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New Connectivity in Healthcare

Simple. Secure. Seamless.
Your key to healthcare communications.

May 6, 2015

Welcome – thanks for coming!

Agenda

- Secure connectivity models
- The HHS pursuit of a scalable model
- What is Direct and how does it work?
- Current industry Direct applications
- How Direct affects the cost of care
- Supply chain processing
- 42

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Secure connectivity models

- Secure pipe
  - HTTPS
  - VPN
  - Secure Socket
  - Public key /private key or password
- Secure payload
  - sMime
  - PGP
- Combined
  - sFTP

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The HHS pursuit of a scalable model

- Congress passed ARRA in 2008 – this included funding for hospitals and providers to get EMRs and share medical records

- HHS established the ONC to define and administer the program and its standards

- In order to keep the funding, doctors and hospitals must meet criteria to prove that they are **using** the technology **meaningfully**

- One of the criteria is the ability to use the Direct protocol to send/receive clinical information

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What is Direct - technical overview

- ## Based on IETF AS1
  - sMime/SMTP (public key and private key pairs)
  - Message Disposition Notification (MDN)

- ## Public Key publishing/retrieval
  - Domain Name Service (DNS) is the backbone of the Internet – used to resolve domain names into IP addresses
  - There is a DNS command (cert) where given a domain name, it returns the public key
  - The email addresses are made to look like domain names and then stored (along with the public key) in the DNS

- ## Health Information Service Providers (HISPs) take care of the heavy lifting behind this.
  - CA, RA, provisioning, etc.

Interfaces to Direct HISPs

- Web Services
- SMTP Client – Outlook, Smartphone, Tablet
- Webmail
- HTTP interface (XDR)
- SOA bus
- Applications

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Net Result

When a hospital discharges a patient they send a discharge notice to the patient's PCP:

- The Hospital system retrieves the PCP's public key and encrypts the message

- The Hospital then signs the message with its private key

- The PCP's system receives the message, decrypts it with his private key, retrieves the Hospital's public key, verifies the signature, and then sends a positive MDN

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Current industry applications

- Transitions of Care – HL7-based C-CDA automatically flowing from hospitals to healthcare providers and care managers

- Real-time Notifications – alerting care networks of admissions, discharges, abnormal labs and more

- Telemedicine – e-referrals, consults and exams

- Request/response for clinical information and other provider-plan communications

- Patient engagement – a growing number of patient healthcare apps empower patients to take control of their medical data

Current state of Direct implementation

- All EMR's can send and receive C-CDAs (most can also send other attachments and text) – most healthcare providers therefore have access to a Direct address

- Consumers are enabled through a variety of apps

- Pharmacies, medical equipment suppliers, health plans, health insurance exchanges and others are increasingly relying on Direct to exchange clinical information with healthcare providers more efficiently.

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The Results

- **Fewer hospitalizations**
  - Alerting PCPs and care managers improves follow up care for at-risk patients

- **Reduced Accounts Receivable**
  - When payers receive data faster and in electronic format, claims are paid faster

- **Care is available sooner**
  - Improved workflows for durable medical equipment orders, long term care prior-authorizations and more ensure that patients receive timely access to the equipment and services they need.

- **Eliminate duplicate testing**
  - Providers have access to earlier test results

- **Lower communication costs**
  - Moving away from VPN and proprietary solutions

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Supply Chain

- Pilots include Durable Medical Equipment and prescription infant formula
  - Prior Authorizations
  - Ordering
  - Payment
- Next steps
  - Vaccines
  - Cancer treatment
  - Office supplies and equipment
- Ordering from other sources

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Q&A / *Thank You*

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