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Healthcare Messages Over the Internet: The Direct Project

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The Direct Project announced today the completion of its open-source connectivity-enabling software and the start of a series of pilots that will be demonstrating directed secure messaging for healthcare stakeholders over the internet. The Direct Project specifies a simple, secure, scalable, standards-based way for participants to send authenticated, encrypted health information directly to known, trusted recipients over the Internet.

Also announced:
- A new name - the Direct Project was previously known as NHIN Direct
- An NHIN University course, [The Direct Project - Where We Are Today](#), to be presented by Arien Malec, November 29 at 1 PM ET, sponsored by the National eHealth Collaborative
- An extensive list of HIT vendors (20+) that have announced plans to leverage the Direct Project for message transport in connection with their solutions and services
- Presentations at the [HIT Standards Committee](#) on Tuesday November 30 where three or more vendors will be announcing their support for the Direct Project.
- A thorough documentation library including a Direct Project Overview
- Best practice guidance for directed messaging based on the policy work of the Privacy and Security Tiger team
- A new web site at [DirectProject.org](#)
- A new hashtag [#directproject](#) for following the Direct Project on twitter.

The Direct Project is the collaborative and voluntary work of a group of healthcare stakeholders representing more than 50 provider, state, HIE and HIT vendor organizations. Over 200 participants have contributed to the project. It's rapid progress, transparency, and community consensus approach have established it as a model of how to drive innovation at a national level.

What is The Direct Project?
Today, communication of health information among providers and patients is most often achieved by sending paper through the mail or via fax. The Direct Project seeks to benefit patients and providers by improving the transport of health information, making it faster, more

secure, and less expensive. The Direct Project will facilitate "direct" communication patterns with an eye toward approaching more advanced levels of interoperability than simple paper can provide.

The Direct Project provides for universal boundaryless addressing to other Direct Project participants using a [health internet "email-like" address](#).

The Direct Project focuses on the technical standards and services necessary to securely transport content from point A to point B and does not specify the actual content exchanged. When The Direct Project is used by providers to transport and share qualifying clinical content, the combination of content and The Direct Project-specified transport standards may satisfy some Stage 1 Meaningful Use requirements. For example, a primary care physician who is referring a patient to a specialist can use The Direct Project to send a clinical summary of that patient to the specialist and to receive a summary of the consultation.

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

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How might the Direct Project be Used?

2009-10 Congress and agencies of the federal government have created regulations that require physicians and hospitals participating in the ARRA/HITECH incentives awarded for meaningful use of EHR technology to:

- **send** messages and data to each other for referral and care coordination purposes;
- **send** alerts and reminders for preventive care to their patients;
- **send** patients clinical summaries of their visit and of their health information
- **receive** lab results from labs
- **send** immunization and syndromic surveillance data to public health agencies
- **integrate** with HIT vendor systems

Each capability can be enabled with point-to-point secure e-mail or in a more integrated manner as HIT vendors and public health agencies enable communication with the Direct Project.

How will the Direct Project affect states and Health Information Exchanges?

States that are receiving federal funding to enable message exchange are being asked by the ONC to facilitate Stage 1 Meaningful Use information exchange. The Direct Project may serve as a key enabler of directed messaging for all states and Health Information Exchanges. Even states that have some level of health information exchange capability need to address areas that are currently uncovered by a regional or local Health Information Organization (HIO).
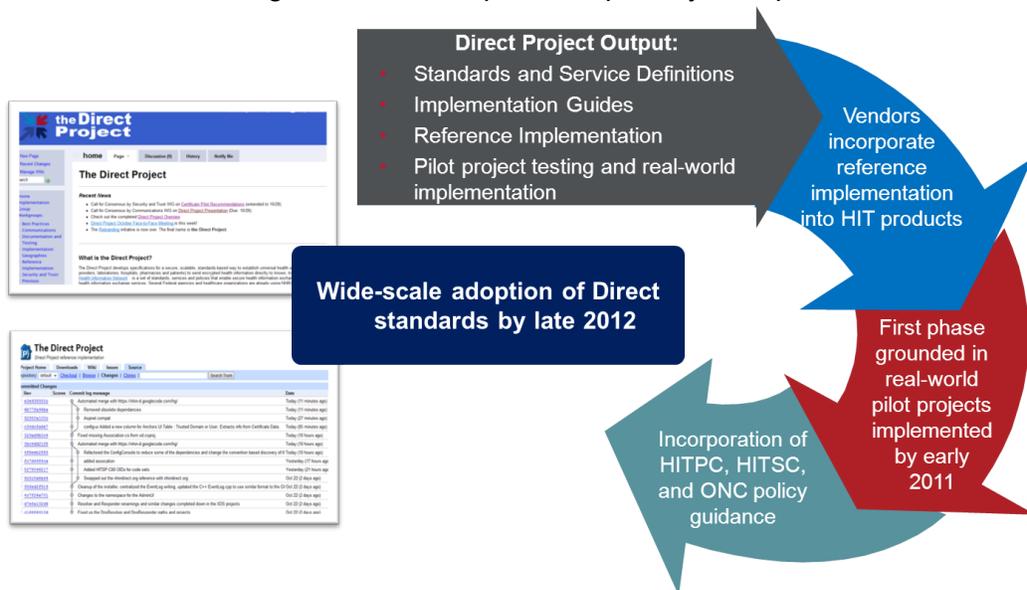
As state plans seek to address a means to fill the gaps in exchange capability coverage, the Direct Project may provide a bridge to enabling the basic exchange requirements for Stage 1 Meaningful Use. The Direct Project does not obviate the need for state planning for HIE, neither does it undercut the business case for HIOs. More robust services can be layered over simple directed messaging that will provide value to exchange participants.

There are already organizations that have announced the establishment of national clinical exchange networks, including integration with the Direct Project. States and HIO's will need to decide how best to provide Direct Project services to their constituents, whether by partnering with existing exchange networks or incorporating direct messaging into the services they provide.

The Direct Project Implementation

The Direct Project is organizing real-world pilots to demonstrate health information exchange using The Direct Project standards and services. Six pilots are ramping up including:

Rhode Island Quality Institute, Redwood MedNet and MedAllies will be sending Continuity of Care Documents to other providers for referrals and transitions of care. Visionshare will be linking to immunization registries. Carespark (Tennesee) will be linking the VA with private clinics providing health services to veterans. And Connecticut's Medical Professional Services, an IPA, will be linking Middlesex Hospital with primary care providers.

Direct Project Output:
- Standards and Service Definitions
- Implementation Guides
- Reference Implementation
- Pilot project testing and real-world implementation

Vendors incorporate reference implementation into HIT products

Wide-scale adoption of Direct standards by late 2012

First phase grounded in real-world pilot projects implemented by early 2011

Incorporation of HITPC, HITSC, and ONC policy guidance

The Reference Implementation

To help the Direct Project implementers, an open source reference implementation of the Direct Project standards and services has been developed under the guidance of the Direct Project. To ensure the broadest possible participation, the reference implementation has been implemented in two flavors: Java and .Net.

The HISP

Connectivity among providers is facilitated by Health Information Service Providers (HISP). HISP describes both a function (the management of security and transport for directed exchange) and an organizational model (an organization that performs HISP functions on behalf of the sending or receiving organization or individual).

Best Practices

The Direct Project is bound by a set of policies that have been recommended to the HIT Policy Committee (HITPC) or are being examined by the HITPC's Privacy and Security Tiger Team for directed messaging. Within this context, the Direct Project has developed best practice guidance for secure communication of health data among health care participants who already know and trust each other. The Direct Project assumes that the Sender is responsible for several minimum requirements before sending data, including the collection of patient consent. These requirements may or may not be handled in an electronic health record, but they are handled nonetheless, even when sharing information today via paper or fax. For example, a sender may call to ask whether a fax was sent to the correct fax number and was received by the intended provider.

The following best practices provide context for the Direct Project standards and services:
- The Sender has obtained the patient's **consent** to send the information to the Receiver.
- The Sender and Receiver ensure that the patient's privacy preferences are being honored.
- The Sender of a Direct Project transmission has determined that it is **clinically and legally appropriate** to send the information to the Receiver.
- The Sender has determined that the Receiver's **address** is correct.
- The Sender has communicated to the receiver, perhaps out-of-band, the **purpose** for exchanging the information.
- The Sender and Receiver **do not require common or pre-negotiated patient identifiers**. Similar to the exchange of fax or paper documents, there is no expectation that a received message will be automatically matched to a patient or automatically filed in an EHR.
- The communication will be performed in a **secure, encrypted, and reliable** way, as described in the detailed The Direct Project technical specifications.
- When the HISP is a separate entity from the sending or receiving organization, best practice guidance for the HISP has been developed for privacy, security and transparency.

What it isn't

The Direct Project is not targeted at complex scenarios, such as an unconscious patient who is brought by ambulance to an Emergency Department. In the unconscious patient scenario, a provider in the ED must "search and discover" whether this patient has records available from any accessible clinical source. This type of broad query is not a simple and direct and therefore requires a more robust set of health information exchange tools and services that The Direct

Project does not provide.

The Direct Project in Context of the Nationwide Health Information Network

The Direct Project is an integral component in a broader national strategy to have an interconnected health system through a Nationwide Health Information Network (NHIN). The NHIN is "a set of standards, services and policies that enable secure health information exchange over the Internet. The NHIN will provide a foundation for the exchange of health IT across diverse entities, within communities and across the country, helping to achieve the goals of the HITECH Act."

The authors:

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