



THE OFFICIAL PUBLICATION  
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# NEWS

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## Have Electronic Healthcare Record, Will Travel

The International Patient Summary (IPS) Project

Trillium Bridge-II: Reinforcing the Bridges  
and Scaling up EU/US Cooperation  
on Patient Summary

### Plus...

Clinical Data Trends for  
Healthcare Payers

HL7 Publishes FHIR®  
Release 3

New Domain Analysis Model  
for Clinical Sequencing

Affiliate Spotlight on HL7  
Poland



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## HL7 News

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## Update from Headquarters

### Board Changes

At our January Working Group Meeting, Board Chair Patricia Van Dyke recognized the following outgoing Board members who served terms on the HL7 Board of Directors:



By Mark McDougall,  
HL7 Executive Director



*Jim Case*



*W. Ed Hammond, PhD*



*Stan Huff, MD*



*Jeremy Thorp*

All four have contributed important and valuable roles for the HL7 organization for many years. Stan has also served two terms as the Chair of the HL7 Board. Ed has served in many positions as well as three terms as Board Chair and will continue to serve on the Board in the position of Chair Emeritus. I am pleased to extend a sincere thank you to Jim, Ed, Stan and Jeremy for their many years of service to HL7.

We previously announced the results of the 2016 Board elections that brought new faces to the Board as of January 2017, including:



*Chair-Elect:  
Calvin Beebe*



*Secretary:  
Hans Buitendijk*



*Director at Large:  
Nancy Orvis*



*Director at Large:  
Melva Peters*



*Affiliate Director:  
Frank Oemig*



*Appointed Director:  
Dave Shaver*

## FHIR Applications Roundtable at Duke

After producing the first of its kind meeting last year at Harvard Medical School, on March 7-8 HL7 produced its second FHIR Applications Roundtable at Duke School of Medicine. We would like to thank W. Ed Hammond, PhD, and Claire Miller for their invaluable assistance in hosting this meeting at Duke.



Mark Braunstein, MD

The program featured 39 fifteen-minute presentations from providers, vendors, academic institutions, start-ups and other individuals showcasing FHIR-based solutions that are currently in development or are already deployed. The presentations were exciting and highly rated by the attendees. In fact, Mark Braunstein, MD, Professor at School of Interactive Computing, Georgia Tech, said, “The best healthcare informatics meeting of the year was the FHIR Applications Roundtable meeting at Duke.”



Highlights of the presentation topics and presenters include:

- **Applicada** (Richard Esmond)
- **HEART Pathway: An evidence-based FHIR app for Chest Pain Care** (Vinay Tannan, PhD)
- **RIMIDI: Predictive analytics for diabetes** (Lucie Ide, MD, PhD)
- **Neonatal Bilirubin SMART on FHIR clinical decision support system** (Kensaku Kawamoto, MD, PhD)
- **Duke Pillbox** (Bradi Granger and Katie McMillan)
- **Vibrent Health: Sync for Science – FHIR application to connect precision medicine initiative to EHRs** (Praduman Jain and Josh Mandel, MD)
- **SyntheticMass and Synthea** (Jason Walonoski)
- **Aidbox** (Pavel Smirnov)
- **HSPC Sandbox** (Rick Freeman)
- **CDS Hooks** (Josh Mandel, MD)
- **Iris Chatbot** (Chris Sprague)

Attendees were asked to vote for their favorite FHIR-based solutions each day of the event. Six presenters were recognized for their innovative products:

### Day One:

- **First place: Applicada**, presented by Richard Esmond from PenRad
- **Second place: SyntheticMass and Synthea**, presented by Jason Walonoski, The MITRE Corporation
- **Third place: RIMIDI: Predictive Analytics for Diabetes**, presented by Lucie Ide, MD, PhD, RIMIDI

### Day Two:

- **First place: HSPC Sandbox**, presented by Rick Freeman, The Healthcare Services Platform Consortium (HSPC)
- **Second place tie: Aidbox**, presented by Pavel Smirnov, Health Samurai; **Iris Chatbox**, presented by Chris Sprague, Leap Frog Technology

Following the conclusion of the HL7 FHIR Applications Roundtable, attendees were asked to vote on Best in Show from among the six award recipients. The Best in Show was awarded to Applicada by Richard Esmond. Congratulations to all the winners!

PDF versions of the presentations are available online:

<http://www.hl7.org/events/fhir/roundtable/2017/03/final.presentations.cfm>

In addition, HL7 recorded all of the presentations and have made them available to play at your convenience. You are encouraged to view the recordings and see dozens of examples of exciting applications that use HL7 FHIR at:

<https://vimeopro.com/vcubeusa/hl7-fhir>



### HL7 Booth at HIMSS

HL7 has had a booth at HIMSS for over 25 years, including the most recent convention held February 19-23 at the Orlando Convention Center. HL7's booth featured 32 presentations throughout the three days of exhibit hours on a number of topics such as:

- HL7 FHIR®
- SMART on FHIR: Apps for Health
- C-CDA®
- HL7's Vision for 2017 and Beyond
- Argonaut Project and HL7 FHIR
- Getting the Most Out of Your Data Using HL7 Clinical Decision Support Standards
- HL7 FHIR Implementation Projects

We are pleased to report that the traffic at our booth was the largest ever. Many of the presentations were standing room only and interest in HL7 FHIR was at an all-time high. We are very grateful to the HL7 volunteers who helped staff the HL7 booth and provided the presentations. For your convenience and reference, many of the presentations are available from HL7's website.

<http://www.hl7.org/events/himss/>

### Join Us in Madrid for Our International Conference & Working Group Meeting

From May 6-12, we will produce a regular full working group meeting at the Marriott Auditorium Hotel & Conference Center in Madrid, Spain. The WGM will include many highlights such as:

- FHIR connectathon
- Monday morning plenary session
- Clinicians on FHIR
- Tutorials in English
- Tutorials in Spanish
- Affiliates poster session

We look forward to seeing you in Madrid.



*HL7 CTO Wayne Kubick presenting at HL7 HIMSS17 booth.*



*HL7 CEO Dr. Charles Jaffe speaking during the HL7 Argonaut Project Panel session at the HIMSS17 booth.*



*The 2017 HL7 International Board of Directors gathered at the January 2017 WGM in San Antonio, TX.*



*HL7 International Council Representatives at the January 2017 WGM.*

### January Working Group Meeting

The January 2017 Working Group Meeting set an all-time record for a January WGM, with 570 attendees in San Antonio, Texas during the week of January 14-20. Over 40 HL7 work groups convened meetings in San Antonio, 16 of which conducted co-chair elections. Attendees also took advantage of 27 tutorials, a FHIR connectathon and a Payer Summit.

### Meeting Sponsors

I am also pleased to recognize the following organizations that sponsored key components of our recent January Working Group Meeting or Payer Summit in San Antonio:

- Almerys
- Edifecs
- GEVITY
- Infor
- iINTERFACEWARE
- Orion Health
- PenRad Applicadia

The additional sponsorship support provided by these organizations contributes to HL7's meeting budget and is much appreciated.

### Benefactors and Supporters

We are pleased to recognize HL7's 2017 benefactors and gold members who are listed on page 27. Their support of HL7 is very much needed and sincerely appreciated. We are pleased to recognize our benefactors in all of our HL7 newsletters, on the HL7 website, in all of our HL7 press releases, and at all of our HL7 working group meetings.

### Organizational Member Firms

As listed on pages 28-31, HL7 is very proud to recognize the organizations who are HL7 organizational member companies. We sincerely appreciate their ongoing support of HL7 via their organizational membership dues.

### In Closing

I look forward to seeing many of you at our our International Conference & Working Group Meeting in Madrid, Spain. Until then, may you and your loved ones be blessed with good health and plenty of smiles and laughter.



## Member Spotlight on James Agnew

James Agnew recollects that he became involved in HL7 “more or less by accident” when he was working for the open source HAPI project 14 years ago (in 2003). At the time, the project implemented HL7 Version 2.x. As a computer science major in college, he never expected to enter into the medical field. However, he was asked to work for a hospital after he noted that he found the HAPI project interesting. Once the founder of the HAPI project left, James took over managing it and became actively involved in HL7.

James works for University Health Network (UHN), which is a large hospital in Toronto. There, he leads a team of software developers who build mobile applications which help patients manage chronic conditions such as diabetes, chronic kidney disease, congestive heart failure, prostate cancer, etc. His team’s website is: <http://ehealthinnovation.org/>. James also leads UHN’s efforts to adopt HL7’s Fast Healthcare Interoperability Resources (FHIR®) and proudly refers to himself as a standards nerd. ☺

James does admit that he spends much of his free time writing software and that he contributes to a number of other open source projects. However, when he is able to tear himself away from the computer, he enjoys the outdoors. He is an avid cyclist and bikes to work any time there isn’t snow on the ground. He also enjoys hiking and camping. Another interesting fact about James is that he plays the drums in a few local Toronto bands. He maintains that drummers can always play in multiple bands because everyone always needs a drummer! The music he plays is known as Surf rock, which is the style of instrumental rock popular in the late 1950s and early 1960s (think The Ventures and Pulp Fiction, not the Beach Boys). James also



refers to himself as a dog person. Although he’s between dogs right now, he’s had shepherds and retrievers around him most of his life. Finally, James loves to travel. He has visited every continent except Africa and Antarctica. His favorite cities to visit are Mexico City and Amsterdam. ■

## Standard Continues to Expand and Adapt to Broad Industry Feedback

## HL7 Publishes FHIR® Release 3

On March 22, 2017, HL7 published Release 3 of the HL7 Fast Healthcare Interoperability Resources (FHIR®) Standard for Trial Use (STU).

**The new version is the culmination of 18 months of extensive work to incorporate changes and enhancement requests received from implementation partners across the world, including the Argonaut Project.**

HL7's FHIR is a next generation standards framework that leverages the latest web standards and applies a tight focus on implementation. FHIR includes a RESTful API, which is an approach based on modern internet conventions and widely used in other industries. The standard represents a significant advance in accessing and delivering data while offering enormous flexibility and ease of development. For patients and providers, its versatility can be applied to mobile devices, web-based applications, cloud communications, and EHR data-sharing using modular components. As demonstrated most recently at the FHIR Applications Roundtable at Duke University and HIMSS17, FHIR is already widely used in hundreds of applications across the globe for the benefit of providers, patients and payers.

The list of updates and changes made to FHIR Release 3 is extensive – thousands of changes have been made in response to implementation experience and quality review processes. Some of the key changes are:

- Added support for clinical decision support and clinical quality measures
- Broadened functionality to cover key clinical workflows
- Further development of terminology services, and support for financial management
- Defined an RDF format, and how FHIR relates to linked data
- Incremental improvements and increased maturity of the RESTful API and conformance framework

In addition to these changes to the base specification, Release 3 is published along with the *US Core Implementation Guide*, a US-realm specific implementation guide developed in association with the Office of the National Coordinator for Health Information Technology (ONC).



“FHIR Release 3 is the culmination of a huge amount of work by the FHIR community, including hundreds of implementers, analysts and standards developers. We believe it will offer the best platform yet for healthcare data exchange,” said Grahame Grieve, HL7 FHIR Product Director.

The FHIR specification is expected to continue to evolve in the future as it responds to the interoperability needs of the robust FHIR implementation community. HL7's priority for the next release is to advance the key parts of the FHIR standard to a full ANSI-approved normative standard. The FHIR Maturity Model (<http://HL7.org/fhir/versions.html#maturity>) helps implementers understand how the various parts of the standard are advancing through the standards development life-cycle. ■

### Available Online:

**For more information on HL7's FHIR and to download the standard, please visit:**

[www.HL7.org/FHIR](http://www.HL7.org/FHIR)





## Electronic Clinical Summaries For Travelers

### The International Patient Summary (IPS) Project

*Standards developing organizations (SDOs), national and international agencies are all working to promote the development and the deployment of the International Patient Summary (IPS). Several patient summary-related initiatives are currently ongoing around the world. This article provides an overview of the origins and the current state and future perspectives of the IPS, with a focus on the CEN and HL7 activities.*

#### The Origins

The idea of the International Patient Summary is one of the main results of the 2010 EU/US Memorandum of Understanding<sup>1</sup> through its two operational arms:

- The European project Trillium Bridge<sup>2</sup>; and
- The Interoperability of EHR work group formed under the ONC Standards and Interoperability Framework (ONC S&I) EU/US eHealth Cooperation Initiative<sup>3</sup>.

The latter highlighted “*The need for an electronic clinical summary to be used in an emergency room encounter in a foreign country (be it in the EU or in the US) and eventually be sent back to the patient’s home country after the encounter.*”

The Trillium Bridge project recommended the advancement of “*An International Patient Summary (IPS) standard to enable people to access and share their health information for emergency or unplanned care anywhere and as needed. At minimum the IPS should include immunizations, allergies, medications, clinical problems, past operations and implants.*”<sup>4</sup>



By Steve Kay,  
Vice Chair, CEN/  
TC 251 and CEN  
IPS Project  
Leader



By Giorgio Cangioli,  
HL7 International  
Foundation and Chair,  
HL7 Italy



By Rob Hausam,  
Hausam Consulting,  
LLC; Co-Chair, HL7  
Orders & Observations  
and Vocabulary Work  
Groups

<sup>1</sup> See [ec.europa.eu/newsroom/dae/document.cfm?doc\\_id=1784](http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=1784)

<sup>2</sup> The Trillium Bridge project “Bridging Patient Summaries across the Atlantic” ([www.trilliumbridge.eu](http://www.trilliumbridge.eu))

<sup>3</sup> See <http://wiki.siframework.org/Interoperability+of+EHR+Work+Group>

<sup>4</sup> This recommendation was the result of a multi-stakeholder expert interactions that explored critical success factors for an International Patient Summary (IPS) Standard to be widely adopted and deployed within products across Europe, the US, and globally; and proposed a set of key recommendations – and related actions – on six topics: Education; Innovation; Incentives; Future standardisation; Cross vendor integration; Privacy and security and Research.



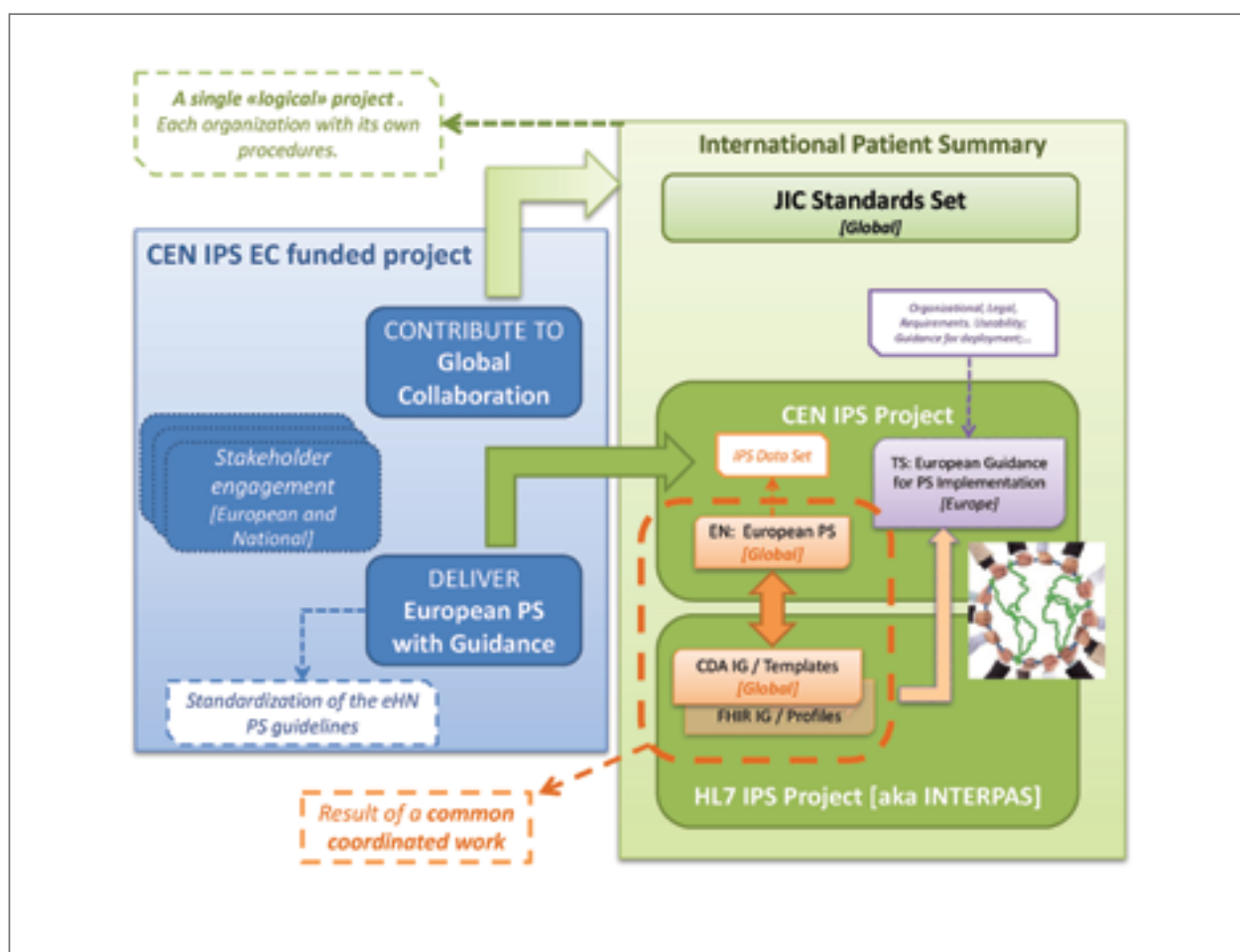


Figure 1 - The contribution of the CEN IPS grant agreement

The recommendation has been endorsed by several organizations<sup>5</sup> and was included in the 2016 Transatlantic eHealth/health IT Cooperation Roadmap<sup>6</sup>. In fact, the new roadmap aims to “Enable a standardized international patient summary (IPS) to be in use by 2020” and to “Develop and publish an IPS standard to enable the interoperable representation and communication of information about a patient’s immunizations, allergies, medications, clinical problems, past operations and implants, building on reusable interoperability assets and tools.”

The first standardization activity concerning the IPS was initially promoted in April 2014 by ONC within HL7 International. The project was called “INternational PATient Summary (INTERPAS)” and its goal was “to identify minimally required clinical data with associated vocabulary subsets for patient clinical summary, and to build international templates based on HL7 CDA Release 2 standard with vocabulary subsets to support data elements within those templates.”

In May 2016, the European Commission (EC) granted an agreement with CEN/ TC 251, recognizing the need to effectively support the leadership and active participation in IPS standardization activities. This is being done mainly through actions such as the development of European standards via CEN and the support to the HL7 IPS standardization activities (Please see Figure 1).

Thanks to the new boost from the EC and ONC, a revision of the HL7 project was started in May 2016 as well as the standardization activities in CEN/TC 251 for the European standards on Patient Summaries<sup>7</sup>.

<sup>5</sup> For example, the Joint Initiative Council (JIC) on SDO Global Health Informatics Standardization; CEN TC251; GS1; Agence eSanté, National Program of Luxembourg; the Office of the National Coordinator for Health Information Technology, United States; the HL7 International Council.

<sup>6</sup> <https://www.state.gov/p/eur/rls/or/2016/260926.htm>

<sup>7</sup> The revised HL7 project was approved in October 2016 with the new IPS name.

Continued from page 9

# The International Patient Summary (IPS) Project

## The IPS Project(s)

Since the beginning of this new phase, the initiatives were envisaged as a single common IPS project supported by different organizations, where the CEN/TC 251 and the HL7 teams worked together while taking into account the inputs of the JIC Standard Sets initiative on Patient Summary. The groups had the common intent of developing a coherent set of standards to support the International Patient Summary concept.

To expedite progress, an agreement was reached to:

- Set up an informal collaboration, promoting a continuous alignment process between the two SDO-specific projects
  - Minimize overlaps focusing the CEN/TC 251 activities on the IPS data set<sup>8</sup> and HL7 on its implementation. The first one formalized by the CEN *European standard on The Patient Summary for Unscheduled, Cross-border Care*<sup>9</sup>; the latter into an HL7 Clinical Document Architecture (CDA®) Release 2 Implementation Guide, and hopefully also into a Fast Healthcare Interoperability Resources (FHIR®) based Implementation Guide. Figure 3 depicts how the products of these standardization activities are placed in the HL7 SAIF interoperability Matrix.
- To better pursue this intent and to facilitate the development of coherent artifacts among the different organizations, individuals active in HL7 and IHE have been involved in the CEN IPS project team and in the CEN IPS strategic board.

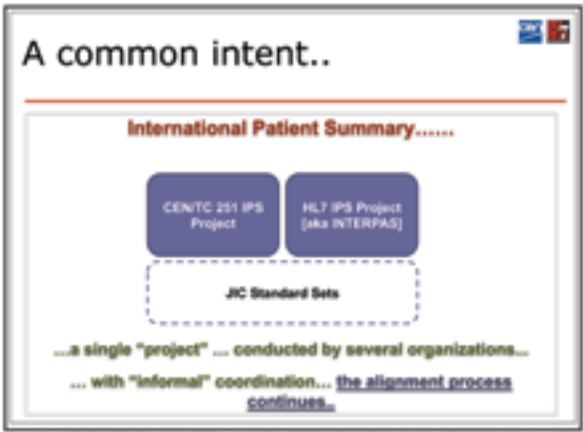


Figure 2 - The IPS as a single project

8 As described in the following sections, the CEN TC251 project works also on the development of a Technical Specification to Guide the European Implementation of the International Patient Summary.  
9 Even if it is a European Standard the perspective of this work is intended to be global.

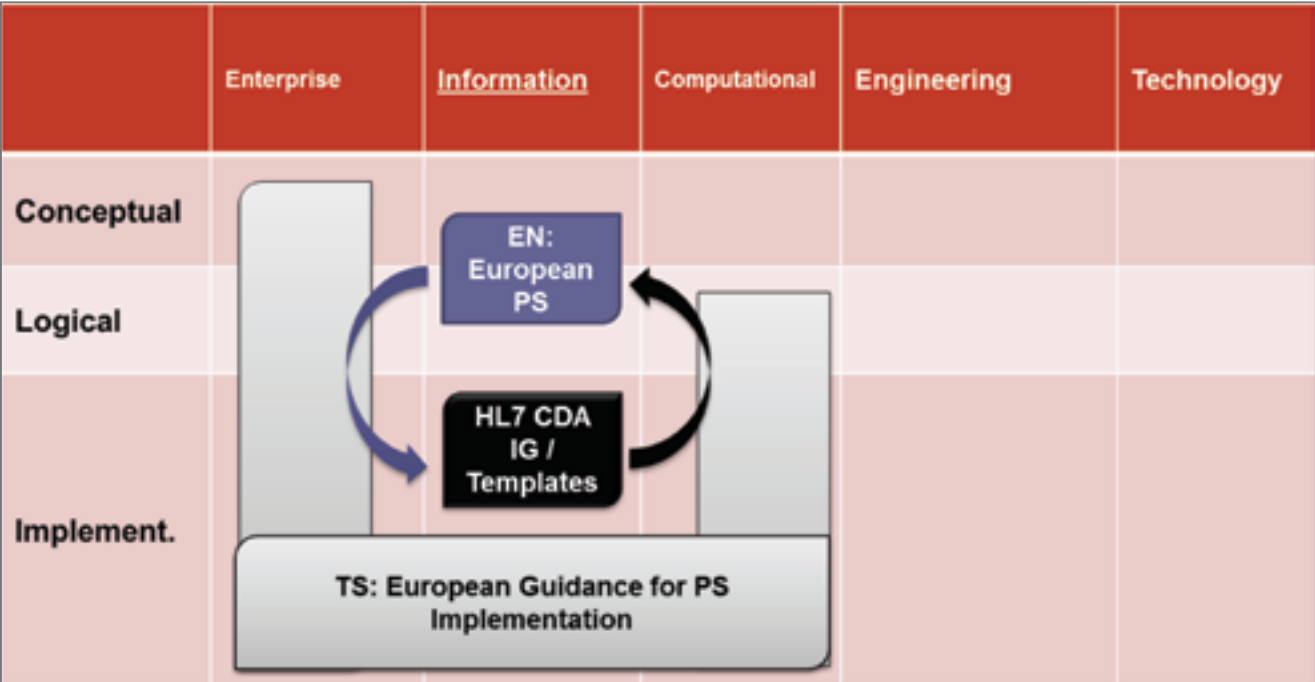


Figure 3 – Distribution of the IPS products in the SAIF interoperability matrix



Moreover, a joint workshop between CEN and HL7 was organized in Oslo to coincide with the ISO and the JIC meeting in November 2016. The main outcomes of this meeting are summarized below:

1. A shared vision of a single IPS project;
2. A common IPS scope: “Minimal and non-exhaustive Patient Summary, specialty-agnostic, condition-independent, but readily usable by all clinicians for the unscheduled (cross-border) care of a patient.”
3. An agreed set of high-level principles for the standards specification of an IPS. The IPS will be:
  - a. Implementable
  - b. Global
  - c. Extensible and open
  - d. Sustainable
4. Active management of expectations of the IPS standards specification, emphasizing its practical usefulness for both cross-border and local applications.

### The CEN IPS Project

The CEN IPS work is tasked with moving the eHealth Network (eHN) work on patient summary guidelines forward and permits the European participation and input in the global standardization activity, particularly with respect to the HL7 IPS project to ensure mutual, collaborative development of a single set of specifications. The CEN agreement also provides support for other IPS activities in both European and international projects.

The explicit standardization activities under CEN/TC 251 take the form of two work items (i.e. a prEN, and a prTS) which were prepared in outline and submitted for balloting in CEN in February 2017.

#### ***prEN: The Patient Summary for Unscheduled, Cross Border Care***

The prEN: The Patient Summary for Unscheduled, Cross-border Care “...formalizes the data set required to share information about the medical background and history of a patient ... It uses the European guidelines (Version 2, November 2016) as an official source for the requirements.” This data set is “minimal and non-exhaustive ... specialty-agnostic, condition-independent and usable by all clinicians for the unscheduled care of a person... but usable as a valuable subset of data items for scheduled care...” It “does not cover workflow processes of data entry, data collection, the summarization act nor subsequent data presentation.” This will underpin the international standard, designed with a global perspective in mind as part of the collaboration.



**prEN: The Patient Summary for Unscheduled, Cross-border Care**

#### ***prTS: The International Patient Summary: Guidance for European Implementation Technical Specification (TS)***

The prTS: The International Patient Summary: Guidance for European Implementation Technical Specification (TS) “...provides implementation guidance to support the use of the International Patient Summary data set in a European context.” It also “addresses both functional and non-functional requirements for the data set’s interchange” and “it gives selection criteria and provides examples of various transport formats and terminologies shown to be suitable for interchanging the International Patient Summary data set.” Finally, it will provide guidance for “compliance, deployment and migration”. This technical specification is intended to support implementations used in the European context.



**prTS: The International Patient Summary: Guidance for European Implementation Technical Specification (TS)**

Continued from page 11

## The International Patient Summary (IPS) Project

### The HL7 IPS Project

The goal of this project, as defined in its project statement, is to “identify the required clinical data with associated vocabulary bindings and value sets for patient summary, in the context of specific use cases, and to build an international document and associated templates based on HL7 CDA R2 (or a future CDA release) and potentially the FHIR standards, with value sets to support data elements within those templates.”

The initial use case for the IPS is to provide support for emergency care and unplanned care to serve both cross-jurisdictional (through adaptation/extension for multi-language and realm scenarios, including translation) and national (through localization) patient summaries.

The revised HL7 IPS project was formally approved in October 2016.

In an effort to achieve these goals, a “meet-in-a-middle” approach (Figure 5) was agreed upon to balance the reuse of existing templates<sup>10</sup> (bottom up) and the fitness for purposes (top down) needs with the intent to (1) facilitate the implementation (maximizing the reuse) and (2) avoid the scenario that the IPS would be just a technical exercise of template harmonization.

ART DECOR<sup>®</sup> was chosen as reference tool for formalizing the data sets (i.e. the information elements that should be implemented). The CDA R2 templates and the work-in-progress material are available in the ART DECOR<sup>®</sup> website at: <https://art-decor.org/art-decor/decor-project-hl7ips->. This site includes the tracking of identified issues. A project wiki site is available as well at the following link: [http://wiki.hl7.org/index.php?title=International\\_Patient\\_Summary\\_\(IPS\)](http://wiki.hl7.org/index.php?title=International_Patient_Summary_(IPS)).

The current plan for this project is to ballot the first STU during the September 2016 cycle. This ballot will include a CDA RS implementation guide documenting the relevant sections of an IPS<sup>11</sup>. This CDA R2 guide will be developed along with the consideration for a potential FHIR IPS implementation. The allergies and the medications sections have been initially used to develop and test the decision making process. Other sections—such as the problem list, results, medical devices, immunizations and procedures—are currently under discussion. The selection of globally usable value sets and identifiers (e.g. for medications) is one of the critical issues that, at the time of the authoring of this article, are still under resolution.

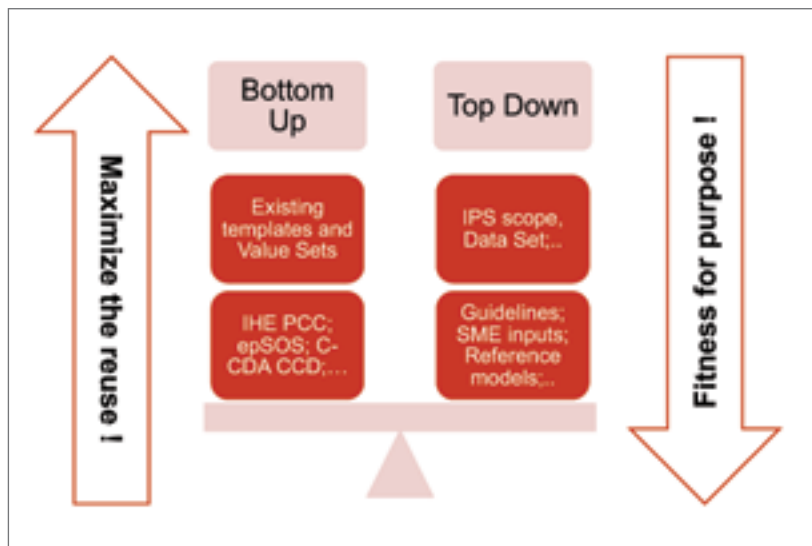


Figure 5 - The meet-in-the-middle approach for the IPS



Figure 6 - The IPS ART DECOR<sup>®</sup> project

10 C-CDA CCD; IHE PCC; epSOS/eHDSI specifications;...

11 For this first version different levels of detail are expected for the documented sections; sections that will be then incrementally refined in future STU versions.



To move the project forward, a three day face-to-face meeting was held in Paris at the end of March 2017<sup>12</sup>. The meeting was hosted by Phast and the results from the meeting will be reported on at the HL7 WGM in Madrid.

## Conclusions

The IPS project(s), in all its forms, demonstrates how a concrete and fruitful cooperation among SDOs can be achieved even on an informal basis, with tangible results, such as the following:

- A shared vision and a common scope for the IPS has been agreed upon
- A set of common principles have been established
- A cross-fertilization across the SDO-specific projects has been achieved thanks also to cross-participation in the project teams

CEN/TC 251 and HL7 have already planned concrete actions to continue on this informal cooperation and to keep the produced artifacts and governance aligned. A dedicated joint session was scheduled at the IPS face-to-face meeting in Paris (March 2017). There was also a meeting arranged with IHE in early April at its event in Venice.

Moreover, there is a common belief that to be successful, the context of this cooperation needs to be expanded beyond the SDOs. It must also consider relevant related deployment<sup>13</sup> or research<sup>14</sup> projects as well as stakeholders groups.

Figure 7 illustrates some of the European initiatives about cross-border Patient Summary, the relationship among their products and the existing potential gaps. Some initial practical actions<sup>15</sup> to mitigate these gaps have been supported by the European eStandards projects<sup>16</sup> and hopefully continued by the CEN IPS project.

The Trillium II project (see article on page 14) and other initiatives are investigating potential new scenarios for the IPS, such as the emergency and the disaster case. Even though these extended scenarios are currently out of the scope of the IPS, it is hoped that the IPS project(s) will address how these additional needs might be taken into account in its roadmap.

To conclude, the International Patient Summary activity has a well-defined and agreed upon scope. It provides an excellent opportunity for a concrete cooperation amongst SDOs and is being taken seriously both by the SDO leadership, who are committed to delivering a worthwhile IPS, and by the stakeholders, who are rightly expecting to see the fruits of the collaboration resulting in tangible benefits. Both CEN IPS and HL7 IPS recognize the need to extend the cooperation beyond the SDOs space to ensure the competency centers of the member states also see the value of the IPS work for their constituencies. The IPS is expected to deliver international and local benefit. The collaboration between CEN and HL7 is focused on making sure the IPS succeeds on both counts. ■

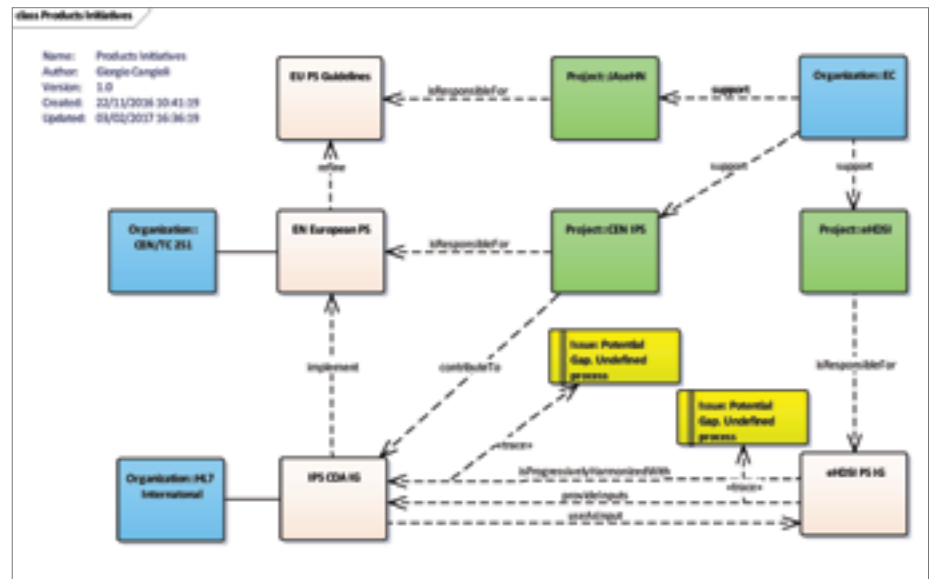


Figure 7 - Relationships among some European initiatives on Patient Summary and related products

<sup>12</sup> This meeting will be held after the authoring of this article.

<sup>13</sup> As the European Digital Service Infrastructure for eHealth project (see <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eHealth>)

<sup>14</sup> As Trillium II ([www.trilliumbridge.eu](http://www.trilliumbridge.eu))

<sup>15</sup> Mainly with the Digital Service Infrastructure for eHealth [eHDSI]

<sup>16</sup> See for example the eStandards WP5 deliverables <http://www.estandards-project.eu>



## Trillium Bridge-II: Reinforcing the Bridges

# Scaling up EU/US Cooperation on Patient Summary

The Trillium-II project supporting the EU-US Memorandum of Understanding on cooperation in eHealth interoperability had its kick off meeting on February 6-7, 2017 in Brussels.

In the second phase of the Trillium Bridge project, the HL7 Foundation has joined forces with MedCom, the Danish eHealth competence center, to bring standards cooperation and implementation to the global scale.

The first day of the meeting, hosted by the European Office of the Region of Southern Denmark at Ave Palmerston 3, welcomed 22 participants from Europe and the United States. Building on the EU-US MoU roadmap and the success of Trillium Bridge ([www.trilliumbridge.eu](http://www.trilliumbridge.eu)), Trillium-II aims to create a global community for the practice of innovation in digital health, scaling up adoption of patient summaries worldwide for the benefit of individuals and communities.

On the second day, there were two work streams. The first work stream, WP2 (Assembling Interoperability Assets for Patient Summary Components) and WP3 (Extending the Scope Beyond Emergency and Unplanned Care), met at the premises of CEN, the European Standards Institute, to evaluate the status of ongoing standardization efforts related to patient summaries. Trillium-II aims to complement standardization efforts by:

- Offering information on tools and resources;
- Facilitating knowledge sharing; and
- Catalyzing synergies that will lower the cost of implementing standards and advance the practice of interoperability.



By Catherine Chronaki,  
Secretary General, HL7 Foundation

**Trillium-II aims to open up a window to health data and to allow safe and secure use of health data, where and when needed**



Trillium-II starts from Trillium Bridge's broadly endorsed recommendation to: *"Advance an International Patient Summary (IPS) standard to enable people to access and share their health information for emergency or unplanned care anywhere and as needed. At minimum the IPS should include immunizations, allergies, medications, clinical problems, past operations and implants."*

Trillium-II aims to open up a window to health data and to allow safe and secure use of health data, where and when needed, to support individuals and communities in situations ranging from unplanned care to emergencies or disasters.

The second work stream was hosted by European Heart Agency of the European Society of Cardiology. WP1 (Stakeholder Engagement), WP5 (Context, Role and Adoption of the International Patient Summary in the Global Ecosystem), WP6 (Making it Real: Engaging with the Practice of Digital Health Innovation), and WP7 (Dissemination, Market Outreach and Sustainability), analyzed the key stakeholders for patient summaries and articulated key messages that should appeal to their needs and interests. The two work streams met for lunch and shared their findings in the afternoon. They also prepared for the next day's International Patient Summary Workshop hosted by the European Commission.

With a consortium that brings together 25 organizations from Europe and the United States, Trillium II seeks to reinforce bridges and help realize the benefits of eHealth investments with standards and supporting tools. In this way, it will contribute to the lowering cost of interoperability by offering patient summaries as a route to productively engage health and care standardization as well as support innovative solutions that will lead to much-improved patient outcomes.

NEN, the Danish standardization institute, represents CEN TC251 and leads WP5. NEN, HL7, IHE Europe, and CDISC Europe are the participating standards organizations. The European Institute for Innovation through health data leads WP4, which focuses on the context, role and adoption of the International Patient Summary in the global ecosystem. Empirica in Germany leads development of an assessment framework to measure adoption (WP4/WP6). Gnomon Informatics SA in Greece leads WP2 and the assembly of interoperability assets for patient summary components. SRDC in



Turkey leads the development of a cookbook for security and privacy tools. PHAST ASSOCIATION in France will help collect resources for medication and lab results. OFFIS in Germany and its team addresses imaging tools and resources for the patient summary. Lombardia Informatica in Italy leads WP6, focused on making it real by engaging broad stakeholders with the practice of digital health innovation through patient summaries. THL, the national eHealth competence center of Finland, spearheads the efforts to collect tools and resources for the vaccination component of the patient summary. ADI and DHACA in the United Kingdom lead WP7, centered on the dissemination, market outreach, and sustainability efforts of engaging partner networks such as the Connected Health Alliance (UK) and its ecosystems. SPMS, the national eHealth competence center of Portugal, will lead the work on allergies. TICSALUT, the competence center of Catalonia in Spain, will lead the work on problems and procedures. AHIMA (US), Reliant (US), Lantana (US), Prosocial (US), Kaiser Permanente (US), along with eSante (Luxemburg), SPMS, and TicSalut will be among the organization that will participate in the demonstration of project results. ■

### Available Online:

For more information please visit:

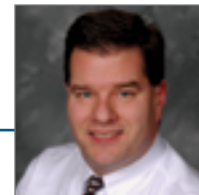
[cordis.europa.eu/project/rcn/206099\\_en.html](http://cordis.europa.eu/project/rcn/206099_en.html)

as well as the updated website:

[www.trilliumbridge.eu](http://www.trilliumbridge.eu)

## News from the HL7 Project Management Office

## ONC Grant Project: Enhancing C-CDA Implementation and FHIR



By Dave Hamill,  
Director, HL7 Project  
Management Office

In 2015, The Office of the National Coordinator for Health IT (ONC) awarded HL7 a grant to enhance and improve implementation of the Consolidated Clinical Document Architecture (C-CDA®) implementation and support the Fast Healthcare Interoperability Resources (FHIR®) infrastructure. In 2016, the collaborative agreement continued and additional grant funds were awarded to focus primarily on FHIR development. The grant covers twelve components listed below with the first seven complete.

1. Discovery of C-CDA content inconsistencies via surveys and in-person Implementation-a-thons
2. Extension and/or modification of template samples to address inconsistencies identified by item 1 above
3. Creation of an updated C-CDA R2.1 Companion Guide informed by items 1 and 2 above
4. A C-CDA rendering prize challenge
5. A C-CDA scoring methodology Enhance/ Upgrade the platform where C-CDA sample templates reside
6. Define FHIR Repository processes
7. Updates to the HL7 Help Desk section specific to C-CDA to address items 1-3 above

8. Harmonize/Standardize FHIR Terminology and Information Models
9. Create a FHIR Profile Registry/Repository Prototype
10. Modify/Enhance C-CDA Value Sets
11. Develop a FHIR Tools and Profile Roadmap

### Available Online:

**Tools from the C-CDA rendering prize challenge and upgrading the platform where C-CDA sample templates reside have been added to HL7's website under**

Resources > Tools and  
Resources > CDA Tools

Progress this past quarter on other components has been the following:

Jean Duteau and Joginder Madra of Duteau Design, Incorporated, worked with the Structured Documents Work Group to reconcile ballot comments and publish the C-CDA R2.1 Companion Guide this past quarter.

The purpose of the new guide was to:

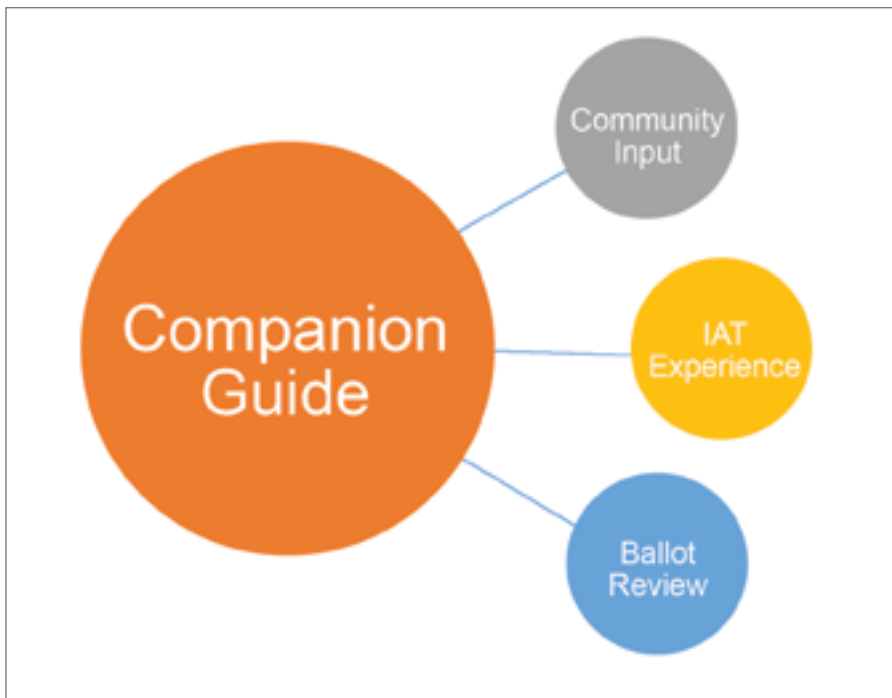
- Supplement the C-CDA R2.1 Implementation Guide to provide additional context to assist implementers and connect them to tools and resources
- Map ONC's common clinical data set (CCDS) to the appropriate C-CDA locations

- Provide technical guidance for representing the 2015 Edition Certification Criteria data requirements using the C-CDA R2.1 Implementation Guide
- Include clinically-valid examples of C-CDA components necessary to meet 2015 Edition Certification Criteria requirements
- Recommend an approach to implementations using the C-CDA IG to meet the needs of clinicians and achieve ONC Certification

The C-CDA R2.1 Companion Guide, available at [http://www.hl7.org/implement/standards/product\\_brief.cfm?product\\_id=447](http://www.hl7.org/implement/standards/product_brief.cfm?product_id=447), was developed through engagement with the CDA community via in-person Implementation-a-Thons and working group meeting sessions.

Guidance includes certification-specific guidance as well as general best practice recommendations. To meet the criteria for inclusion in the guide, guidance was only included if there was clear community consensus with respect to a problem area AND there was clear community consensus regarding the solution.

Stakeholders included vendors of all sizes, clinicians, ONC staff and members of the Structured Documents Work Group.



The companion guide was balloted in September 2016 with over 540 comments received and reconciled.

To aid readers in their understanding of C-CDA R2.1, over 34 guidance examples are contained with the guide. Also included are full Continuity of Care Document (CCD®), Discharge Summary and Referral Note document examples. Guidance examples were vetted with the HL7 Examples Task force and the full document examples were scored against the SITE C-CDA Scorecard (<https://sitenv.org/ccda-smart-scorecard/>).

HL7 conducted a fourth C-CDA Implementation-A-Thon (IAT) just prior to the HL7 January Working Group Meeting in San Antonio, Texas. HL7 would like to continue IATs in the future whether they are face-to-face or virtual so as to make it easy to broaden the participants. The primary obstacle is making them self-sufficient without needing assistance from grant funds.

Robert Dieterle of EnableCare, LLC led the project to define the following FHIR repository processes:

- **Specification Development Process:** identifies how specifications are developed
- **Specification Publication Process:** identifies how and where specifications are published
- **FHIR Repository Management Process:** identifies how HL7 manages the life cycle, access control and approval process for the technical resources associated with implementation guides. A list of functional requirements of the repository was also developed
- **FHIR Specification Maturity Process:** identifies how specifications migrate through a maturity process from an initial draft to a final form

*Continued on page 18*

**WELCOME**  
*New Members!*

HL7 Welcomes New Members

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**Organizational**

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- Royal Jay
- TGX Medical Systems
- University of Arkansas Medical Sciences
- Uticorp, Inc.
- Verscent Technologies, Inc.
- Wairever Inc.
- Wisconsin Department of Health Services
- Yampa Valley Medical Center



Continued from page 17

## ONC Grant Project: Enhancing C-CDA Implementation and FHIR

- **FHIR Repository Version Process:** provides the requirements of creating versions of extension, value sets and profiles that would be ‘published’ to the repository
- **U.S. Regulatory Process:** clarifies how all of the processes above relate to U.S. regulatory requirements
- **Governance Process:** provides a quality, user-friendly, predictable, and consistent management of the repository

Work began to harmonize/standardize FHIR terminology and information models by undertaking a proof of concept project to demonstrate the value of creating, adopting and implementing a process to standardize data elements and harmonize clinical models to create FHIR profiles for specific use cases. Use of FHIR profiles created via this process will result in highly interoperable applications that can pull data from virtually any EHR. The three deliverables from this project will be:

1. Documentation of the agreed on and repeatable process for standardizing data elements and creating the related CIMI models and FHIR profiles for a particular use case
2. Development of the DAMs, CIMI models and FHIR profiles for one or more selected SMART on FHIR applications currently under development
3. Development and publication of a related FHIR Implementation Guide

On behalf of the FHIR Foundation (FHIR-F), Health Level Seven International (HL7) issued a Request for Information (RFI) for potential solution providers who can offer system solution to meet the need of implementers within the FHIR community to share and find FHIR profiles, code systems, value sets, naming systems, data elements, implementation guides and other implementation resources.

RFI respondents provided the following information for their solution:

- General product description and functionality
- Product support for content management, curation and governance
- Product technical information
- Product and business strategy
- Product implementation approach and services
- Product cost

At the time of writing, RFI submissions were being reviewed by the selection panel.

The project to update C-CDA value sets will perform quality assurance against existing C-CDA value sets and define an ongoing value set maintenance process by modifying and enhancing C-CDA value sets. This will be accomplished by the following:

- Reviewing and performing ‘quality assurance’ against current C-CDA value set definitions in VSAC (Value Set Authority Center)
- Defining requirements and processes for ongoing maintenance of C-CDA value sets; implementing those requirements and piloting the processes for C-CDA value sets so as to establish a new baseline collection of up-to-date C-CDA value sets.
- Continuing the work above to develop value set updates and present those changes as issues for discussion or errata to the Structured Documents Work Group (SDWG) on an ongoing basis. Collaborate with the SDWG on the resolution of these changes by hosting a wiki consensus review.

At the time of writing, RFP responses were being reviewed by the selection panel.

HL7 appreciates ONC’s continued support of C-CDA and FHIR for 2017 and beyond. ■



# HL7<sup>®</sup> FHIR<sup>®</sup>

## Straight from the source

**No one knows more about FHIR than HL7**

**HL7 FHIR is real today.** In use by major players across healthcare, HL7 FHIR is the game-changing standard that makes developing interoperable solutions dramatically faster and easier.

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**[www.HL7.org/FHIR](http://www.HL7.org/FHIR)**





Defining Use Cases for Clinical Genomics

HL7 Publishes Domain Analysis Model for Clinical Sequencing

Personalized medicine – with its hope of delivering therapy tailored to individual patients – requires the capturing and use of data from an individual’s genomic sequencing. To make these possible and routine, changes in healthcare policy, primary care processes, and payer reimbursement will be necessary, not least to guide corresponding changes to electronic health record (EHR) systems, laboratory information systems (LIS), and data security.

One challenge will be to identify and catalog the many clinical genomics sequencing use cases already common today or clearly anticipated in medicine and to describe the models, workflow, and stakeholders involved for end-to-end movements of associated data – called a *domain analysis model* (DAM). To be sure, a yet larger challenge will be to craft standards that can be used to guarantee interoperability among the various systems that originate, process, and return genomic laboratory data, analyses, and associated clinical findings through this pipeline.

The HL7 Clinical Genomics Work Group has now completed a comprehensive domain analysis model

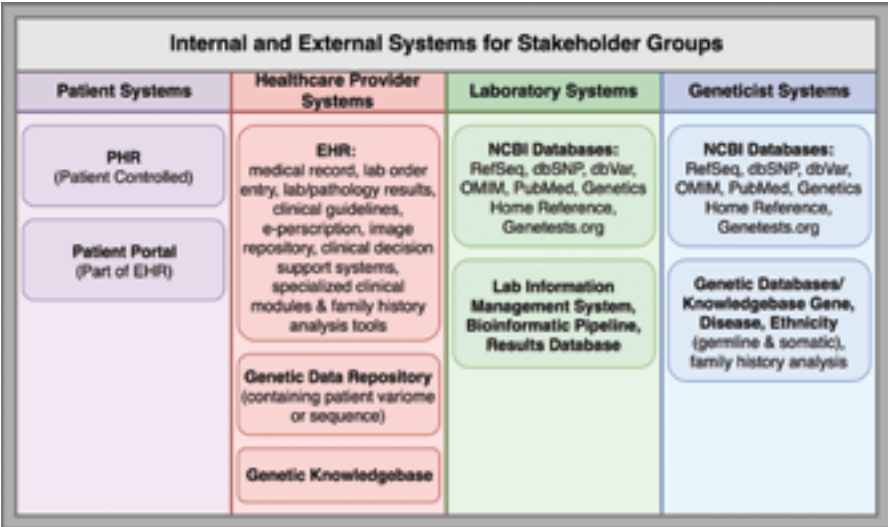
of clinical sequencing. Culminating over five years of work, the “*HL7 Domain Analysis Model: Clinical Sequencing*” document was officially published in February 2017.



By Gil Alterovitz, PhD,  
Co-Chair, HL7 Clinical  
Genomics Work  
Group and Assistant  
Professor, Harvard  
Medical School/Boston  
Children’s Hospital



By David Kreda,  
Consultant, Harvard  
Medical Schools





The National Institutes of Health (NIH) had cited the earlier draft when it announced the *All of Us* Research Program, formerly known as the Precision Medicine Cohort Program. The approximately 70-page publication version is designed for analysts and developers who require guidance on incorporation of genomic data into clinical care and translational research IT environments. It will be useful for developers of genomic and healthcare IT data standards, including HL7, who can use this guide to develop robust standards for support of clinical sequencing, including having motivated the genomics specification portion of the FHIR Standard for Trial Use Release 3.

The clinical sequencing DAM deals with 20 stakeholder types, both internal and external, ranging from reference laboratories to molecular pathologists (see table). It describes clinical genomic use cases, including clinical sequencing for precision medicine, cataloging clinical scenarios, current challenges and lessons learned, and questions for standards-based implementations.

Primary and alternative use case workflows (see the Germline testing workflow figure below), recommendations for nomenclature, terminology, reference knowledge databases, vocabulary constraints, existing gaps, extensions, outstanding questions, and a review of existing HL7 Clinical Genomics specifications are all covered in the publication.

Sample use case scenarios include the following:

- Specimen Identification
- Germline Testing
- Cancer Profiling – Somatic Testing, Decision Making Tools – Family History and Drug Dosage Calculators
- Public Health Reporting
- Clinical and Research Data Warehouses
- Cytogenetic Marker identification via sequencing
- Pharmacogenomics
- State & Regional Health Information Exchanges (HIE)
- Human Leukocyte Antigen (HLA) Typing

Going forward, the HL7 Clinical Genomics Work Group is looking to add other ‘omics’ use cases to produce a more comprehensive domain analysis model for advancing work on information modeling, among other things.

Publication of the “*HL7 Domain Analysis Model: Clinical Sequencing*” document was co-led by Gil Alterovitz and Mollie Ullman-Cullere (current and former co-chairs of the HL7 Clinical Genomics Work Group, respectively) with over 15 content contributors from the HL7 Clinical Genomics Work Group. ■





## Making a Plan For Capturing and Deploying Clinical Data

# Clinical Data Trends for Healthcare Payers

In today's healthcare environment, there are two types of data: claims data and clinical data.

Claims data has been the primary data source for payers for decades. For the past 20 years under HIPAA, regulated data and transactions were well defined. Claims data used for reimbursement also became an excellent source for chronicling cost and patterns of care.

With the advent of Meaningful Use, clinical information such as orders, vital signs and medication

administrations no longer only exist in paper forms. Now clinical data is becoming available to healthcare payers from a variety of sources such as electronic medical records, registries, laboratories and vendors.

While much of clinical data is unregulated, a majority of the data follows Health Level Seven (HL7) clinical standards. HL7 standards come in three formats

— legacy Version (V2) Messages, Version 3 (V3) Documents and API based Fast Healthcare Interoperable Resources (FHIR®).

As healthcare payers move to value-based care and other business models, change is accelerating in the healthcare payer industry requiring payers to acquire clinical data. Beginning a formal plan now will ease clinical transition.



By Craig Gabron,  
Co-Chair, HL7  
Attachments Work  
Group

**Planning for Clinical Data:**

- **Identify your sources of clinical data:** i.e. hospitals, laboratories, registries, clearing-houses, vendors and other sources (i.e. state health exchanges).
- **Identify clinical data messages:** HL7 Version 2 (i.e. Admission, Discharge, Transfer (ADT), Observation Result (ORU), Order (ORM), HL7 Version 3 (i.e. History and Physical, Discharge Summary, Operative Note), FHIR Resources (i.e. CarePlan, Procedure, ReferralRequest).
- **Review required skill sets:** Mining clinical data requires personnel with the right skillsets such as actuaries, data scientists, department leaders, operations, designers and information technology skilled in big data, APIs, warehousing and the internet of things (IOT).
- **Assimilating clinical data into an organization:** Initially, it seems the best way to acquire clinical data is by utilizing existing EDI infrastructure, since point-to-point protocols are currently established. However, this approach could be costly, requiring re-engineering and time-consuming one-off implementations. In HL7 standards, multiple versions exist for V2, V3 and FHIR messages. With most of this data being unregulated, it is hard to know what version to expect from various data sources.
- **Where and how will you store and access clinical data?** One potential approach to consider is a Data Lake. A Data Lake is a storage repository that holds vast amounts of raw data in its native format until it is needed. Remember many clinical documents are unstructured or are in various HL7 versions, V2, V3 or FHIR. Data pulled from the lake is formatted on the way out with the help of experienced data scientists or analysts. You can compare this approach to using Google, search for relevant information and serve it up, as you need it.
- **Stocking the lake:** To improve data extraction, it is important to fill the lake with pertinent metadata. Because HL7 comes in many formats, an Integration Engine can help harmonize data. It is specifically built for the healthcare industry to connect legacy systems by using a standard messaging protocol. For instance, laboratories typically send V2 messages in different versions. Instead of re-engineering for each laboratory, a common format can be stored in the lake to ease extraction. The Interface engine can translate HL7 V2, V3 and FHIR clinical data into a common format.
- **Future clinical data use cases:** The Office of the National Coordinator has adopted HL7 FHIR on its roadmap. Many healthcare organizations are currently enabling FHIR based APIs to transmit and receive clinical data. The large electronic healthcare record vendors such as EPIC, Cerner, Allscripts and 3M are opening FHIR based endpoints to their products. The Federal government, including the Department of Defense, Veterans Administration, CMS, Food and Drug and other agencies, is also implementing FHIR based solutions. In the not too distant future, healthcare payers may need to interact with these systems.
- **Normalize clinical data:** Standardizing clinical data improves costs. Standardization under HIPAA for claims data mitigated costs could work for clinical data as well. The Workgroup for Electronic Data Interchange (WEDI) or Americas Health Insurance Plans (AHIP) could facilitate in the normalization process.
- **Return on Investment:** The HL7 FHIR standard for clinical data is free to license and free to implement. The FHIR standard uses many open-sourced off-the-shelf tooling and technologies such as XML/JSON, HTTP, SSL, OAuth, Atom and RESTful API. Production implementations using FHIR APIs to move extracted clinical data from the lake or data repositories are currently in use. This approach allows a healthcare payer to build needed infrastructure in-house instead of using costly vendors.

Clinical data is here to stay. Now is a great time to determine the best fit for obtaining and incorporating clinical data into your organization. ■





## Affiliate Spotlight: HL7 Poland

HL7 Poland officially joined as an affiliate in February 2017. The initiative to form the affiliate included several individuals from Polish software vendors, medical providers and independent health IT consultants who were already involved in implementation of HL7 standards. In addition, three major Polish organizations joined the effort, including the following:

1. The National Center for Healthcare Information Systems (CSIOZ), which is an official eHealth government agency
2. The Polish Chamber of Healthcare IT (PIIM), associating healthcare software vendors and their clients, medical providers in the form of professional self-government body
3. The Association of Healthcare Software Providers (STORM), which is the organization of leading software vendors interested in healthcare market.

HL7 Poland's goal is to participate in the development of interoperability standards in healthcare, to promote their use and to look after their coherent and effective implementation. The affiliate takes part in national eHealth programs and strives to be recognized as a valuable and important

partner for government and self-government bodies in the country. HL7 Poland will provide assistance to entities that undertake actions consisting in the development of their own localizations of HL7 standards and their correct implementation and application. HL7 Poland will focus on education and consensus based cooperation between various stakeholders of interoperable healthcare.

### **Is HL7 currently being used in Poland? If so, which standards have been implemented and what are the most successful implementations thus far?**

For years the only HL7 standard commonly used in Poland was HL7 Version 2 messaging, which is still the most popular way of electronic exchange of laboratory orders and results. The first large-scale implementation of HL7 Clinical Document Architecture (CDA®) standard took place in 2010. LUX MED Group, the largest private medical provider in Poland, introduced electronic clinical documentation in more than 100 medical facilities across the country, leading to tens of millions of

*Key founding members of HL7 Poland (left to right): (1) Tomasz Judycki, President of the Polish Chamber of Healthcare IT, (2) Marcin Pusz, Board Member of HL7 Poland, (3) Roman Radomski, Chair of HL7 Poland and Vice President of the Polish Chamber of Healthcare IT, (4) Andrzej Strug, President of the Association of Healthcare Software Providers, (5) Paweł Masiarz, Deputy Director of the National Centre for Healthcare Information Systems and Board Member of HL7 Poland*

CDA-conformant document instances being issued every year. Since then, several other local implementations of CDA took place. In 2012, the official government eHealth agency (CSIOZ) recommended HL7 CDA as a standard for clinical documents. The first draft of the National Implementation Guide for HL7 CDA was published in 2013, covering just three types of clinical documents - only those that were planned to be exchanged by central exchange platform (P1). Despite a few failures of the central eHealth projects, the national implementation guide for HL7 CDA was developed by CSIOZ and is well received by the healthcare IT community in Poland. At the beginning of this year, Version 1.2, consisting of more than 200 CDA templates—including 24 on document level—all in ART DECOR format, was published. Version 1.3 is planned to be

released later this year.

The national IG for CDA is currently available also at the main ART DECOR server. HL7 Poland will soon publish another building block repository there for non-normative CDA templates developed by various teams across Poland.

### **Does Poland use other, non-HL7 healthcare standards?**

In Poland, a popular standard used in diagnostic imaging is DICOM. There is also wide use of clinical terminologies, including ICD10 for diagnoses and ICD9 for procedures. More advanced dictionaries like SNOMED CT and LOINC are being considered to implement more widely in the future. Important role is played by IHE integration profiles, XDS in particular. Other standards including openEHR are also present, but not popular yet. It seems that the future architecture of healthcare interoperability in Poland is going to be multi-standard based.

### **Does your affiliate plan to ballot any HL7 standards or implementation guides for your country?**

The Polish National IG for HL7 CDA needs to be adopted formally by HL7 Poland as a national localization of CDA standard. The balloting process is probably required, but first we need to make the necessary agreements with CSIOZ and other parties to clarify the status of the specification and to agree on a common strategy for its further development and maintenance.

### **What other activities does HL7 Poland participate in and are you planning any meetings or taking part in any events?**

HL7 Poland has initiated an ambitious education program, including two HL7 CDA courses: one for beginners and one for those individuals who are planning to take CDA certification exam. The program also includes a workshop on CDA conformance validation and introductory training in HL7 FHIR. All courses are free for HL7 Poland members. The affiliate was also a merit partner of the “IT in Healthcare” conference that took place in Wroclaw in March, where Roman Radomski delivered a keynote speech on the HL7 CDA standard.

HL7 is co-organizing another conference on healthcare interoperability with CSIOZ. The affiliate will host the second day of the conference and the core session will consist of case studies on the successful implementations of interoperable solutions which will be delivered by representatives of selected organizational members HL7 Poland. HL7 Poland will also participate in the HL7 International Conference and Working Group Meeting in Madrid in May. The affiliate also plans to submit couple of Polish papers for IHIC 2017 in Athens. As an incentive to submit more articles, the HL7 Poland is going to cover the conference fee for all presenting

### **Who are the current members of the HL7 Poland Board?**

The Board of HL7 Poland consists of Roman Radomski (Chair), Paweł Masiarz and Marcin Pusz. The Chair of the Technical Committee is Sebastian Bojanowski. There are a few other statutory bodies of the organization including the Program Board that gathers together representatives of all organizational members and all members of the Technical Committee. It seems that this would be the main platform for merit and policy discussions across the organization.



*Roman Radomski*

authors from the organization.

HL7 Poland is also one of the founding organizations of the Interoperability Council, lately established structure responsible for coordination of strategic eHealth activities in Poland.

### **What role do you see HL7 standards playing in your country over the next 1-3 years?**

The future depends very much on the actual progress of the Polish eHealth programs. It seems that HL7 CDA is already well placed as a national standard for electronic clinical documents. The global wave of HL7 Fast Healthcare Interoperability Resources (FHIR®) popularity will likely come to Poland very soon. There is quite a lot of work for HL7 Poland in the coming years, and the main task is to find a central place for HL7 in the Polish healthcare interoperability landscape. ■





## Newly Certified HL7 Specialists

Congratulations to the following people who recently passed the HL7 Certification Exam

### Certified HL7 Version 2.x Chapter 2 Control Specialist

#### DECEMBER 2016

Antony Liao  
Ben Maweu  
Shailesh Kumar  
Rajat Sharma  
Hemant Garg  
Jyoti A. Dudhal  
Garkhedkar Kirtida  
Kamalakar  
Gautam Garg  
Sahil Khanna  
Elizabeth Jemy  
Kailash Chandra Suthar  
Amit Vitalkar  
Raghvendra Jha  
Swapnil Dilip Ahirrao  
Priyam Lamba  
Shiv Kumar Pal  
Virendra Shinde  
Chetan Vengurlekar  
Pratik Dodia

#### JANUARY 2017

Herman Bidwal  
Devaki Purushothaman  
Alejandro Mora Jardon  
Rubén Roperó Ruíz  
Alejandro Sandín  
Estevan  
Miquel Noheras Tubert  
Joan Francesc  
Puig Pallares  
Ana Martin Pero Garcia  
Andres Cuevas  
San Mamés

#### FEBRUARY 2017

Shreekant Majge  
Cristian Fernandez  
Pardo  
Ricardo Perez  
Emmanuel Francisco  
Venkat Raghavan  
Jorge Alvarez Rodriguez

Jose Sancho Hernandez  
Amara Lopez Lucas  
Marc Puigvert Fulladosa  
Rafael Valera Xumet  
Jaume Serra Roig  
Fiona Desiree Mc  
Hardy Perez  
Jose Manuel  
Arevalo Lopez  
Francisco De La Llave  
Barambones  
Carlos Trujillo Romero  
Andrés Bernardino  
Sanchez  
Joan Casals Alonso  
Gabriel Reus Rodriguez  
Paco Caracuel Munuera  
Noelia Matos Castellví

#### MARCH 2017

Jayalatha Vajjala  
Rodney Andrews  
Randy Ison  
Matthew Mucci  
Josette Nobriga  
Anna Serrano  
Kothandarajan  
Duraiswamy Rajaram  
Arun Nadar  
Venkatesh Vasu  
Ravi Aswal  
Sharath Kumar  
Goud Madgula  
Deepti Dabral  
Diane Singe



### Certified HL7 CDA Specialist

#### DECEMBER 2016

Hsin Hao Hung  
Cheng Chung Fu  
Chih Hsuan Chien  
Reema Shirwaikar  
Chetan Shamkant Kamble  
Manish A Ramrakhyani  
Divyen Bari

#### JANUARY 2017

Casey Thompson  
Scott Rappoport

#### MARCH 2017

Tho Quach  
Parul Malik  
Sheena Sharma

## Coming this September!

HL7 will be retiring Version 2.7 of the certification exam and introducing Version 2.8.

Watch your in-box for new training courses and study tips. If you want to take the HL7 Version 2.7 exam, there's still plenty of time to do so, **sign up today!**

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## RE-SHAPING HEALTHCARE SYSTEMS

**Save the Date for the 17<sup>th</sup> International HL7 Interoperability Conference (IHIC) 2017**

**October 22-24, 2017  
Athens, Greece**

### Important Dates

Deadline for Paper Submissions

**May 31, 2017**

Evaluation and Notification

**July 15, 2017**

Camera-ready papers due

**August 15, 2017**

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 Health Care Service Corporation  
 Healthcare Integration Technologies  
 HealthRx Corporation  
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 Klein Consulting Informatics LLC  
 Microsoft Corporation  
 Modernizing Medicine  
 MinuteClinic  
 Moxe Health  
 National Association of Dental Plans  
 National Cancer Institute  
 NIH/Department of Clinical  
 Research Informatics  
 Oracle Corporation - Healthcare  
 PenRad  
 Ready Computing Inc.  
 Rochester RHIO  
 Sparx Systems  
 St. Joseph Health  
 Standing Stone, LLC  
 Starwest Tech  
 TBiOS-Total Business Integration  
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Advanced Medical Technology Association (AdvaMed)	eHealth Initiative	PCPI
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Alabama Department of Public Health	Estonian eHealth Foundation	Pharmaceuticals & Medical Devices Agency
American Assoc. of Veterinary Lab Diagnosticians	European Medicines Agency	Primary Care Information Project, NYC Dept Health
American Clinical Laboratory Association	Florida Department of Health	Provincial Health Services Authority
American College of Cardiology	Food and Drug Administration	Radiological Society of North America
American College of Physicians	Georgia Department of Public Health	Ramsey County Public Health
American College of Radiology	GSI US	Region Syddanmark
American College of Surgeons, NTDB	Health and Social Care Information Centre	Rhode Island Quality Institute
American Dental Association	Health Sciences South Carolina	SAMHSA
American Health Information Management Association	Healthcare Services Platform Consortium	SC Dept. of Health & Environmental Control HS
American Immunization Registry Association (AIRA)	HealtheConnections	Social Security Administration
American Medical Association	HSE - Health Service Executive	Strathmore University
American Psychiatric Association	I3L @ GaTech	Tennessee Department of Health
American Society of Clinical Oncology	ICCBBA, Inc.	Texas Health Services Authority
AORN	IFPMA (as trustee for ICH)	The Joint Commission
Arizona Department of Health Services	Indian Health Service	The Sequoia Project
ASIP SANTE	Iowa Department of Public Health	U.S. Department of Defense, Military Health System
ASTHO	Japan Pharmaceutical Manufacturers Association	U.S. Department of Veterans Affairs
Australian Digital Health Agency	L.A. County Dept of Public Health	UCLA Arthur Ashe Student Health & Wellness Center
CA Department of Public Health	Mary Greeley Medical Center	UCLA Health
California Department of Health Care Services	Mercer University	UCSF Center for Digital Health Innovation
Cambia Health Solutions	Michigan Health Information Network	United Physicians
CDISC	Michigan State University HIT	Univ of TX School of Biomedical Informatics
Center for Medical Interoperability	Minnesota Department of Health	University of AL at Birmingham
Centers for Disease Control and Prevention/CDC	Missouri Department of Health & Senior Services	University of Arkansas Medical Sciences
Centers for Medicare & Medicaid Services	NAACCR	University of Miami
Central Health	National Association of Dental Plans	University of Minnesota
City of Houston	National Cancer Institute	University of Texas Medical Branch at Galveston
City of Toronto Long-Term Care Homes & Services	National Center for Health Statistics/CDC	UW Medicine Information Technology Services
College of American Pathologists	National Centre for Healthcare Information Systems	Virginia Department of Health
College of Healthcare Information Mgmt. Executives	National Comprehensive Cancer Network	Washington State Department of Health
Colorado Regional Health Information Organization	National Council for Prescription Drug Programs	Westat
Connecticut Department of Public Health	National Institute of Standards and Technology	WNY HEALTHeLINK
Contra Costa County Health Services	National Library of Medicine	WorldVista
Council of Cooperative Health Insurance	National Marrow Donor Program	
Council of State and Territorial Epidemiologists	NCQA	
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Department of Health & Human Services	New York State Office of Mental Health	
Department of State Health Services (Texas)	NICTIZ Nat.ICT.Inst.Healthc.Netherlands	
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	Oklahoma State Department of Health	
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 Blue Cross and Blue Shield of Alabama  
 Blue Cross Blue Shield Association  
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 Blue Cross Blue Shield of South Carolina  
 BlueCross BlueShield of Tennessee  
 Community Health Network of CT  
 Delta Dental Plans Association  
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 Highmark Health  
 Meridian Health Plan  
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### PHARMACY

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 Albany Medical Center Hospital  
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 ARUP Laboratories, Inc.  
 Ascension Health Information Services  
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 Blessing Hospital  
 Boston Children's Hospital  
 Boston Medical Center  
 Carilion Services, Inc.  
 Cedars-Sinai Medical Center  
 Central Illinois Radiological Associates  
 Centre Hospitalier du Nord  
 Children's Mercy Hospitals and Clinics  
 Children's of Alabama  
 CHRISTUS Health  
 City of Hope National Medical Center  
 Cleveland Clinic Health System  
 Diagnostic Laboratory Services  
 Duncan Regional Hospital, Inc.  
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 Geisinger Health System  
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 Kaiser Permanente  
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 Milton S. Hershey Medical Center  
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Attachments

Biomedical Research & Regulation

Child Health

Clinical Genomics

Clinical Interoperability Council

Clinical Quality Information

Community Based Collaborative Care

Emergency Care

Health Care Devices

Learning Health Systems

Patient Care

Pharmacy

Public Health & Emergency Response

### FOUNDATION & TECHNOLOGY

Application Implementation & Design

Clinical Information Modeling Initiative

Conformance

FHIR Infrastructure

Implementable Technology Specifications

Infrastructure & Messaging

Modeling & Methodology

Security

Service Oriented Architecture

Templates

Vocabulary

### TECHNICAL/SUPPORT SERVICES

Education

Electronic Services & Tools

Healthcare Standards Integration

International Mentoring Committee

Process Improvement Committee

Project Services

Publishing

### STRUCTURE & SEMANTIC DESIGN

Arden Syntax

Clinical Decision Support

Clinical Statement

Electronic Health Record

Financial Management

Imaging Integration

Mobile Health

Orders & Observations

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May 10-12, 2017 <b>eHealthweek 2017</b>	<a href="http://www.ehealthweek.org/">www.ehealthweek.org/</a> Malta
May 14-16, 2017 <b>pHealth 2017</b>	<a href="http://www.phealth2017.eu">www.phealth2017.eu</a> Eindhoven, The Netherlands
May 22-24, 2017 <b>Medical Informatics World Conference 2017</b>	<a href="http://www.medicalinformaticsworld.com">www.medicalinformaticsworld.com</a> Boston, Massachusetts
June 4-7, 2017 <b>eHealth Week Canada</b>	<a href="http://www.e-healthconference.com">www.e-healthconference.com</a> Toronto, Ontario, Canada
June 12-13, 2017 <b>Interoperabilitätsforum</b>	<a href="http://interoperabilitaetsforum.de">interoperabilitaetsforum.de</a> Düsseldorf, Germany

August 6-9, 2017 <b>HIC 2017</b>	<a href="http://www.hisa.org.au/hic">www.hisa.org.au/hic</a> Brisbane, Australia
August 21-25, 2017 <b>MedInfo 2017</b>	<a href="http://medinfo2017.medmeeting.org/en">medinfo2017.medmeeting.org/en</a> Xiamen, China
August 29-30, 2017 <b>5th International Conference on Medical Informatics &amp; Telemedicine Conference</b>	<a href="http://medicalinformatics.conferenceseries.com">medicalinformatics.conferenceseries.com</a> Prague, Czech Republic
October 22-24, 2017 <b>HL7 IHIC 2017</b>	<a href="http://www.ihic2017.eu">www.ihic2017.eu</a> Athens, Greece
January 19-21, 2018 <b>HEALTHINF 2018</b>	<a href="http://www.healthinf.biostec.org">www.healthinf.biostec.org</a> Funchal, Madeira, Portugal



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## Upcoming Working Group Meetings



September 9-15, 2017  
**31<sup>st</sup> Annual Plenary &  
Working Group Meeting**

Hyatt Regency La Jolla at  
Aventine

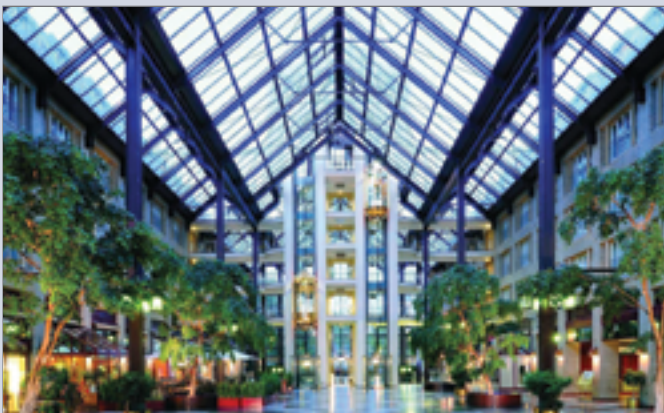
San Diego,  
California



January 27-  
February 2, 2018  
**Working Group Meeting**

Hilton New Orleans Riverside

New Orleans,  
Louisiana



May 12-18, 2018  
**Working Group Meeting**

Maritim Hotel Cologne

Cologne, Germany



September 29-  
October 5, 2018  
**32<sup>nd</sup> Annual Plenary &  
Working Group Meeting**

Hyatt Regency  
Baltimore Inner Harbor

Baltimore, Maryland



January 12-18, 2019  
**Working Group Meeting**

Hyatt Regency San Antonio on  
The Riverwalk

San Antonio, TX



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