HealthIT.gov
National Learning Consortium
Advancing America's Health Care

Specialist sends DICOM File to another Provider

HIE Scenario, Workflow and Specifications

Provided By:
The National Learning Consortium (NLC)

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NATIONAL LEARNING CONSORTIUM

The National Learning Consortium (NLC) is a virtual and evolving body of knowledge and tools designed to support healthcare providers and health IT professionals working towards the implementation, adoption and meaningful use of certified EHR systems.

The NLC represents the collective EHR implementation experiences and knowledge gained directly from the field of ONC's outreach programs (*REC*, *Beacon*, *State HIE*) and through the *Health Information Technology Research Center (HITRC)* Communities of Practice (CoPs).

The following resource is an example of a tool used in the field today that is recommended by "boots-on-the-ground" professionals for use by others who have made the commitment to implement or upgrade to certified EHR systems.

DESCRIPTION & INSTRUCTIONS

This resource is intended to aid providers and health IT implementers in understanding health information exchange (HIE) solutions related to the Meaningful Use Core Measure 14 – Electronic Exchange of Clinical Information. .

This scenario provides a practical example of how the contents of the Nationwide Health Information Network (NwHIN) portfolio can be used to achieve meaningful electronic exchange of health information. This is part of a series of HIE scenarios intended to provide a straightforward view into the standards, services and policies behind HIE solutions.

Each document in the HIE scenarios series describes an everyday situation where patient care is improved through information exchange between health care professionals.

The scenario is presented through a narrative description of events and a corresponding graphic, followed by a detailed description of the workflow steps involved. The resource concludes with an inventory of the key specifications and resources necessary to implement the information exchange described.

Other scenarios and their related specifications can be found on the S&I Framework Repository at: http://www.siframework.org/. Additional questions may be sent via email to: info@siframework.org.

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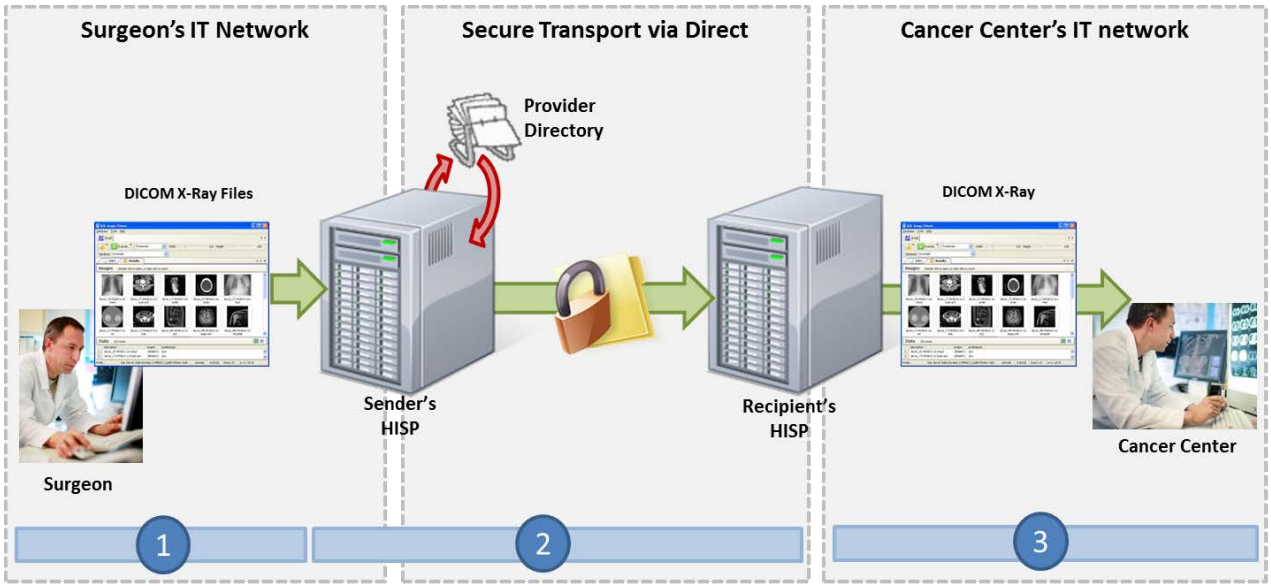
LIST OF EXHIBITS

1 Specialist Sends DICOM File to another Provider

A surgeon sends a patient's DICOM Chest x-Rays to a specialist via Direct:



A patient in a rural location is examined and X-rayed by a local surgeon and, afterwards, is referred by the surgeon to a cancer center to be seen by a specialist. The surgeon sends the patient's continuity of care document (CCD), operative notes, as well as the DICOM-formatted chest X-rays to the cancer center for viewing and analysis.

Meaningful Use Stage 2 Objectives related to clinical information exchange: Capability to exchange key clinical information (for example, problem list, medication list, medication allergies, and diagnostic test results), among providers of care and patient authorized entities electronically. *(Meaningful Use Menu Set for EPs, Meaningful Use Menu Set for EH/CAHs)*

1.1 COMMON WORKFLOW STEPS FOR THIS SCENARIO

1. After examining the patient, the surgeon sends the DICOM imaging file of the chest X-rays to the oncologist at the cancer center. To do so, he authors a Direct message that is structured in accordance with HL7 CDA Release 2 CCD specifications and attaches chest X-rays in DICOM format to the message.
2. When the surgeon sends the DICOM imaging message, it passes through his office's HISP, a contracted brokering agent responsible for the management of security and transport for directed exchange. In order to select the cancer center as the recipient, the user accesses a search dialogue in the HISP's user interface, which queries a Provider Directory (adhering to the Certificate Discovery for Direct specification) for the right Direct address. As it passes through the HISP, the message is encrypted using the x.509 Certificate associated with the surgeon, and is delivered to the cancer center Direct address in accordance with the Applicability Statement for Secure Health Transport.
3. The cancer center's HISP decrypts the message and views the patient's DICOM X-rays, CCD, and operative notes.

1.2 NWHIN 1.0 SPECIFICATIONS AND RESOURCES RECOMMENDED FOR THIS SCENARIO

Exhibit 1 Specification and Resources

Specifications	Resources
Content Structure Guidance that specifies how to structure health information to ensure proper exchange	• HL7 CDA Release 2 CCD
Transport and Security Mechanisms and processes that safely exchange health information over the Internet	• Applicability Statement for Secure Health Transport • x.509 for Certificates • Certificate Discovery using Domain Name System (DNS) and Lightweight Directory Access Protocol (LDAP)