

IHE: INTEGRATING THE HEALTHCARE ENTERPRISE

IHE Around the World

Paul Vegoda, FHIMSS

When you think about the issues and problems of integrating systems from multiple vendors in the United States, with unique standards and proprietary protocols, remember that for the most part, we speak the same language (jargon excepted). However, put yourself in a European country, where you may be dealing with the compounding problem of multiple languages and code sets in addition to multiple standards and protocols.

Europe

The European healthcare community has been quick to recognize the advantages of the IHE approach for providing a common technical framework that describes how existing standards should be implemented by multinational and indigenous vendors. IHE makes it possible for each vendor's implementation of the standards to be compatible with other vendors' implementations. The IHE in Europe Committee was organized to work with vendors and users in a number of countries to implement the IHE Technical Framework approach to integrating systems.

There are five active IHE committees in Europe, operating under the umbrella of the IHE in Europe Committee. The national committees are in Germany, Italy, the United Kingdom, Scandinavia, and France. The goals of the IHE in Europe Committee are to:

- Provide European vendors with a platform to develop and test world-class interoperability
- Address European-specific requirements such as multi-languages, country-specific vendors, and country-specific exhibitions

- Contribute to international IHE acceptance
- Promote IHE activities through international workshops and support of the national IHE committees

The national IHE committees plan and organize local IHE demonstrations and identify, define, and review local extensions to the IHE Technical Framework. The IHE in Europe Committee is also responsible for coordinating IHE activities with the IHE project in the United States.

“The European healthcare community has been quick to recognize the advantages of the IHE approach for providing a common technical framework that describes how existing standards should be implemented by multinational and indigenous vendors.”

The IHE in Europe Committee was established in May 2001, and has already made significant progress. The Committee has received a grant from the European Commission and has hosted two connectathons*; IHE demonstrations in Paris, Germany, and Italy; and an IHE workshop in

Vienna. IHE demonstrations are also planned for 2003 in the United Kingdom and Norway.

Japan

Across the globe in Japan, IHE has been embraced by the Radiological Society of Japan and many vendors. A recent integration demonstration in Japan showed not only integration of radiology information systems and modalities, but it included access to laboratory results. As Shakespeare said many years ago, “...’tis a consummation devoutly to be wished.”

As with the IHE Committee in Europe, the IHE Committee in Japan coordinates closely with IHE in the United States.

United States

Meanwhile back at the ranch, there is a great deal of IHE activity going on in the United States. As more and more vendors are implementing the IHE Technical Framework architecture into their products, significant progress has been made in extending IHE beyond radiology.

Initially, the IHE Planning and Technical Committees concentrated on using DICOM and HL-7 standards as the basis for the Technical Framework. An extension of the HL-7 standard called the Clinical Context Object Workgroup, commonly known as CCOW (pronounced “sea-cow”), is being evaluated. This functionality will add significantly to IHE’s ability to make clinical information that is captured in one vendor’s application available to the clinician using other integrated applications, in a single cooperative view.

In today’s non-integrated environ-

★ The IHE Connectathon involves demonstration of the vendor’s ability to connect to other vendor systems using the IHE Technical Framework requirements.

I H E : I N T E G R A T I N G T H E H E A L T H C A R E E N T E R P R I S E

ment, each application must contain query/display functionality as well as the capability of building dialogues or screens for displaying the information retrieved from other applications. Use of the CCOW standard will facilitate this need. The actual display function is handled by the application creating the data.

The IT Infrastructure Subcommittee of the IHE Strategic Development Committee is investigating a mechanism whereby master file information can be centralized at a single site and accessed by multiple applications. If master file information is stored in one place and managed by a single application (or actor in IHE terms), CCOW will allow a display of information to be triggered from another application.

A user can log on to a master application and, through CCOW, will simultaneously be logged on to other participating CCOW-compliant applications. The user could review lab results and allergies while entering a drug order, update a patient's problem list and enter a clinical note after receiving a radiology report, print patient-specific education material, and make an appointment for the next visit. The process would require the patient's ID only to be entered once, and navigation through the various applications would be seamless to the user.

CCOW would make the data available, but other protocols would be necessary to make updates or changes to the displayed data.

Another exciting area of enhancement is being developed by the Pharmacy/Medication Management Subcommittee. This group has identified its goal as improving decision making and streamlining workflow by providing access to relevant clinical information in a usable format. The information should be available

“This functionality will add significantly to IHE’s ability to make clinical information that is captured in one vendor’s application available to the clinician using other integrated applications, in a single cooperative view.”

whenever and wherever it is requested, across the broad range of patient activities, beginning with initiation of pharmaceutical therapy and continuing through its administration, monitoring, and documentation.

Since many different systems in a healthcare organization may use elements of the information required for effective pharmaceutical therapy, an

integrated pharmacy system should accept a query for specific information. It should also respond to the query with information that is known or with an indication that the requested information is not available within the system, generate a query for the information elements, and accept and appropriately process the response to that query.

Differing information systems may contain unique clinical data concerning a patient. A clinician may document a patient's drug allergies in a clinical documentation system before this information is known to the pharmacy system. In addition, the pharmacy system may document patient medications during an inpatient admission, but have no information concerning the patient's history of medications.

IHE presents a viable and active approach to providing vendors with the means of allowing their products to be rapidly and responsively integrated into clinical information systems within healthcare. It is incumbent on IT and clinical professionals to insist that all of their vendors provide IHE-compliant information systems and modalities in order to take advantage of the full capability of this globally expanding, enterprise-wide solution.

About the Author

Paul Vegoda, FHIMSS, is the HIMSS representative to IHE and principal, The MalvernGroup, Incorporated, in Malvern, Pennsylvania.