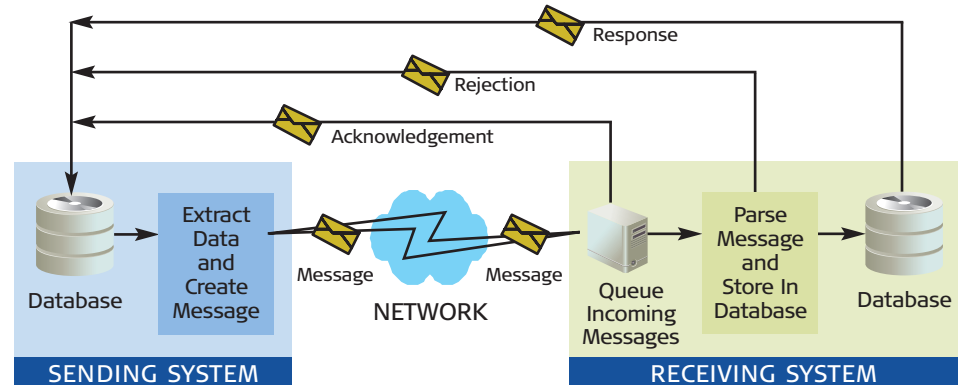


# Messaging and Data Exchange

A key component of any Health Information Exchange Network (HIEN) is the capability of participating systems to exchange data. In today's networks this is best achieved through **standards-based messaging**. Messaging enables inter-operability—the ability of different systems to not only exchange information but ensure that the meaning of that information remains consistent and within context.

## How does this messaging work?

The sending system extracts data from its database and creates a standard message. This message includes a message header, or envelope (information about who is sending it and where it is intended to go), and a message body (some kind of data payload to be carried). The message body might contain data bound for the receiving system, or it might contain a structured request for data from the receiving system. The message is then transported across a network (often the Internet) to a message queue in the receiving system to wait its turn for processing. When the message is processed,



it is read and interpreted by a message parser in the receiving system which checks the message header and evaluates the contents in the body. Based on the business rules in the receiving system the contents are stored in the receiving system's data-

base, held for further processing, or rejected. An acknowledgement message might be sent back to the sending system, or a rejection message might be sent instead. If data was requested and found, a response message would be sent back.

Standards play an important role in ensuring that messaging works right, and functions across a number of dimensions:

### MESSAGE TYPE:

■ Health Level 7 (**HL7**) represents the dominant message format and content standard in healthcare.

For more information see: [www.hl7.org](http://www.hl7.org)

### MESSAGE TRANSPORT:

■ Standards, like **Secure Socket Layers (SSL)** and **Web Services**, define how a message can be safely transmitted across the Internet and arrive intact at the intended destination. The **Public Health Information Network Messaging System (PHINMS)**, provides specialized features specific to public health data exchange.

For more information see: [www.cdc.gov/phin/software/resolutions/phinms](http://www.cdc.gov/phin/software/resolutions/phinms)

### MESSAGE CODING:

■ Coding standards like the **Logical Observation Identifiers Names and Codes (LOINC®)** and the **Systematized Nomenclature of Medicine (SNOMED®)** ensure consistent meaning as information moves from system to system.

For more information see: [www.regenstrief.org/loinc](http://www.regenstrief.org/loinc)  
[www.snomed.org](http://www.snomed.org)



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HLN is available to help in all aspects of HIEN conceptualization, planning, project management, and execution. Contact one of our specialists at [info@hln.com](mailto:info@hln.com) to find out more information about how we can help you design and support your network. Copyright ©2006 HLN Consulting, LLC.

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