



**Health Level Seven® International**

*Unlocking the Power of Health Information*

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## **HL7 28<sup>th</sup> Annual Plenary Meeting Executive Summary**



***Produced in collaboration with the College of Healthcare Information Management Executives (CHIME)***

Healthcare, as it exists today, can no longer avoid the effects of change. Despite the size of the industry and its many components, it must change and change quickly.

Through the impact of technology, economics, societal pressure, business and other factors, each segment in the industry is under pressure to improve performance, reduce costs, increase efficiency and better serve patients and their families. The calls for improvement present major systemic challenges, but those making demands of the industry will no longer accept the status quo.

These were the major messages emphasized in HL7's 28<sup>th</sup> Annual Plenary Meeting on September 15 in Chicago. Speakers at the event approached the need for change in different ways, but attendees at the event were challenged by the variety of forces that are bringing pressure to bear on the industry.

To achieve improvement, the healthcare industry needs more collaboration and coordination, and these trends point to the need for more effective exchange of information, pointing to the need for adoption of standards for exchanging data, such as initiatives currently being supported by HL7.

### **Creating a Learning Healthcare System**

Keynote speaker Richard, Platt, MD, Chair of the Department of Population Medicine for the Harvard Pilgrim Health Care Institute, and principle investigator for the Patient-Centered Outcomes Research Institute (PCORI) remarked that healthcare organizations need to collaborate so that patient care can be improved, which can be best achieved when organizations learn from each other and can better analyze clinical evidence from large numbers of patients.

Dr. Platt emphasized the work of the Food and Drug Administration's Mini-Sentinel program, which performs post-marketing surveillance using the electronic health data from more than 175 million people. He also noted that this kind of work will become increasingly necessary as the industry needs to conduct research in different and more effective ways.

Dr. Platt went on to state that the concept of a learning health system, coined by the Institute of Medicine, points to a mechanism that responds to increasingly complex care. The IOM has stated that it requires a sustainable system that gets the right care to the right people when they need it, and then captures to results for improvement.

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There is a dearth of evidence to support the vast majority of clinical guideline recommendations, Dr. Platt noted. The need for a learning healthcare system to gather clinical results points to the need for a digital infrastructure for healthcare, particularly one based on standards to improve data collection and facilitate research.

That's also the vision for PCORnet, a research network supporting the work of PCORI. The initiative is intended to improve the nation's capacity to conduct rapid, efficient and economical comparative effectiveness research. Dr. Platt asserted that the era of (National Institutes of Health)-funded clinical trials is coming to a close and that it calls for the eventual creation of a patient-centered network.

To achieve its aims, PCORnet will need analysis-ready complete longitudinal standardized data with strong privacy protections. Finally, Dr. Platt discussed the opportunity to create synergies between PCORnet and the Mini-Sentinel program and that the goal is to have them converge on a single standard. He concluded his presentation by noting that data contained in EHRs hold promise for supporting these initiatives, but that standards are needed to enable researchers to use EHRs for research.

## **Challenges in Using EHR Data**

Recent research on the potential of EHRs to support research has been disappointing. Marc Overhage, MD, chief medical informatics officer for Siemens Healthcare, provided an overview on the challenges outlined in a recent report by JASON, an independent group that provides consulting services to the U.S. government. The report criticized the lack of interoperability achieved by the first two stages of the meaningful use program. Insufficient interoperability does not support clinical care, research or patient access, the JASON report charged.

While there has been progress in "vertical interoperability" (integrating different types of clinical transactions or functions), Overhage commented that progress has been slow with "horizontal interoperability," which involves integrating sources of the same type of clinical transactions or functions, particularly when it comes to EHRs communicating with each other, primarily because of a lack of user demand for cross-EHR interoperability.

Standards initiatives, particularly HL7's Fast Healthcare Interoperability Resources (FHIR®), have the potential to address many of the concerns brought out in reports by JASON and other groups. Still, Overhage admits there are challenges facing standards-based efforts, such as the Consolidated Clinical Document Architecture (C-CDA).

Overhage highlighted what he believes are the real barriers to achieving interoperability. They include the following:

- The challenge of maintaining privacy
- Misaligned incentives
- Competing priorities
- Longstanding problems, such as patient, provider and location matching
- A missing events model.

Protecting health information and assuring patients of their privacy remains a significant challenge worldwide. Zoi Kolitsi, PhD, the chief eHealth policy advisor for the Informatics and Information Security Laboratory at the Aristotelean University of Thessaloniki, Greece, told attendees that there is a large diversity across countries, and data sharing is challenging when

you're crossing national and professional boundaries. She noted that we need to strike a balance between achieving a consistent level of data protection and rights, removing obstacles and cutting red tape.

Kolitsi also pointed out that while other industries don't feel any constraints in using data for secondary purposes, there are barriers ranging from that type of reuse in healthcare, ranging from legal barriers to interoperability concerns.

Finally, Kolitsi observed that several initiatives are under way to support data sharing across borders in Europe and countries there are attempting to work together to tackle similar challenges. In addition, legislation is being enacted by various countries in the European Union to protect data, enact electronic identification and trust services, and standardization to set the adoption of technical specifications.

## **Standards Needed to Support New Care Settings**

Standards for interoperability will become more important as healthcare moves beyond the walls of traditional providers to new settings, particularly as new healthcare reimbursement initiatives, such as accountable care organizations, put a premium on treating patients in less expensive and more accessible settings.

For example, Walgreens has a vision for using its nearly 8,600 pharmacy locations to provide a variety of healthcare services, beyond its traditional role of filling prescriptions, noted Mike Jennings, its senior director of enterprise architecture.

Jennings stated Walgreens is expanding to provide prevention and wellness services, basic treatment services, and health monitoring and management services. Providing that range of comprehensive care at the basic end of the scale has the potential to keep consumers healthier, reducing the likelihood that conditions go untreated and patients wind up in expensive urgent care settings.

Jennings explained that Walgreens' emerging model can help providers cope with systemic issues, such as the shortage of primary care physicians. It also fits nicely with other trends, such as the "retailization" of healthcare, new incentive models and consumerization, which offers patients both increased choice and responsibility for their own care. It also has the potential to address issues that drive higher healthcare costs, such as poor medication adherence by patients and the overuse of emergency departments.

In his presentation, Jennings noted that Walgreens is building partnerships with various players in the industry, including pharmaceutical companies, payers, hospitals and integrated healthcare systems. Partnerships with providers enable Walgreens to alert them that prescriptions have been filled by patients.

Walgreens expects analytics will be its next area of focus, continuing the partnership with provider organizations to better understand concerns such as population health and predictive modeling, among many.

## **The Ethical Imperative to Achieve Interoperability**

The need to interact with other providers, and other new participants in the healthcare marketplace, underscore the importance of interoperability. Ken Goodman, director of the

bioethics program at the University of Miami, told plenary session attendees that improving information exchange is a key to improving the health of patients, and because of that, interoperability becomes an ethical priority. He noted that failure to achieve interoperability is a betrayal of the patients we serve and that if interoperability improves outcomes, it becomes our duty to achieve it.

As a result, this ethical imperative needs to be incorporated at the very beginning of the design process for healthcare IT systems, Goodman explained. Finally, he noted that HIT introduces tools whose very availability entails an obligation to develop, adapt and use them more widely and that ethics should run through the center of application development.

The public assumes that the increased digitization of their health information means it will be used for wider analysis and a more evidence-based approach to care. To achieve that, there's an obligation to achieve seamless data interchange to achieve the greatest good possible from EHR data.

### **About Health Level Seven International (HL7)**

Founded in 1987, Health Level Seven International is the global authority for healthcare information interoperability and standards with affiliates established in more than 30 countries. HL7 is a non-profit, ANSI accredited standards development organization dedicated to providing a comprehensive framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services. HL7's more than 2,000 members represent approximately 500 corporate members, which include more than 90 percent of the information systems vendors serving healthcare. HL7 collaborates with other standards developers and provider, payer, philanthropic and government agencies at the highest levels to ensure the development of comprehensive and reliable standards and successful interoperability efforts.

### **About CHIME**

The College of Healthcare Information Management Executives (CHIME) is an executive organization dedicated to serving chief information officers and other senior healthcare IT leaders. With more than 1,400 CIO members and over 100 healthcare IT vendors and professional services firms, CHIME provides a highly interactive, trusted environment enabling senior professional and industry leaders to collaborate; exchange best practices; address professional development needs; and advocate the effective use of information management to improve the health and healthcare in the communities they serve. For more information, please visit [www.cio-chime.org](http://www.cio-chime.org).