association
Florida Association of Homes and Services for the Aging
Florida Coalition of Professional Laboratory Organizations
Florida Pharmacy Association
Florida Health Plan Association
Regional Extension Centers

Regional State Collaboration SERCH Model

- **Florida** actively participated in the **ONC** State Health Policy Consortium Southeast Regional HIT-HIE **Collaboration** (**SERCH**)[5]
- The goal of SERCH was to consider common regional solutions for health IT and HIE and how the Southeast region might solve interstate issues and pool resources and solutions to stretch dollars
- In **2010**, a subset of the SERCH group, including Alabama, Arkansas, Georgia, Florida, Louisiana, and Texas were funded through ONC to examine the legal, governance and technical issues of **HIE during disaster** situations and to develop a **framework**[5] for States to review and assess legal and technical infrastructures
- The **Florida-HIE extensively executed** the SERCH blueprint and judiciously engaged regional provider, vendor and HIE relationships to leverage and connect with **DIRECT**

[5] https://www.healthit.gov/sites/default/files/pdf/SERCH-White-Paper.pdf

Florida Collaboration and Engagement Lead the Nation in 2013

- Working with SERCH, an **aggressive schedule** was established to expedite **FL connections** with other ONC State Cooperative Agreement Program HIEs[6]
  - Established model agreements
  - Orchestrated meetings and agenda
  - Managed testing and trust anchors
  - Trust Bundle and Directory Projects
- **Three-phase engagement** plan
  1. Initial outreach emphasized urgency of disaster preparedness and coastal and “snow-bird” state opportunities
  2. Connect, promote and gain utilization
  3. Continually expand DIRECT Use Cases

11 – State HISPs Connected

1 – Final Testing in Progress

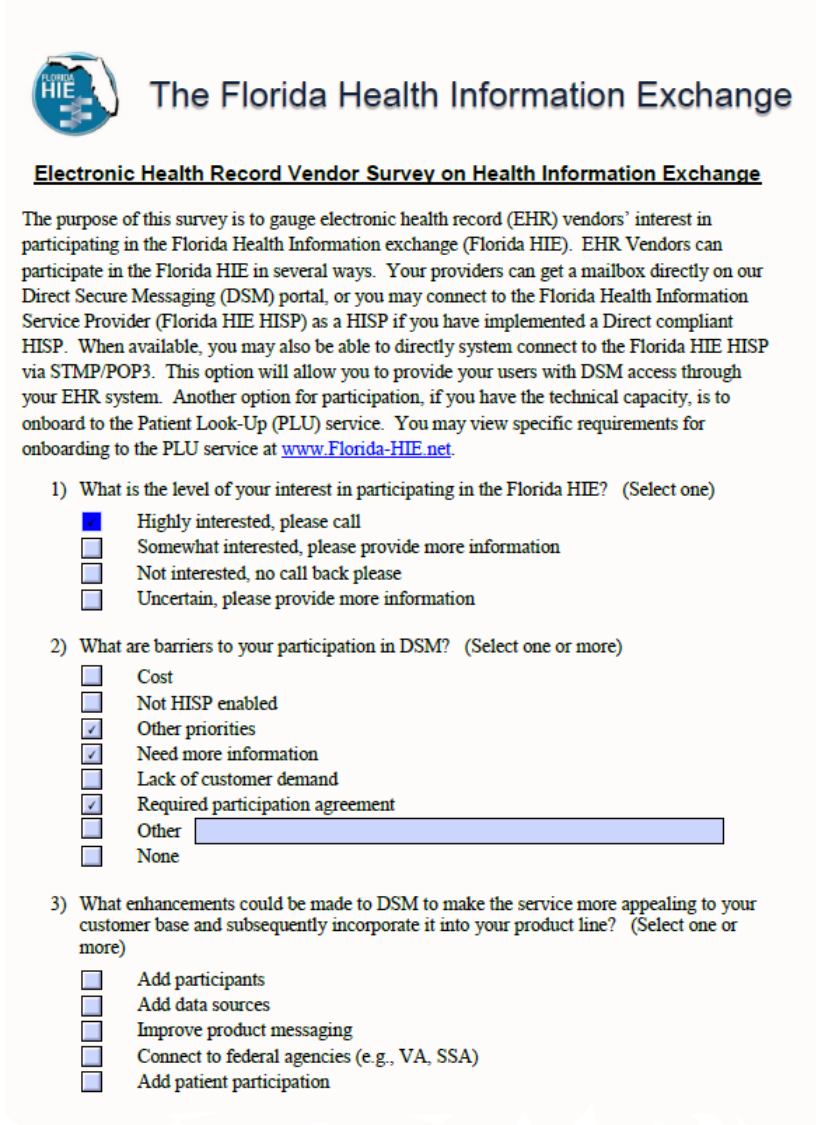
10 – Connections in Progress

Snapshot of Florida-HIE Connections as of December 2013[6]

[6] http://www.fhin.net/committeesAndCouncils/docs/hiecc/Mar714/tabF/QuarterlySlides.pdf

Vendor Engagement and Collaboration

- The Florida-HIE **actively promoted services** and solicited input from HIE and EHR **vendors**
- Viewed **partnerships** as **win-win** opportunity given lack of HIE
  - Limited EHR vendor DIRECT capability and few HISPs existed
- Florida pursued the early interpretation that MU Stage 2 ToC messages could be launched from a DIRECT portal
- Given vendor interest, Florida-HIE proposed to **build** an **API** to automate HISP services and **establish** a DIRECT **Directory** or **"phone book"** of **addresses**



The Florida Health Information Exchange

Electronic Health Record Vendor Survey on Health Information Exchange

The purpose of this survey is to gauge electronic health record (EHR) vendors' interest in participating in the Florida Health Information exchange (Florida HIE). EHR Vendors can participate in the Florida HIE in several ways. Your providers can get a mailbox directly on our Direct Secure Messaging (DSM) portal, or you may connect to the Florida Health Information Service Provider (Florida HIE HISP) as a HISP if you have implemented a Direct compliant HISP. When available, you may also be able to directly system connect to the Florida HIE HISP via STMP/POP3. This option will allow you to provide your users with DSM access through your EHR system. Another option for participation, if you have the technical capacity, is to onboard to the Patient Look-Up (PLU) service. You may view specific requirements for onboarding to the PLU service at www.Florida-HIE.net.

1) What is the level of your interest in participating in the Florida HIE? (Select one)

- [x] Highly interested, please call
- [ ] Somewhat interested, please provide more information
- [ ] Not interested, no call back please
- [ ] Uncertain, please provide more information

2) What are barriers to your participation in DSM? (Select one or more)

- [ ] Cost
- [ ] Not HISP enabled
- [x] Other priorities
- [x] Need more information
- [ ] Lack of customer demand
- [x] Required participation agreement
- [ ] Other
- [ ] None

3) What enhancements could be made to DSM to make the service more appealing to your customer base and subsequently incorporate it into your product line? (Select one or more)

- [ ] Add participants
- [ ] Add data sources
- [ ] Improve product messaging
- [ ] Connect to federal agencies (e.g., VA, SSA)
- [ ] Add patient participation

Critical Use Case Engagement Beyond ToC

- In addition to connecting with other State HIEs and negotiating with vendors, the Florida-HIE determined to further accelerate adoption and achieve a tipping point by **promoting** other **"critical mass" Use Cases** beyond Meaningful Use and Transitions of Care (ToC)
  - **Secure email for ANY healthcare purpose** (**Get-Off-The-Fax** Campaign)
    - Structured (HL7/CCDA) and unstructured text (PDFs, reports, images)
    - Target Non-MU providers to "catch" DIRECT messages from EPs
    - Health Plan engagement - clinical & administrative data (e.g. X12N)
  - Consult requests, notes and reports between physicians and dentists
  - Clinical Reference Laboratory results delivery
  - Pharmacy (MTM, Medication Reconciliation, adjunct eRx messaging)
  - Federal and State Public Health Reporting
    - Department of Health (e.g. Reportable Labs & Newborn Screenings)
  - Disaster "Preparedness and Response" and emergency team capability
  - **Focus on connecting** rural and metropolitan **Florida communities**

Disaster Preparedness Use Case

- Organized State-to-State efforts with SERCH to **identify key data sources** and engage critical healthcare stakeholders
- Organized **"call to action"** to **connect**[7]
- **Implement DIRECT** for health care disaster planning, response, recovery and post-disaster evaluation working within the National Response Framework
- Early focus on "response" Use Case[7]
  - Dislocated or injured patient presents to triage or neighboring state emergency department
  - Rendering EMT, provider or facility sends DIRECT message to command, provider, pharmacy or health plan
  - Any clinical information obtained is returned via DIRECT message in structured or unstructured format

[7] https://www.youtube.com/watch?v=zzm7KobJSpQ&t=8s

Labs Over DIRECT Use Case

- **Parallel tracks** of Lab **outreach** and **engagement**
  - Hospital, Independent, National
  - Active leadership in **ONC Lab CoP**[8]
- Early focus on the National Labs
  - LabCorp and Quest Diagnostics
- Obtain a mailbox on Florida-HIE DSM or connect HISP to HISP
  - Enable Lab's to allow providers to request copies of Lab Result Reports to be sent via DIRECT
  - Both PDF report and structured HL7
- **First in the nation to partner with Quest Diagnostics in August 2012**[9]
  - **Connected 11,000** Quest Care360® providers throughout Florida

HEALTHCARE BUSINESS ALLIANCE

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Healthcare News September 10, 2012 [9]

Posted by Healthcare Business Alliance on September 10, 2012 | No Comments

- Harris Corporation Announces Agreement to Expand Florida's HIE Secure Messaging Service to 11,000 Physician Offices Utilizing Care360 from Quest Diagnostics

A first-of-its-kind agreement will significantly expand the breadth of services offered by the Florida Health Information Exchange (HIE) to more than 11,000 physician offices in Florida. Just announced, the Care360 suite of solutions from Quest Diagnostics will be the first technology vendor to partner with the Florida HIE, through Harris Corporation, to offer services for the exchange of clinical data among providers.

The new partnership will help improve the delivery and coordination of healthcare and continue the progress toward increasing the use of a statewide HIE. The four-year contract will connect hospitals, physicians, payers and pharmacies and allow for bi-directional communication among physicians. Users will now be able to securely send referrals, provider-to-provider messages, and exchange patient health information such as health histories, results, medication histories, lab results, problem lists and other clinical data.

Highlights

- Expands Florida's Health Information Exchange (HIE), enabling providers to exchange data with other providers.
- Harris' Direct Secure Messaging Services enables participants to securely send encrypted health information over the Internet.
- Integrates Florida HIE with Quest Diagnostics' Care360 suite of solutions that provides physicians with online lab testing, e-prescribing, clinical messaging and clinical documentation.

MELBOURNE, FL/WASHINGTON, August 14, 2012 – Harris Corporation (NYSE:HRS), an international communications and information technology company, today announced a first-of-its-kind agreement with Quest Diagnostics that will significantly expand the breadth of services offered by the Florida Health Information Exchange (HIE). Harris was awarded a four-year contract with the Agency for Healthcare Administration in 2010 to implement a statewide HIE infrastructure in Florida that will improve the delivery and coordination of health care.

The technology framework provided by the Florida HIE allows participating healthcare providers to securely access and send patient health information to authorized participants. The latest agreement calls for Harris to integrate its Direct Secure Messaging Services capability with the Care360 suite of solutions from Quest Diagnostics. This will enable the Florida HIE to connect with all users and providers of the 11,000 physician offices in Florida currently using Care360.

[8] http://www.connectinghealthcare.com/Presentations/LabCoPFullMeeting7232012.pdf

[9] http://www.hcballiance.org/healthcare-news-september-10-2012/

Pharmacy Over DIRECT Use Case

- **Leveraged** insights and relationships gained from the successful **ePrescribe Florida**[10] public/private **collaborative** experience (Nov 2006 – Mar 2010)[11]
  - Focus on national and rural pharmacies
- **Recognition** that **e-prescribing** solutions have **limited** capability for **bi-directional** provider to **pharmacy communications**, MTM and Rx reconciliation
  - Pharmacists still reporting many day-to-day errors with electronic prescribing that results in more phone calls, faxes, delays and costs
- **October 2012, Winn-Dixie** became the **first** major **retail pharmacy** chain **to onboard** to the DSM Portal
  - Florida-HIE modified agreements and registration
  - Established Jacksonville as the pilot area
- **June 2013, Surescripts® connected** with the Florida-HIE DSM service HISP-to-HISP

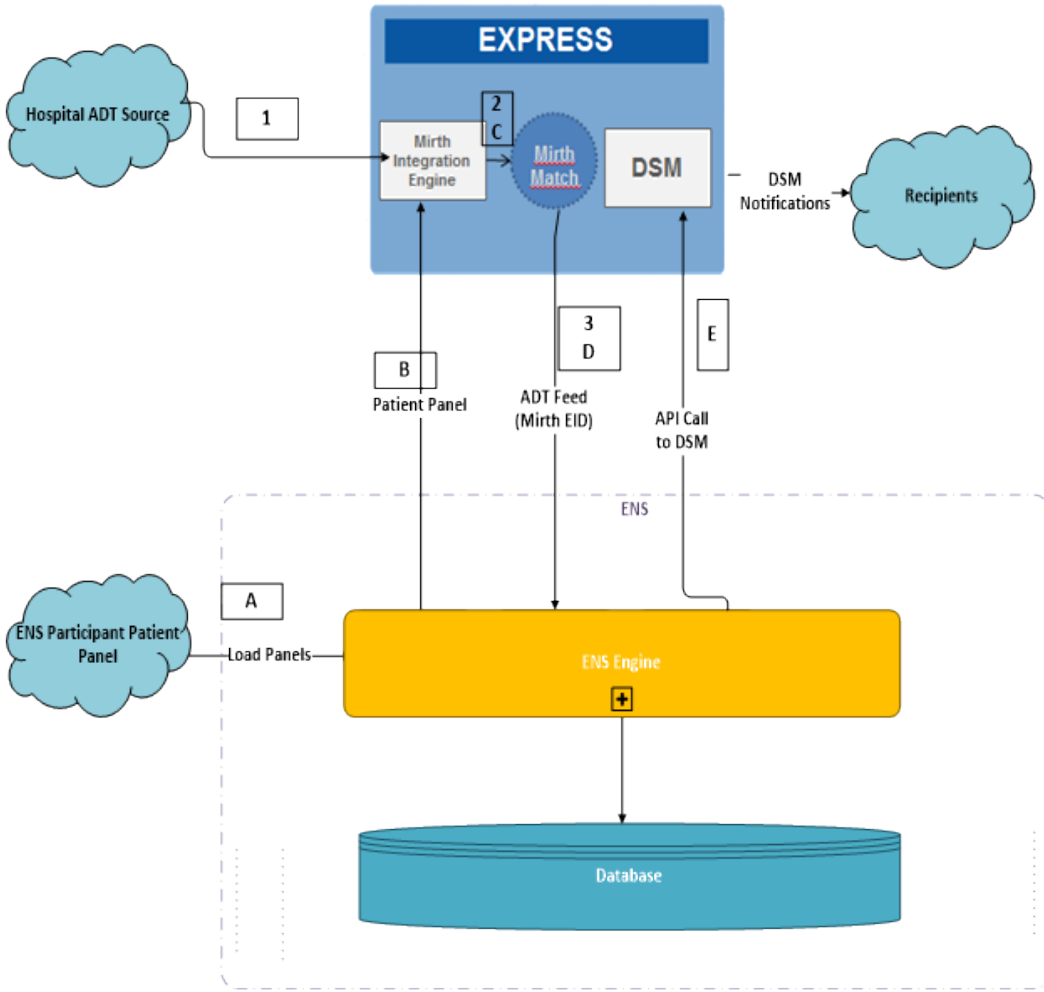
connected to surescripts
The Nation's E-Prescription Network

[10] http://www.healthcareitnews.com/news/florida-e-prescribing-initiative-right-track

[11] https://www.availity.com/documents/newsletter/Availity_e-Focus_2007-10.pdf

ADTs Over DIRECT Use Case

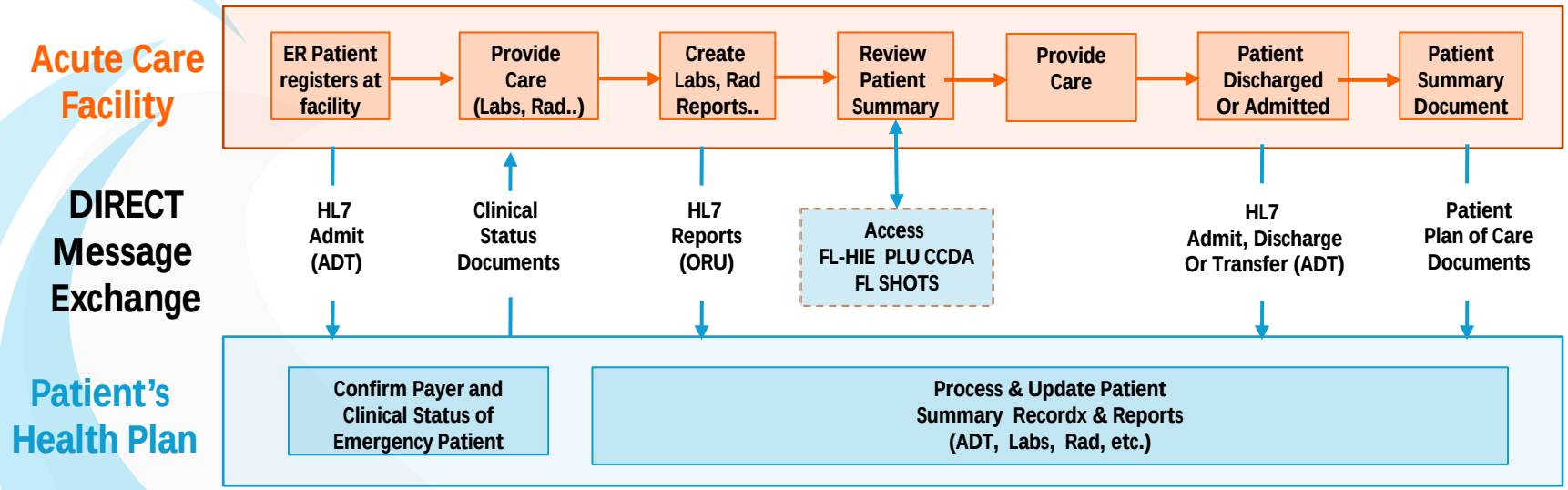
- The Florida-HIE Event Notification Service (ENS) enables hospitals to **share** their admissions, discharges, transfers (**ER visits**) with health plans and ACOs
  - Starting to target other Florida providers and facilities
- Florida-HIE **DIRECT** service is used to **deliver ADT** HL7 **messages** and batches
  - ENS ADTs account for the majority of DSM messages
  - **ENS is the most successful Florida-HIE Service to-date**



Health Plans Over DIRECT Use Case

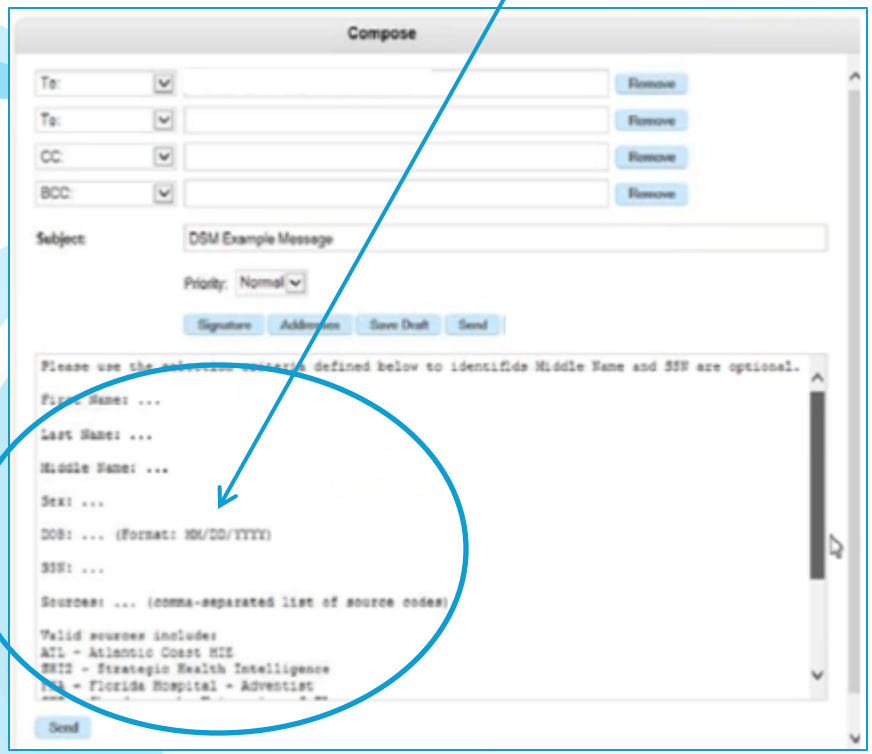
- Actively **engaged** Florida's **payer** community with **DIRECT** opportunity
  - Florida-HIE and DIRECT education and Use Case exploration and research
  - Promoted **DIRECT use** in **paper** and **fax** Payer-to-Provider **communications**
  - Promoted **DIRECT** for **EDI** transactions such as X12N and claims attachments
- Proposed starting with **Acute Care** and **Emergency Response** Use Cases

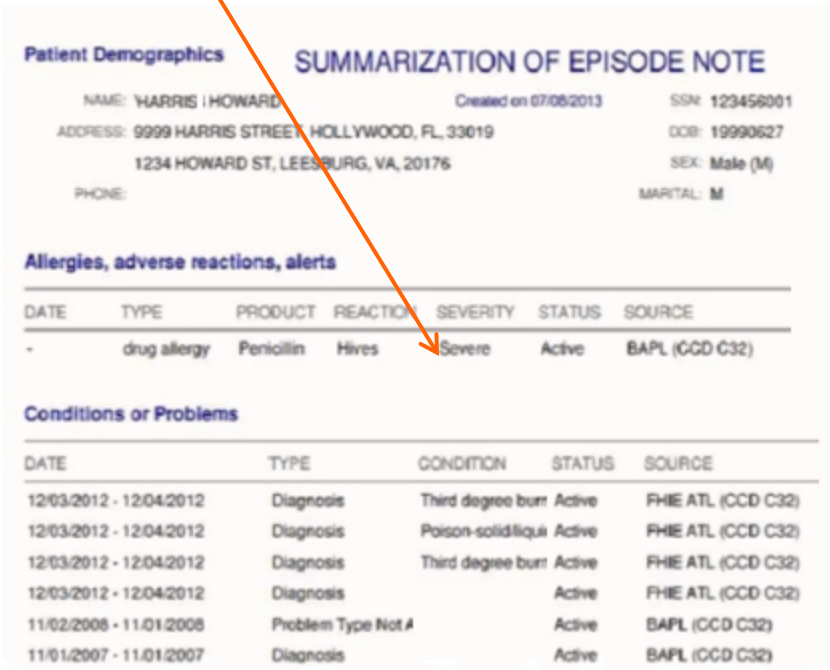
Acute Care to Health Plans over DIRECT Use Case



Hybrid DIRECT to CONNECT Use Case

- **Hybrid solution** allowed providers who were not connected to the Florida-HIE Patient Look-Up (PLU) **CONNECT** (query/pull) service to **obtain patient information** from any participating Florida-HIE PLU node
- Direct Secure Messaging (DSM) was used to transport a completed query request (email template) and receive PDF attachment of results





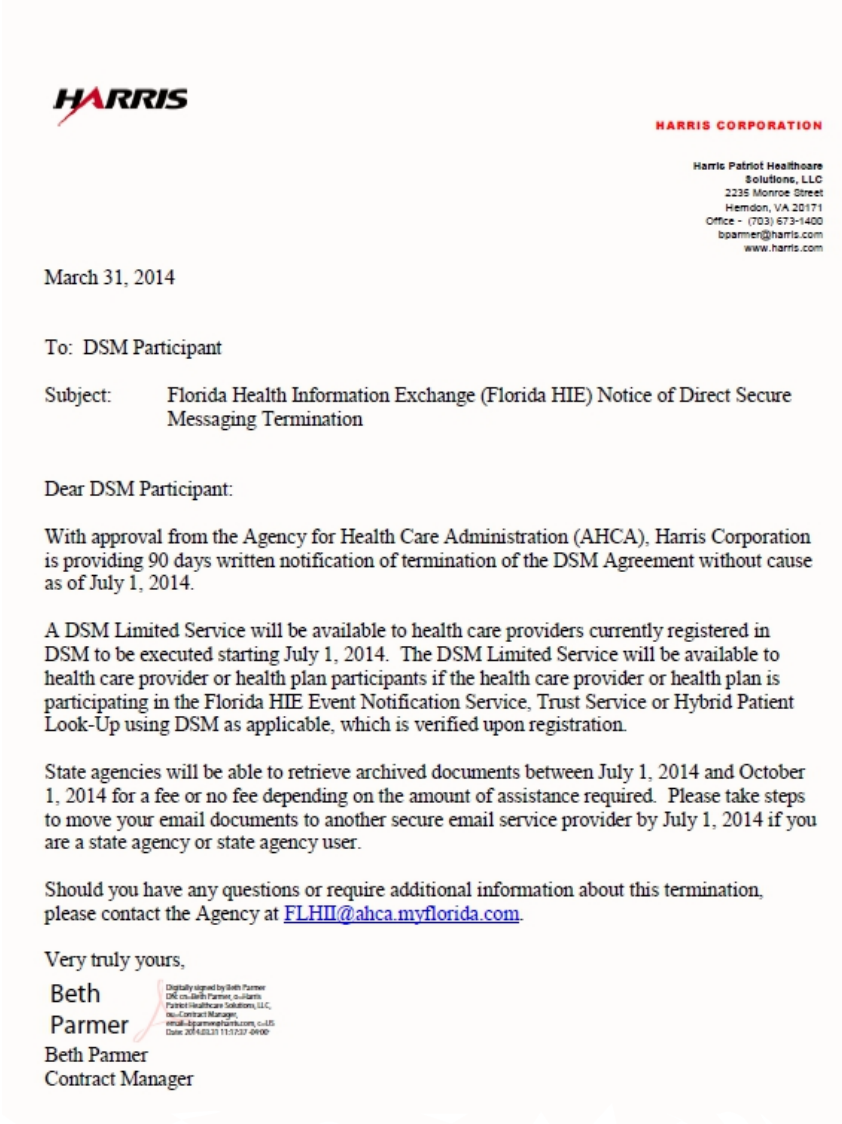
2011-2013 Florida-HIE **DIRECT** Results

- Florida led the nation in connecting with other state HISPs with **11 production** connections, **1 in testing** and **10 more** states in various stages of Onboarding
- End of 2013, the Florida-HIE DSM service had **8,056 registered Florida users**
  - Rolling-out DSM to County Health Departments & Children's Medical Services to partner with hospital staff (referral centers, newborn screening, specialists)
  - Dental, Home Health and Skilled Nursing Facility Use Case outreach underway
- Production DIRECT HISP connections with Quest Diagnostics, SureScripts, IOS Health (EHR vendor), HMA and Wellogic-Alere/Accountable Care Solutions
  - **Quest Diagnostics HISP** connection added an additional **11,000** providers
  - **SureScripts HISP** Connection added an additional **700** provider connections
  - Health Management Associates (HMA), IOS and Wellogic in early stages
- The **Winn-Dixie pilot** program in Jacksonville was proceeding **on-track**
  - Implementing work-arounds to enable all pharmacists/staff at retail locations to address the same physician DIRECT message from shift-to-shift
  - Working to onboard the rest of the Winn-Dixie pharmacies in Jacksonville in early 2014 and then start a regionally based state-wide rollout mid-2014

Success, Adoption and Momentum… **BUT**

Just as the Florida-HIE DSM service was approaching **20,000** user connections in Florida alone - **it all came to a sudden end**

Despite the **extensive efforts** of the Florida-HIE and **Florida** healthcare **community** and the loss of great federal and state **investment** and **support**



HARRIS

HARRIS CORPORATION

Harris Patriot Healthcare Solutions, LLC
2235 Monroe Street
Herndon, VA 20171
Office - (703) 673-1400
bparmer@harris.com
www.harris.com

March 31, 2014

To: DSM Participant

Subject: Florida Health Information Exchange (Florida HIE) Notice of Direct Secure Messaging Termination

Dear DSM Participant:

With approval from the Agency for Health Care Administration (AHCA), Harris Corporation is providing 90 days written notification of termination of the DSM Agreement without cause as of July 1, 2014.

A DSM Limited Service will be available to health care providers currently registered in DSM to be executed starting July 1, 2014. The DSM Limited Service will be available to health care provider or health plan participants if the health care provider or health plan is participating in the Florida HIE Event Notification Service, Trust Service or Hybrid Patient Look-Up using DSM as applicable, which is verified upon registration.

State agencies will be able to retrieve archived documents between July 1, 2014 and October 1, 2014 for a fee or no fee depending on the amount of assistance required. Please take steps to move your email documents to another secure email service provider by July 1, 2014 if you are a state agency or state agency user.

Should you have any questions or require additional information about this termination, please contact the Agency at FLHII@ahca.myflorida.com.

Very truly yours,

Beth Parmer

Digitally signed by Beth Parmer
DN: cn=Beth Parmer, o=Harris Patriot Healthcare Solutions, LLC, ou=Contract Manager, email=bparmer@harris.com, c=US
Date: 2014.03.31 11:17:37 -04'00'

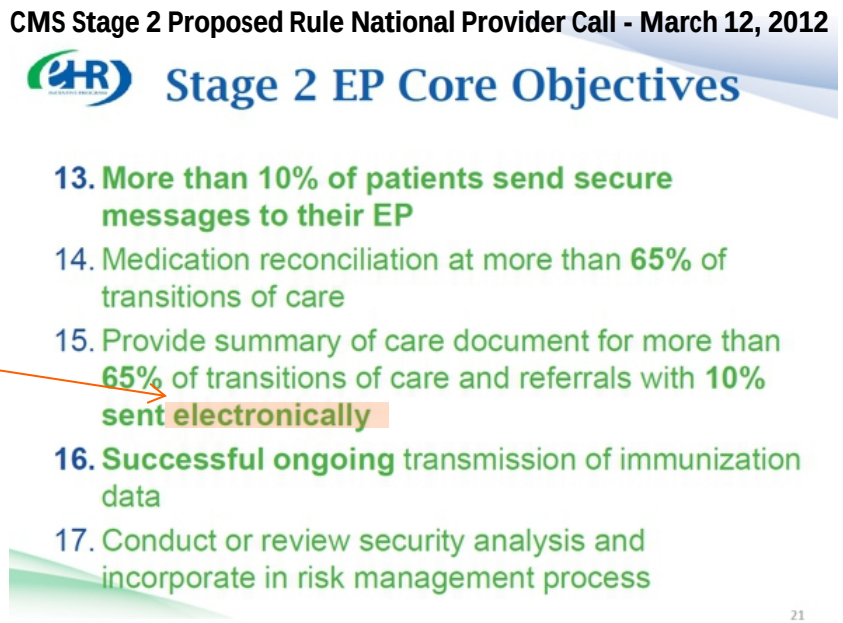
Beth Parmer
Contract Manager

So What Happened?

- **Shifting Meaningful Use Objectives for HIE**
  - Prior to August 2012, the state HIE DIRECT implementation strategy was largely based on the Final Meaningful Use (MU) Stage 1 Rule and the Stage 2 Proposed Rule (NPRM)[12]
  - Attestation periods of 90 days watered down 10% HIE objective
    - Many providers able to take the hardship exemption or exclusion

Initial interpretation within the "*ONC EHR Adoption Community of Practice - Interoperability Workgroup*" was that State HIE DIRECT portal capability could be used by EPs to meet the objectives for Stage 2 MU

CMS Stage 2 Proposed Rule National Provider Call - March 12, 2012



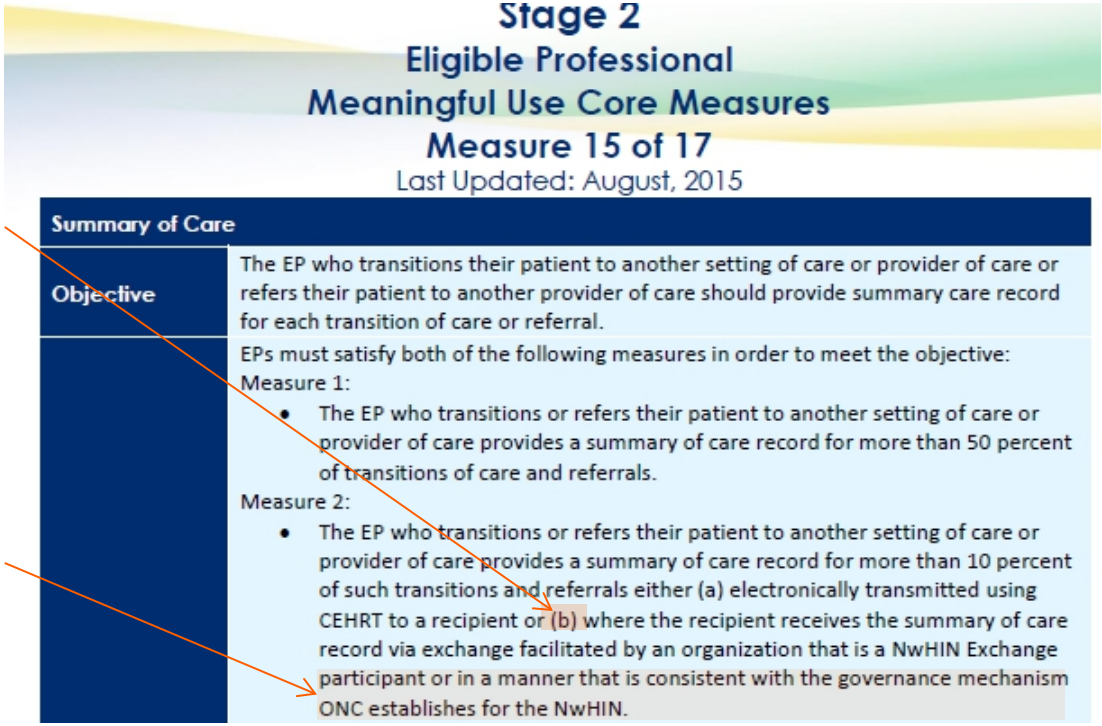
12 https://www.cms.gov/Outreach-and-Education/Outreach/NPC/National-Provider-Calls-and-Events-Items/CMS1256714.html?DLPage=21&DLEntries=10&DLSort=0&DLSortDir=descending

What Happened?

- **Shifting Meaningful Use Objectives for HIE**
  - September 2012, the Final MU Stage 2 Rule[13] clarified "electronically" to mean transmitted "directly" from the CEHRT
  - Effectively disqualified DIRECT portals from being used for MU

Impacted ONC state designated HIEs unsuccessfully appealed based on provision (b) given their active engagement with CMS and ONC, and state HIE efforts to participate in the NwHIN and national DIRECT efforts

Complicating factor - ONC did not ultimately establish a governance mechanism



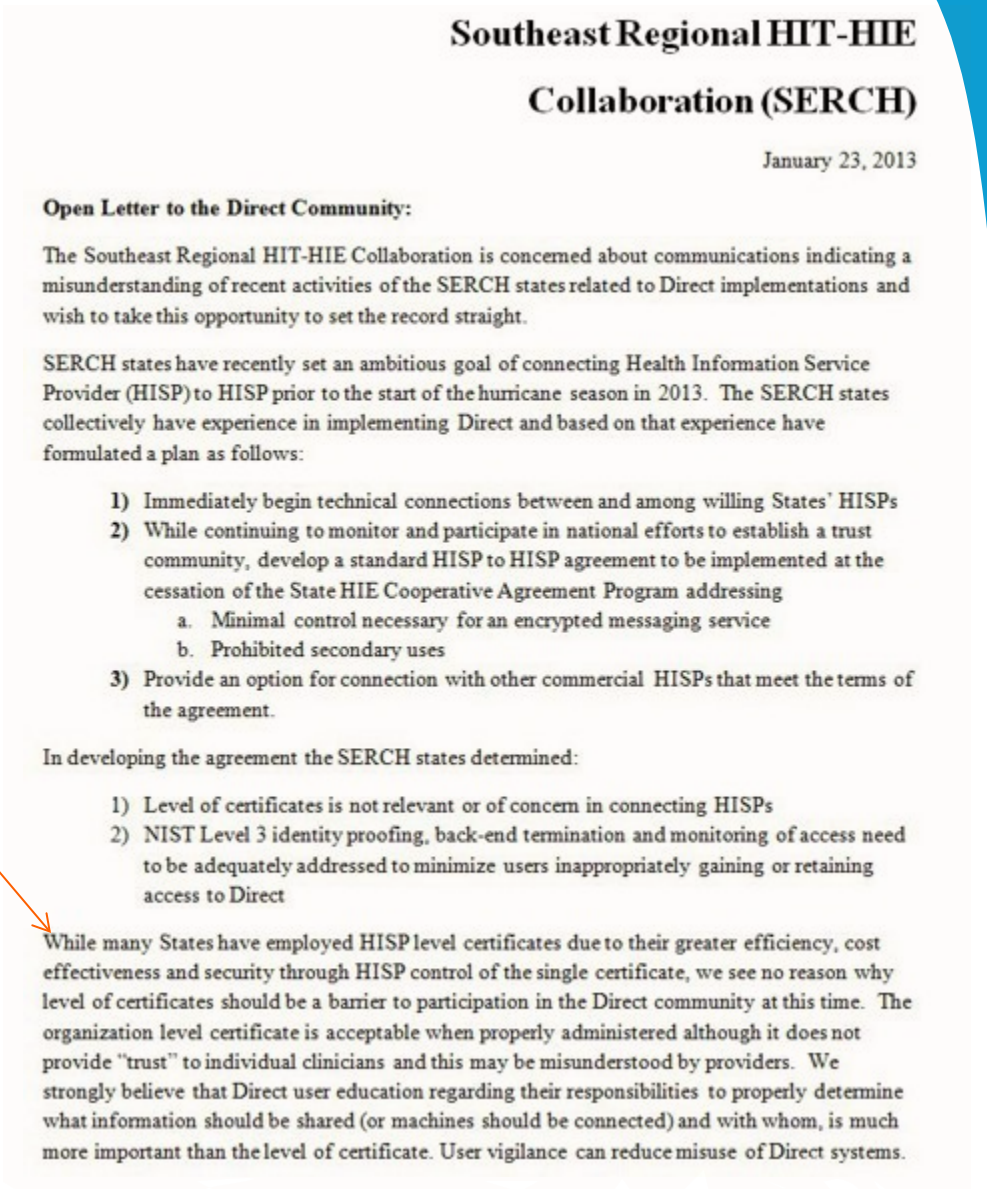
Stage 2
Eligible Professional
Meaningful Use Core Measures
Measure 15 of 17
Last Updated: August, 2015

Summary of Care	
Objective	The EP who transitions their patient to another setting of care or provider of care or refers their patient to another provider of care should provide summary care record for each transition of care or referral.
	EPs must satisfy both of the following measures in order to meet the objective: Measure 1: • The EP who transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 50 percent of transitions of care and referrals. Measure 2: • The EP who transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 10 percent of such transitions and referrals either (a) electronically transmitted using CEHRT to a recipient or (b) where the recipient receives the summary of care record via exchange facilitated by an organization that is a NwHIN Exchange participant or in a manner that is consistent with the governance mechanism ONC establishes for the NwHIN.

[13] https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/Stage2_EPCore_15_SummaryCare.pd

What Happened?

- **The perfect got in the way of the good**
  - Evolution of private industry governance led to costly new requirements
  - State HIEs pioneered DIRECT, yet were now judged non-compliant with after-the-fact and shifting requirements
  - Without additional funding and unable to meet or moderate the new mandates, State-developed HISPs started to fail as HIE vendors stopped or slowed connecting to them



Southeast Regional HIT-HIE Collaboration (SERCH)

January 23, 2013

Open Letter to the Direct Community:

The Southeast Regional HIT-HIE Collaboration is concerned about communications indicating a misunderstanding of recent activities of the SERCH states related to Direct implementations and wish to take this opportunity to set the record straight.

SERCH states have recently set an ambitious goal of connecting Health Information Service Provider (HISP) to HISP prior to the start of the hurricane season in 2013. The SERCH states collectively have experience in implementing Direct and based on that experience have formulated a plan as follows:

1) Immediately begin technical connections between and among willing States' HISPs
2) While continuing to monitor and participate in national efforts to establish a trust community, develop a standard HISP to HISP agreement to be implemented at the cessation of the State HIE Cooperative Agreement Program addressing
   a. Minimal control necessary for an encrypted messaging service
   b. Prohibited secondary uses
3) Provide an option for connection with other commercial HISPs that meet the terms of the agreement.

In developing the agreement the SERCH states determined:

1) Level of certificates is not relevant or of concern in connecting HISPs
2) NIST Level 3 identity proofing, back-end termination and monitoring of access need to be adequately addressed to minimize users inappropriately gaining or retaining access to Direct

While many States have employed HISP level certificates due to their greater efficiency, cost effectiveness and security through HISP control of the single certificate, we see no reason why level of certificates should be a barrier to participation in the Direct community at this time. The organization level certificate is acceptable when properly administered although it does not provide "trust" to individual clinicians and this may be misunderstood by providers. We strongly believe that Direct user education regarding their responsibilities to properly determine what information should be shared (or machines should be connected) and with whom, is much more important than the level of certificate. User vigilance can reduce misuse of Direct systems.

What Happened? Back to the Wild West

- **Last Straw Shift in Meaningful Use Objectives for HIE**
  - In April 2015 CMS Issued the Modifications to Meaningful Use in 2015 Through 2017 Rule [14]
  - CEHRT **no longer** required to "electronically transmit" care summary
  - The return to "**all-over-the-map**" methods of **transmission** with no ubiquitous standard for sending or receiving messages - had a *chilling effect* on DIRECT and interoperability

Going Backwards! The irony of the 2015-2017 [14] Rule is that it *reverted the industry back* to where it was before 2012, but worse. While the Florida-HIE DIRECT portal could once again be used for MU, so could any HIPAA compliant method at the expense of interoperability.

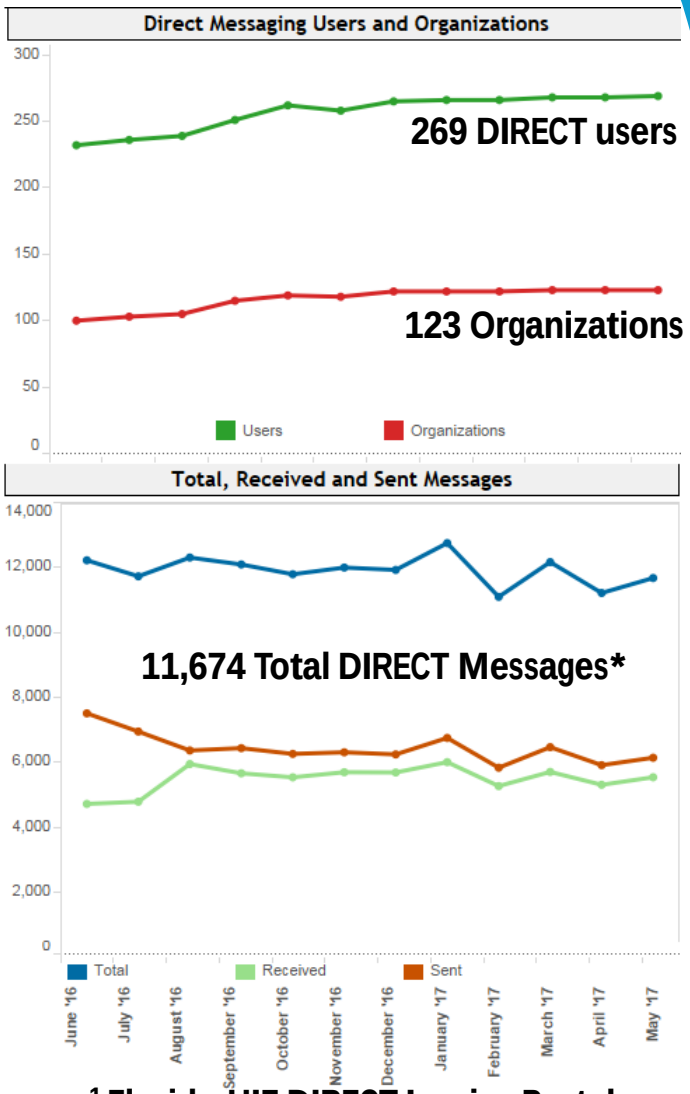
Eligible Professional
EHR Incentive Program
Objectives and Measures for 2015
Objective 5 of 10
Date issued: October 6, 2015

Health Information Exchange	
Objective	The EP who transitions their patient to another setting of care or provider of care or refers their patient to another provider of care provides a summary care record for each transition of care or referral.
Measures	The EP that transitions or refers their patient to another setting of care or provider of care must (1) use CEHRT to create a summary of care record; and (2) electronically transmit such summary to a receiving provider for more than 10 percent of transitions of care and referrals.

[14] https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/2015EP_5HealthInformationExchangeObjective.pdf

Where is Florida Today?

- When the Florida-HIE self-developed DSM service was discontinued in **July 2014**, only **.02%** (<200) registered **users migrated** to the new fee-based Direct Message Service (DMS)
  - Service provided by Inpriva[15]
  - $186 per mail box first year, then $129[15]
- As of **May 2017**, the Florida-HIE had **269 users**[1]
  - Most DIRECT message volume* is related to use with ENS to deliver ADTs to subscribers
- As observed in the Connecting Healthcare® 2016 Florida Ambulatory HIE Study
  - While **40%** of those documented **had** access to **DIRECT**, it is **not being** effectively **utilized**
    - Even among adopters of EHRs and those participating in Meaningful Use



[1] Florida-HIE DIRECT Inpriva Portal DMS Snapshot as of May 2017

[1] http://www.fhin.net/kms/graphs/dmcoverage.shtml
[15] https://www.florida-hie.net/Files/dmbrochure.pdf

Paving a HealthEHighway

DIRECT Building Blocks for Nationwide Interoperability

Refocus "The *Swiss Army Knife* of HIE"

ADT Notifications

Patient & Caregiver Communications

Care/Appt Reminders & Alerts

Secure Email for any Healthcare Purpose

Administrative Transactions X12N & Claims Attachments

Reportable Lab Results

Payer Quality, Audit and Administrative Reporting

State and Public Health

Telemedicine & Emergency Response Encounters

Immunization Reporting

Behavioral Health

Lab Results Delivery

Transitions of Care

Medication Reconciliation

Consult Requests and Documentation

Pharmacy and Rx Management

Medication Therapy Management (MTM)

Advancing Health Information Exchange

- **Most healthcare** encounters are **planned** and transitioned care
  - Meaningful Use Transitions of Care (ToC) HIE objective recognized this
  - However, limited implementations focused on just ToC and CCDA summary of care documents were **not enough of a HIE tipping point**
    - In most ambulatory healthcare settings, CCDAs have yet to achieve meaningful adoption and use in augmenting clinical documentation
  - **Did not establish enough value** from required workflow changes and investment in DIRECT to incent a wiliness to migrate from faxing
    - **Limited** and narrowly focused DIRECT **implementations** and the lack of availability of connections compounded this challenge
- **Must recognize** the HIE adoption **challenge "du jour"**
  - **Chicken or the Egg** HIE syndrome - Not enough are adopting HIE because not enough have adopted HIE to incent the adoption and use of HIE
    - Must recognize **need** for **incremental foundations** that **help transition healthcare** from where we are (unstructured diverse paper information)
    - Must **engage** staff and the entire **team** in HIE **not just physicians**

Why the Fax Still Lives?

- **Fax** is simple, cheap and **widely available**
- Healthcare work and dataflow has evolved around **paper/faxing** over many **decades**
- **Misconceptions** regarding **HIPAA** and the perceived safe-harbor that faxing provides
- Even given the "push" to adopt EHRs, **most healthcare data** still exists in **unstructured** formats and communicated on **paper**

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NEWS

Why the fax still lives (and how to kill it)

By Christopher Null
Freelance Contributor, PCWorld
JAN 13, 2014 3:00 AM PT

The year 2014 marks the 50th anniversary of the modern fax machine, a device developed by Xerox that became as much a staple of offices worldwide as the coffee machine. But in the last decade its reputation has shifted from that of utter necessity to one of the most loathed pieces of equipment in the building. Supplanted by the combination of email, e-signature services, and scanners, fax machines should have been killed off years ago. And yet they're still here.

But why? Who, in an era that boasts eyeglasses that record your every move and watches that can display your text messages, is still sending faxes? On paper!

We decided to find out. Meet the culprits, and hear their defense of their crimes.

Doctors: A fax a day keeps the lawsuits away

If you want to start pointing fingers, you can start with your physician. Thanks to the HIPAA (Health Insurance Portability and Accountability Act), documents transmitted between various doctors, labs, and insurers have to be "secure." The parlance of HIPAA is complex and poorly understood, but it requires only that doctors engage in "reasonable safeguards" when sending messages, regardless of the medium. Over time, this has been interpreted by most doctors to mean that faxes are okay, while email generally isn't.

The reasons for this common perception are unclear. Fax machines are rarely kept in a secure environment, and a printed fax message can be picked up by just about anyone passing by. Email, on the other hand, is password-protected and can be encrypted. Nevertheless, says Lee Kim, Director of the

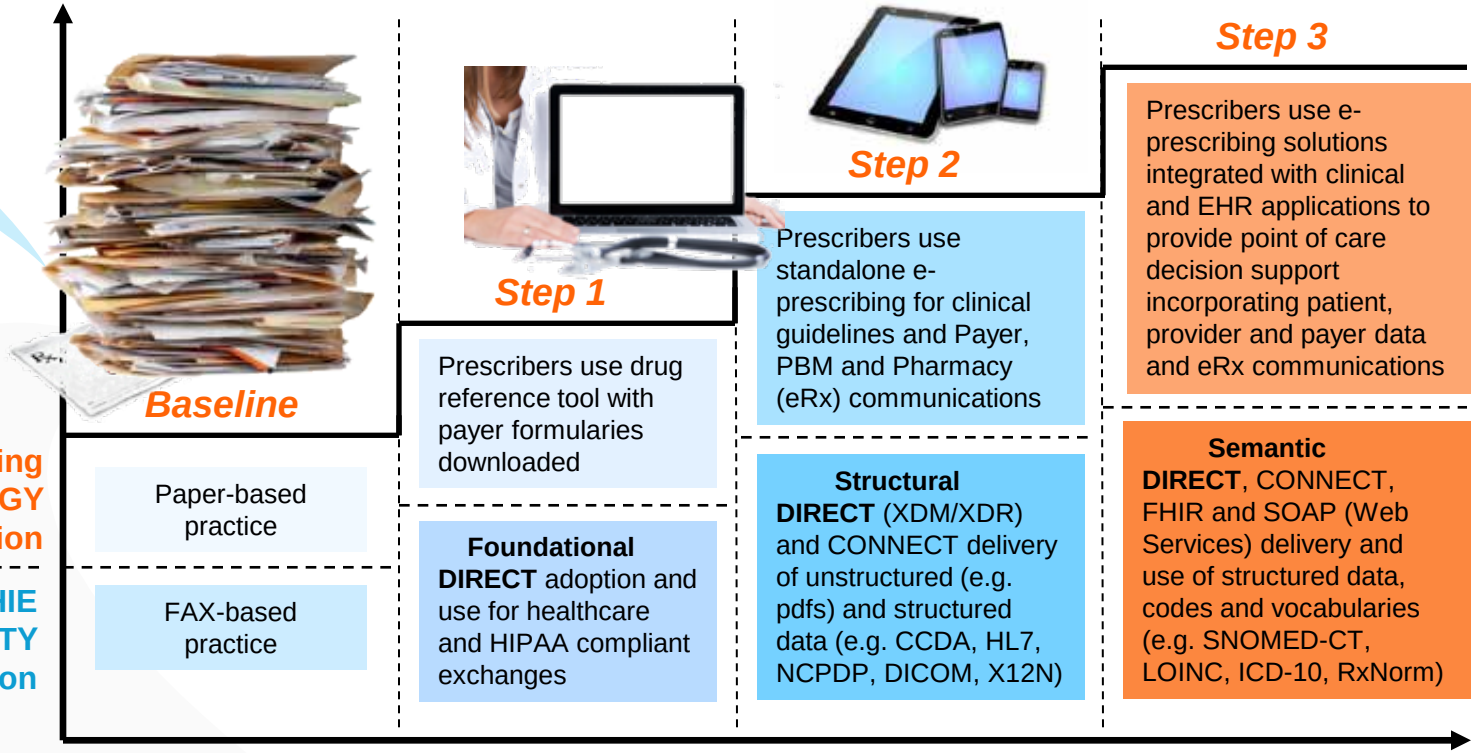
http://www.pcworld.com/article/2083980/why-the-fax-still-lives-and-how-to-kill-it.html

Focus is on the Big Bang Theory of HIE

- Achieving **semantic interoperability** is a continuing national **HIE focus**
- New HIE foundations and standards are rightfully slow to evolve given potential impacts and diverse stakeholder requirements and input
  - The Fast Healthcare Interoperable Resource (FHIR) for example is still developing and evolving four years after first being heralded in 2013
- While the **capture** and **exchange** of **discreet** patient **data** should be a highly prioritized, funded and developed national effort, we must **also understand** and **recognize** the **current** environment and **starting point**
  - HIE highly disruptive in the context of decades of paper-based processes
  - Communicating, capturing and using structured data at the point of care given existing technology and user interfaces remains difficult
  - Even with standards (e.g. CCDA, HL7, X12N) content harmonization of codes and vocabulary continues to challenge semantic data exchange
  - Continued resistance to breaking down healthcare data barriers and silos

Revisit Lessons of e-Prescribing Adoption

- From 2006 – 2009, **Florida advanced** from **25th** in the nation **to 10th** in the SureScripts 5th Annual Survey[16] of electronic prescribing activity among states
- Part of the formula for that success was the ePrescribe Florida campaign on **HIT** utilization and **advancement up** the "***technology staircase"*** of adoption



[16] http://www.healthcareitnews.com/news/surescripts-awards-top-10-states-erx-use

Why DIRECT? Flexibility and Extensibility

- **DIRECT** specifies a **simple**, secure, scalable, **standards-based** way to **exchange** encrypted health information with known/trusted recipients
- **DIRECT could** fundamentally **transform HIE** if more widely deployed by all healthcare stakeholders **across the spectrum of care** and Use Cases[17]
- **Best** capability **available** to help **bridge** the HIE interoperability divide

DIRECT Communication

DIRECT Content

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

Readable by People

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

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

Readable by People and Computers

EVN|A28|20060501140008|||000338475^Culbertsonr^Walt^^^^^ ^Regional MPI&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

[17] http://www.connectinghealthcare.com/Presentations/Pharmacy_HIE_Opportunities.pdf

Why DIRECT? Security and Non-Repudiation

- The **healthcare** industry is **under attack**
  - Patient data highly valued on black-market
  - **Breaches** and **blackmail** are **commonplace**
  - **Unsecure email** is often a **culprit** vehicle
- **DIRECT** enables **secure** trusted **exchange**
  - **Implementations** must be **HIPAA compliant**
  - All **users** must be **vetted** and **data encrypted**
- DIRECT **safeguards** in place to **ensure** that a **message arrives** at its destination
  - Message Deposition Notifications (MDNs)
    - Enables **confirmation** health **transactions** were **successfully delivered**
  - Capability for read receipt notifications
  - Chain of trust maintained and documented

CBS EVENING NEWS

By CARTER EVANS | CBS NEWS | February 17, 2016, 7:13 PM

California hospital computer system taken "hostage"

29 Comments / Share / Tweet / Stumble / Email

Last Updated Feb 18, 2016 3:14 AM EST

LOS ANGELES -- The FBI is leading the investigation of a hostage situation at a California hospital -- but it's not people who were being held, it was the hospital's computer system.

Inside Hollywood Presbyterian Hospital, computer screens were dark since hackers took over the data network almost two weeks ago.

The attack used what's known as "ransom-ware" -- malicious software that encrypts files which can only be unlocked with a software "key" after a ransom is paid.

In this case, hackers demanded, and the hospital paid an $17,000 in the digital currency bitcoin -- which is nearly impossible to trace.

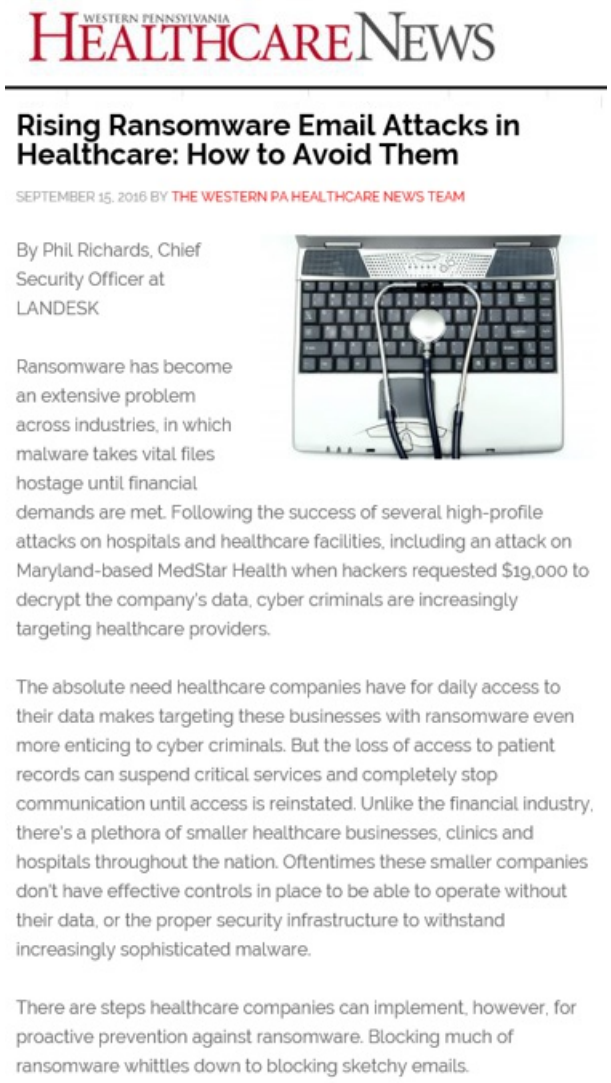
The hospital released a statement Wednesday evening saying, "The amount of ransom requested was 40 Bitcoins, equivalent to approximately $17,000. The malware locks systems by encrypting files and demanding ransom to obtain the decryption key. The quickest and most efficient way to restore our systems and administrative functions was to pay the ransom and obtain the decryption key. In the best interest of restoring normal operations, we did this."

Since the attack, the medical center staff had resorted to pen and paper and even fax machines for communications.

http://www.cbsnews.com/news/california-hospital-computer-system-taken-hostage-by-hackers/

Why DIRECT? Security and Integrity

- **Security advantages** using **DIRECT** as a message-queue framework and **audit trail**
  - Ability to "**firewall**" and **inspect** messages
    - Ability to establish a physical and logical network perimeter and barrier (DMZ)
    - **Discern** message **content**, purpose and authority **before** message is **acted upon**
  - Message transmission routing information
- **Security** and **availability** advantages of **DIRECT** electronic data interchange (**EDI**)
  - **Scalability**, load balancing, **reliability**, **reduced coupling**, message and event driven processing, **message** priority and **recovery**
  - Messages backed up, stored or forwarded based on message disposition and status



WESTERN PENNSYLVANIA HEALTHCARE NEWS

Rising Ransomware Email Attacks in Healthcare: How to Avoid Them

SEPTEMBER 15, 2016 BY THE WESTERN PA HEALTHCARE NEWS TEAM

By Phil Richards, Chief Security Officer at LANDESK

Ransomware has become an extensive problem across industries, in which malware takes vital files hostage until financial demands are met. Following the success of several high-profile attacks on hospitals and healthcare facilities, including an attack on Maryland-based MedStar Health when hackers requested $19,000 to decrypt the company's data, cyber criminals are increasingly targeting healthcare providers.

The absolute need healthcare companies have for daily access to their data makes targeting these businesses with ransomware even more enticing to cyber criminals. But the loss of access to patient records can suspend critical services and completely stop communication until access is reinstated. Unlike the financial industry, there's a plethora of smaller healthcare businesses, clinics and hospitals throughout the nation. Oftentimes these smaller companies don't have effective controls in place to be able to operate without their data, or the proper security infrastructure to withstand increasingly sophisticated malware.

There are steps healthcare companies can implement, however, for proactive prevention against ransomware. Blocking much of ransomware whittles down to blocking sketchy emails.

http://www.wphealthcarenews.com/rising-ransomware-email-attacks-healthcare-avoid/

CMS Must Lead Paving the HealthEHighway

- As with the national "*push*" to encourage and incent the use of Electronic Health Records, the HIE **opportunity** is **CMS** organizing and **leading** public/private **collaborative efforts** leveraging the Office of the National Coordinator for Health Information Technology (**ONC**)
  - Only organization that can effectively and meaningfully convene the industry
    - Diverse stakeholders, often with competing interests in HIE outcomes
  - CMS adoption would lead to broader commercial adoption and innovation
- **Establish** a National **DIRECT** Community of Practice (**CoP**)
  - Commissioned to analyze, recommend and promote DIRECT Use Cases
  - Remarketing **DIRECT** to help **transition** healthcare **off** of **FAX** technology
  - **Reengaging** critical Use Case **stakeholders** and reorganizing focused state to state DIRECT Use Cases and connections (Florida-HIE/SERCH Model)
  - **Analyze** and recommend **solutions** for **DIRECT interoperability** and trust
- **CMS adoption** and **use** of **DIRECT** in its own health information exchange
  - Medicare administrative operations and clinical Quality Payment Programs

CMS Enabling **Get-off-the-Fax** Campaign

While FAX may be a cheap technology, costs are not

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

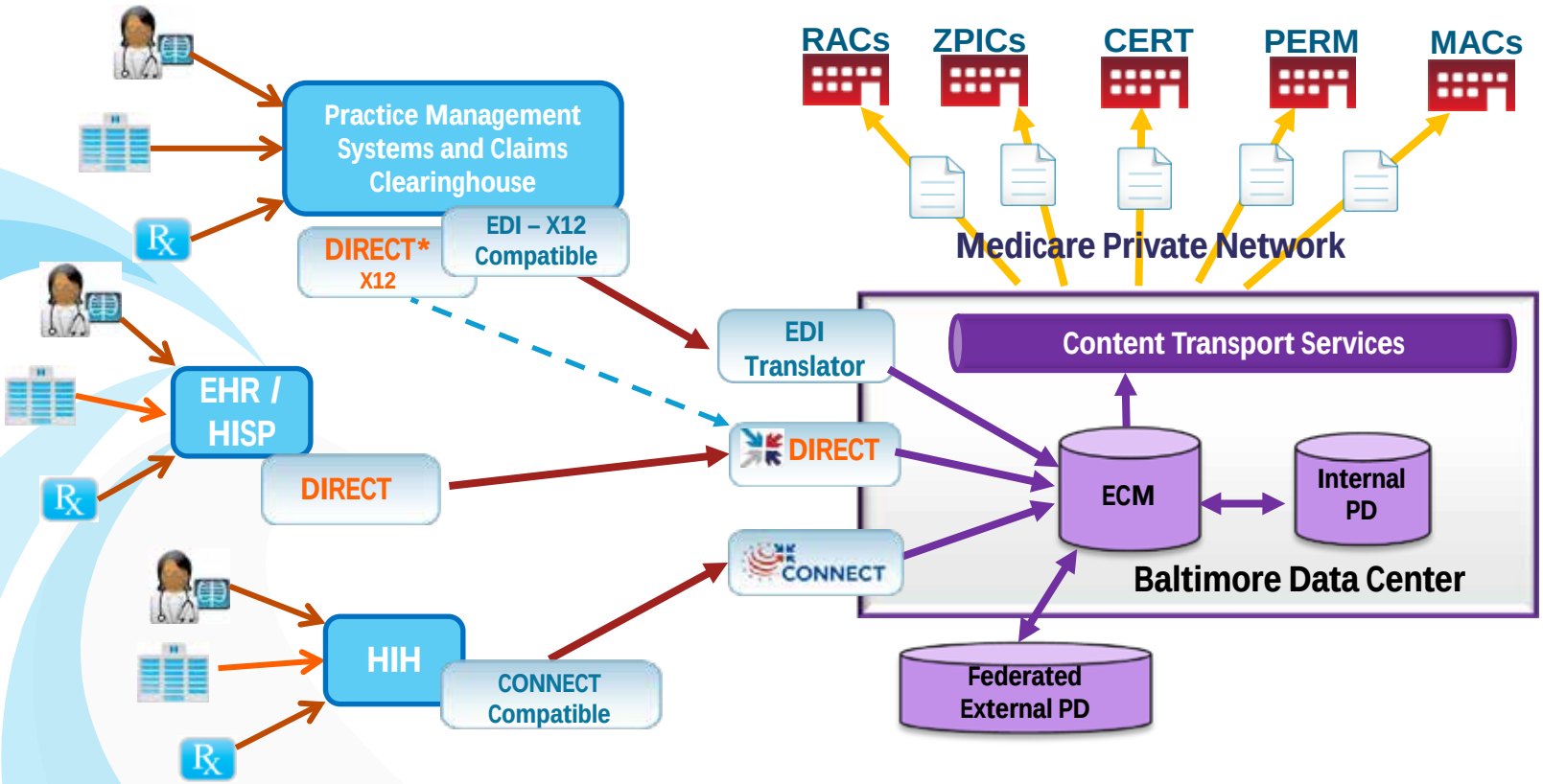
"Any doctor can tell you they are buried in faxes. The worst part is that faxes don't go through often, or they get dropped or lost. This is a technology that should have disappeared along with beepers." [18]

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

[18] http://www.kevinmd.com/blog/2014/10/still-uses-faxes-medical-industry.html

CMS Enabling DIRECT esMD Program

- Allowing providers to leverage **DIRECT** for **submission of CMS electronic documentation** (esMD)[19] would significantly advance DIRECT opportunities while **reducing HIE costs** and **complexity for all**



Infographic: CMS esMD Presentation to HITSC, July 17, 2013 (with EDI modification*) [19]

[19] https://www.healthit.gov/sites/default/files/hitsc_presentation_on_digital_signatures_v1_2.pptx

CMS Enabling DIRECT Steps

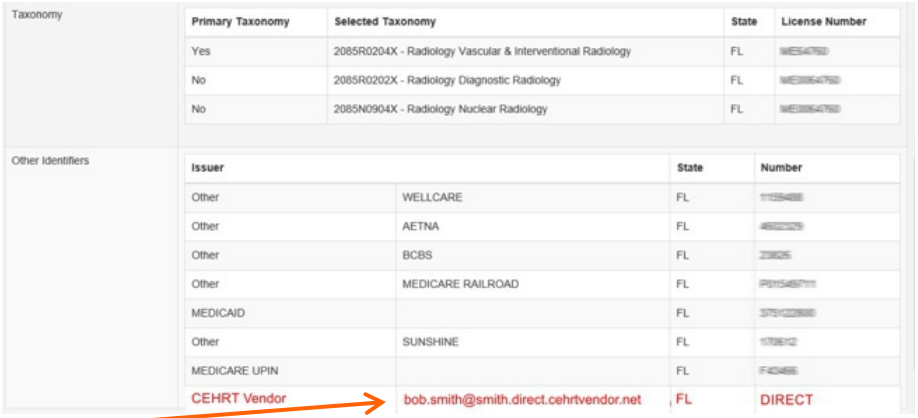
- Following the successful Florida-HIE adoption model, **CMS** should consider establishing its own **DIRECT HISP** to help **enable** a required usage and transition to DIRECT messaging for **CMS communications**
  - CMS adoption would **significantly** help **address** the HIE "*Chicken or Egg*" **adoption challenge** given the critical mass Medicare providers represent
  - Would better enable **first-step** up the "*Technology Staircase*" **of Adoption**
  - Require MU and MIPS Medicare providers (and Medicaid as allowable) who received EHR Incentive funding to use their CEHRT DIRECT capability
- CMS could approach the Florida-HIE regarding **leveraging** it's last production **(highly functional) DIRECT** implementation called Direct Secure Messaging (**DSM**) developed leveraging ONC HIE Funding
  - **DSM** was designed to scale to **large volumes** of users **cost effectively**
  - CMS could leverage existing Medicare and Medicaid Provider vetting and credentials to establish DIRECT where needed (engage first-step providers)
    - Expand to serve as a national framework for provider identity vetting

CMS Enabling DIRECT Capability

- **Many** DIRECT **implementations** appear **not** to be fully **functional yet**
  - Limited Use Case development and deployment across stakeholders
  - DIRECT message participants cannot yet easily discover each other
  - No focus on staff utilization of DIRECT as a secure communications tool
- **CMS** acquisition and **use of DIRECT would** help **stabilize connections**
  - Modify the CEHRT "Test Instructions for Cross Vendor Exchange" for Meaningful Use (MU) and Merit-Based Incentive Payment System (MIPS)
    - Include **connecting** and **testing** with a **CMS Medicare Provider HISP**
    - CMS established Trust Bundle for CEHRT vendor DIRECT HISPs
- **CMS** promoting **public/private** DIRECT capability **development**
  - Supporting large file attachments (e.g. cloud storage with secure link)
  - HIPAA compliant multi-user mail-box management (e.g. departments, retail locations, patients and care-givers) and other workflow solutions
  - DIRECT to CONNECT (and other DIRECT Hybrid HIE Solutions)

CMS Enabling DIRECT Discovery

- In **May 2012** the Florida-HIE **suggested** to ONC leadership that the CMS National Plan and Provider Enumeration System (**NPPES**)[20] be **leveraged** as a **starting** point for a national **DIRECT** address **directory**
  - Concerns at the time about the lack of provider use of NPPES and lack of capability (API) to automate NPPES access beyond portal/batch processes
  - Ongoing standards and development for Health Provider Directory (HPD)
- **Today** providers still **cannot** easily **find** DIRECT **addresses** of colleagues
  - HPD efforts have yet to enable widespread DIRECT address discovery
- **CMS** recently **developed** an **API** to **search NPPES** in **real-time**[20]
  - In 2012 Florida-HIE tested DIRECT address in other identifiers fields
  - **Existing** NPPES data **fields could contain** DIRECT **address** with **NO modifications** (80 chars)



Taxonomy

Primary Taxonomy	Selected Taxonomy	State	License Number
Yes	2085R0204X - Radiology Vascular & Interventional Radiology	FL	
No	2085R0202X - Radiology Diagnostic Radiology	FL	
No	2085N0904X - Radiology Nuclear Radiology	FL	

Other Identifiers

Issuer		State	Number
Other	WELLCARE	FL	
Other	AETNA	FL	
Other	BCBS	FL	
Other	MEDICARE RAILROAD	FL	
MEDICAID		FL	
Other	SUNSHINE	FL	
MEDICARE UPIN		FL	
CEHRT Vendor	bob.smith@smith.direct.cehrtvendor.net	FL	DIRECT

[20] https://npiregistry.cms.hhs.gov/registry/help-api

CMS Enabling DIRECT Patient Engagement

- Efforts to **engage patients** are still **evolving** and in their infancy
  - "The typical **Medicare patient** in one year sees **seven** different **doctors,** including **five** different **specialists**, working in **four** different **practices**" [21]
  - **Patient Portal fatigue** trying to access and maintain health records
    - Difficult for patient populations (especially elderly) and caregivers trying to maintain access to so many standalone patient portals
- **DIRECT** can better **enable** the opportunities envisioned by the establishment of patient portals and the CMS **Blue Button Program**
  - When **patients** view or download Summary of Care records, they are still greatly **challenged** aggregating and sharing their own health information
  - Use of DIRECT to untethered personal health records (PHRs) such as **HealthVault** that are **DIRECT capable**[22] would enable patients and doctors
    - **Enable** secure **patient** and **provider communications** and more!

[21] https://www.mskcc.org/sites/default/files/node/1282/documents/how-man-doctors-text.pdf

[22] https://docs.microsoft.com/en-us/healthvault/concepts/connectivity/direct-messaging

Paving a HealthEHighway

Conclusions and Acknowledgements

Summary Conclusions

- DIRECT represents a highly flexible and extensible HIE capability with the potential to foundationally connect healthcare stakeholders
  - While widely deployed, DIRECT implementations are not yet effective
- Requires a refocused education and marketing of DIRECT to include a broader array of clinical, emergency and administrative Use Cases *(Florida-HIE education and adoption model)*
- Requires CMS adoption and utilization of DIRECT communications
- Requires enhanced CMS leadership to better enable DIRECT
  - National Get-off-the-Fax with DIRECT Educational Campaign
  - CMS Medicare DIRECT Provider Portal and DIRECT directory (e.g. NPPES)
- Requires a wider stakeholder engagement of DIRECT (Ancillary Providers, Hospitals, Pharmacies, Labs, Payers, Public Health, etc.)
- Requires collaborative state-to-state, community and regional efforts and outreach *(Florida-HIE stakeholder engagement model)*

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  - Dr. Janet Bethckal
  - Dr. C. Christopher Pittman
  - Dr. Ruben Javier Ayala
  - Dr. Jorge Santander
  - Dr. Thomas Schwartz
- The views and opinions expressed in this discussion are those of the author (Walt Culbertson) and do not necessarily reflect those of other Connecting Healthcare® team members, the Florida Agency for Healthcare Administration (AHCA) who administers the Florida-HIE, or Harris Corporation the founding Florida-HIE vendor

About Connecting Healthcare® Leadership

Walt Culbertson, CW

Founder and President

- Host and Producer Medical Update Show
- Served as the Technical and Operations Lead and HIE Project Manager for the Florida Health Information Exchange
- Served as the Regional Center Program Director for AHIT, Florida's largest ONC Regional Extension Center (REC)
- Consultant and Subject Matter Expert for HIT, HIPAA, e-Prescribing, and HIE initiatives in FL, GA, KY, TN, OH, MI and VA
- Founding Executive Director of ePrescribe Florida and President, ePrescribe America
- Served as Business Lead for BCBS-FL X12N 4010 to 5010/ICD10 Migration Project
- Served as State of Florida Technical SME for ONC SERCH Cross-border HIE Disaster Preparedness & Response Project
- Founding Chief Technology, Security and Privacy Officer for Availity Clearinghouse and Webify Solutions (IBM Subsidiary)
- Founding Chair of the Southern Healthcare Administrative Regional Process (SHARP) – CMS & HRSA Public/Private Collaboration
- Founding Security and Privacy Co-Chair for the WEDi Strategic National Implementation Process (SNIP)

Susan A. Miller, JD

Chief Operating and Privacy Officer

- Nationally recognized Attorney and health care expert and strategist whose legal practice specializes in HIPAA, healthcare and the HITECH Act
- Focused on covered entities, business associates, technology companies, and federal agencies
- Engagements have included CMS, OCR, NIST, RECs, ACOs, Medicaid Agencies and National and State Trade Associations
- Developed NIST HIPAA Security risk analysis and audit tool used across the healthcare industry
- Developed HIPAA privacy and security tools for risk analysis/assessment, audit, breach notification and HIPAA policies and procedures
- National security and privacy leadership role for 13 years - Workgroup for Electronic Data Interchange (WEDi)
- Founding Security and Privacy Co-Chair for the WEDi Strategic National Implementation Process (SNIP)
- Steering Committee Member Southern Healthcare Administrative Regional Process (SHARP)

Christopher Sullivan, PHD

Vice President of Business Development

- President and CEO, Image Research
- Served as HIE Manager for the South Florida Regional Extension Center (REC)
- Past Administrator of the Office of Health Information Exchange, Florida Agency for Health Care Administration
- Co-authored white papers for HIMSS, AHIMA and Office of National Coordinator for Health IT (ONC)
- Engaged by national, state and local Health IT associations
- Served as Florida Governance SME for ONC SERCH Cross-border HIE Disaster Preparedness & Response Project
- Featured speaker at numerous conference speaking on HIE, MU, Telehealth, and HIE at state and national venues
- Nova Southeastern University – Adjunct Professor teaching courses in Public Health Informatics
- College of Osteopathic Medicine – Courses in Telecommunications and Networking in Health Care for the, Biomedical Informatics
- Florida International University (FIU) - Courses in Health Information Management, Electronic Health Records and Privacy and Security

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Have Questions?

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