Annual Plenary Meeting

Innovative Solutions to Address Today’s Interoperability Challenges

Monday, September 16, 2019
Atlanta, GA
8:30 – 8:40 am

Welcoming Comments and HL7 CEO Report

Charles Jaffe, MD, PhD, CEO, Health Level Seven International

8:40 – 9:20 am

Keynote Session 1:
Storming the Citadel from the Inside: Using Standards to Set Data Free

Twenty years since the first Office of the National Coordinator for Health Information Technology was established, electronic medical record data is still imprisoned within a Tower of Babel. The HL7 community and groups like FHIR who depend on it have been focused on how to reform the data systems to set data free. It's time we think bigger and design whole systems from the ground up in which the data cannot be hoarded. Using cancer as the example, “Storming the Citadel” will address the cultural and technical challenges to creating the cancer research and care system that most people think we already have.

Gregory Simon, JD, President, Biden Cancer Initiative

9:20 – 9:50 am

Keynote Session 2:
Role of HL7 and FHIR in Public Health

For more than 70 years, CDC scientists have worked around the world to track diseases, research and end outbreaks, and respond to emergencies of all kinds. Modern IT capabilities and Health IT Standards, including HL7 FHIR, are changing the way public health organizations collect, use, and share data to help strengthen America's health and resilience. Under the Public Health Data Modernization Initiative, CDC and its partners are exploring ways to move from traditional approaches, designed for a simpler era, to automated feeds that put less burden on data providers and that deliver value back to the healthcare system.

Chesley Richards, MD, MPH, Deputy Director for Public Health Science and Surveillance, Centers for Disease Control and Prevention (CDC)
9:50 – 10:20 am

**Keynote Session 3:**
**Public Policy Updates Impacting the HL7 Community**

Understanding what is happening in the legislative and regulatory space will help you and your organization plan and anticipate challenges and opportunities in the short- and long-term. This presentation will help the audience understand the current leading topics of interest to policy makers and translate it into what it could mean for the HL7 community.

*Brad Wolters, Director, Federal Government Relations at Marshfield Clinic Health System*

10:20 – 10:55 am

**Break**

10:55 – 11:25 am

**Keynote Session 4:**
**AWS Vision across Healthcare, Life Sciences and Genomics**

AWS enables precision health by transforming every aspect of the healthcare, life science and genomics value chain. True examples will be shared of how AWS has positively impacted pharma, biotech, payers, providers as well as genomics-enabled precision health.

*Shez Partovi, MD, AWS Vision Across Healthcare, Life Sciences and Genomics*

11:25 – 11:55 am

**Keynote Session 5:**
**Democratized Innovation: Building a Healthier Future with Machine Learning and the Cloud**

Healthcare is being transformed with each technological breakthrough, but there is much untapped potential. The innovation infrastructure is being democratized and stakeholders are capitalizing — from improving patient engagement to advancing scientific breakthroughs. What does this mean for the global industry? How can we hasten progress and ensure Cloud and AI technology are used to increase the quality of life for everyone?

*Aashima Gupta, Director, Global Healthcare Solutions, Google*

11:55 – 12:20 pm

**Keynote Session 6:**
**Reimagining Healthcare**

The infrastructure of healthcare is moving to the cloud. This is a shift that will be truly historic, not only because it will happen only once, but because it may finally enable the interoperable, accessible, and AI-powered healthcare delivery platform that has been promised for so many years. However, as with other technology shifts, sometimes best intentions fail and data ends up in a maze of twisty little data silos — different silos than today’s, but fundamentally no better. This talk explores what is at stake, and suggests some specific interventions that developers can make today to ensure a better healthcare future.

*Greg Moore, MD, PhD, Corporate Vice President, Health Technology and Alliances, Microsoft*

12:20 – 12:30 pm

**Closing Comments**

*Calvin Beebe, Chair, HL7 Board of Directors*
HL7’s 33rd Annual Plenary

Welcoming Comments and HL7 CEO Report

8:30 – 8:40 am

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Charles Jaffe, MD, PhD
CEO, HL7 International
HL7’s 33rd Annual Plenary

Storming the Citadel from the Inside: Using Standards to Set Data Free

8:40 – 9:20 am

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Gregory Simon, JD
Former President, Biden Cancer Initiative
Greg Simon was recently the President of the Biden Cancer Initiative (BCI), an independent nonprofit organization devoted to doubling the rate of progress in preventing, detecting, diagnosing, treating, and surviving cancer. The Initiative’s work focused on building the cancer research and care system that most people think we already have. Since it was created in 2017, BCI helped launch 57 partnerships that provided needed services to patients. Additionally, BCI worked to: develop common cancer data terminology, common data standards and assays in immunotherapy, promote better clinical trial design and matching programs, increase HPV vaccine uptake, and promote patient navigation services and access to care for all people.

In 2016, Greg served as the Executive Director of the White House Cancer Moonshot Task Force, a position created by President Barack Obama. Vice President Joe Biden selected Greg to run the Task Force. Over nine months, Greg and his team helped launch nearly eighty innovative collaborations. Prior to the Moonshot, Greg was the CEO of Poliwogg, a financial services company creating unique capital market opportunities in healthcare and life sciences.

From 2009-2012, Greg was Senior Vice President for Worldwide Policy and Patient Engagement at Pfizer. He advised the CEO during negotiations on the Affordable Care Act and developed the first of its kind patient feedback program for patients who completed clinical trials.

In 2003, Greg co-founded with Michael Milken, FasterCures/The Center for Accelerating Medical Solutions. As President of FasterCures, he built an
organization valued and recognized for catalyzing systematic change in the
discovery and development process of new therapies for deadly and debilitating
diseases. In 2007 with Leon and Debra Black he cofounded the Melanoma
Research Alliance.

Between 1993 to 1997, Greg served as Chief Domestic Policy Advisor to Vice
President Al Gore, focusing on economic, science, and technology issues. In that
position he oversaw several initiatives, including the programs of the National
Institutes of Health (NIH), National Cancer Institute (NCI), Food and Drug
Administration (FDA), the Human Genome Project, and the development of the
regulatory framework for biotechnology products. He was a member of the
Clinton Administration team that created the partnership with Russia for the
International Space Station. Greg was also the lead White House staffer for the
drafting and passage of the Telecommunications Reform Act of 1996.

Greg served as then-Sen. Gore’s Legislative Director from 1991-1993. He
1985 to 1991, Greg was the Staff Director of the Investigations and Oversight
Subcommittee of the House of Representatives Committee on Science, Space
and Technology. He was a member of the Committee’s team investigating the
Challenger explosion and was a key figure in the development of the
Coordinated Framework for the Regulation of Biotechnology in 1986.
Following his government service, Greg was CEO of Simon Strategies, a
consulting firm focusing on clients in biotechnology, health care, technology
and information technology, among others.
Storming the Citadel: From the Inside

Using Standards to set Data Free

Gregory C. Simon
President, Simonovation, LLC
September 16, 2019
ARPA NET, APRIL 1971
ARPA NETWORK, LOGICAL MAP, SEPTEMBER 1973
HL7’s 33rd Annual Plenary

Role of HL7 and FHIR in Public Health

9:20 – 9:50 am

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Chesley Richards, MD, MPH
Deputy Director for Public Health Science and Surveillance, Centers for Disease Control and Prevention (CDC)
Chesley Richards, MD, MPH, FACP, is the Deputy Director for Public Health Science and Surveillance (DDPHSS). In this position, he is responsible for strengthening CDC’s science foundation by working across the Office of Science, the Office of Laboratory Science and Safety, the Center for Surveillance, Epidemiology, and Laboratory Services, and the National Center for Health Statistics. A primary focus of his role is to advance an agency-wide public health data modernization initiative and serve as an advisor to the CDC Director.

Prior to this position, Dr. Richards served as CDC Deputy Director for Public Health Scientific Services and Director of the Office of Public Health Scientific Services where he oversaw a broad range of epidemiology, public health surveillance, laboratory services, and health statistics initiatives aimed at improving population health. During this tenure he developed and implemented CDC’s Surveillance Strategy to improve the agency’s public health data surveillance capabilities over 3 to 5 years.

Dr. Richards works at the intersection of public health, healthcare, and health IT. He began his public health career as a CDC Epidemic Intelligence Service Officer in the Hospital Infections Program. Since then, he has held a range of positions, serving as the Director of the Immunization Services Division, Director, Office of Prevention through Healthcare, and as Deputy Director, Division of Healthcare Quality Promotion where he led the expansion of the National Healthcare Safety Network, which is the nation’s most widely used healthcare-associated infection tracking system.

Dr. Richards earned his M.D. from the Medical University of South Carolina, and his M.P.H. in Health Policy and Administration from University of North Carolina at Chapel Hill. He is board certified in Internal Medicine (Medical College of Georgia), Geriatric Medicine (Emory University) and General Preventive Medicine and Public Health (UNC Chapel Hill). He completed the Cancer Control Education Fellowship at UNC Lineberger Cancer Center, and the Program on Clinical Effectiveness at Harvard School of Public Health.
Role of HL7 and FHIR in Public Health

Chesley Richards, MD, MPH, FACP
Deputy Director, Public Health Science and Surveillance
Centers for Disease Control and Prevention
Thank you up front

- HL7—Chuck Jaffe
- HL7 Public health workgroup
- CDC staff
  - Laura Conn, Nedra Garrett, Maria Michaels, Paula Braun
- All of you are interested and helping to connect healthcare, public health, and HL7
7 decades of firsts at CDC

1940s: Malaria Control in War Areas transitions into the Communicable Disease Center (CDC)

1950s: CDC establishes the Polio Surveillance Program

1960s: Smallpox Eradication Program is established; Global Smallpox eradication effort launched

1970s: CDC documents first nationwide outbreak of Reye syndrome; Legionnaire’s disease discovery and response

1980s: First AIDS cases reported in MMWR (1981); 100,000th AIDS case reported in 1989

1990s: Vaccines for Children (VFC) Program established

2000s: Responses to anthrax attacks, SARS, Hurricanes Katrina and Rita, H1N1 flu pandemic

2010 and beyond: “Tips from Former Smokers” launched; Fungal meningitis, MERS, Ebola, Zika responses
New Threats to Public Health Arise Every Day
Public health...

- CDC
- +50 states and territories
- 3000 local (county, city, district) health departments
- Tribal health agencies
- Federal agencies involved in public health activities
  - HRSA, SAMHSA, CMS, ASPR, NIH, FDA, others
  - VA, DOD, BOP, IHS
- Healthcare facilities, systems, providers, payors
- Public, consumers
Foundational Questions
Moving from Historic Analysis to Predictive Analytics

What is it?
Who has it?
When did they get it?
Where did they get it?
Where are they now?

What causes it?
What can we do to protect people?

Where will it likely spread next?
What options are most cost effective?
CDC is developing world-class data and analytics capabilities to transform today’s reality and meet new opportunities for lifesaving prevention and response.
We cannot solve our problems with the same thinking we used when we created them.

Albert Einstein
Roles of Public Health in the Data Ecosystem

Opportunities: Less Burden, Lower Latency, More Value
As public health leaders, we must be prepared to handle the challenges of today and, at the same time, to make real the potential of the new innovation of tomorrow.

Robert R. Redfield, MD
Director, CDC, and Administrator, ATSDR
CDC
Using Science and Innovation to Prevent, Detect and Respond

Aspiration: We save American lives by ending epidemics, eliminating disease, ensuring domestic preparedness, and securing global health.

Strategic Priorities: Our priorities reaffirm our leadership and commitment to confront and respond to health threats wherever they occur. We will focus our scientific expertise on bringing an end to the devastation of epidemics, finally eliminating certain diseases, and providing a new level of domestic health preparedness and global health security against current and emerging threats.

Priority Accelerators: Protecting America’s health requires continuous improvement in our most vital assets: our data, laboratories, and people.

Enabling Capabilities: Our strategic priorities are enabled by unique expertise and interdependent capabilities.
CDC Public Health Data Initiative

**Why?** Data are the foundation of our nation’s public health network. We must have the capacity to generate and use timely, accurate, and accessible data to meet the health challenges of today and tomorrow.

**Why now?** Data is moving slower than disease. We are too slow –
  - Getting data
  - Analyzing data
  - Sharing data

**Moving data modernization forward requires**
  - Leadership
  - Data Sharing
  - Funding and Resources
  - Capability to use Evolving Technologies
Implementation Priorities

Moving from Data Collection to Predictive Data

- **Governance**: enterprise approach
- **Modern Technologies**: cloud, common portal, analytical tools
- **Data**: sharing, interoperability
- **Partnership**: support state and local
Seven Imperatives for 2024

By 2024, CDC will be operating to a new normal, working across programs and agency initiatives & through emerging priorities

**Goal**

To transform CDC and our partners from a culture of primarily historical data analytics to predictive data science supported by modern IT platforms and enterprise services that facilitate CDC’s public health mission

- **Cloud**
  CDC data will be in a cloud

- **Common Portal**
  Data reporting to CDC will be through a common portal

- **Interoperability**
  CDC data will be interoperable within and external to CDC

- **Data Sharing**
  CDC data will be shared and public, while protecting privacy and confidentiality

- **Enterprise Level**
  At the enterprise level, CDC data will be catalogued, have metadata and be labelled with appropriate access and privacy controls

- **Analytical Tools**
  CDC scientists will have efficient access to relevant data science tools and the capability and expectation to perform both historic and predictive analyses

- **State & Local Support**
  State and local health departments will be supported to accomplish complementary goals
FHIR Accelerator for Public Health

Multi-State EHR-Based Network for Disease Surveillance:
- Expand the ability of Million Hearts® Program to use clinical data to guide current and future activities
- HL7 FHIR helps facilitate continued movement towards standardization across platforms and methodologies
- Develop open-API based tools to help sites extract clinical data with less burden
- Help find those at risk for heart disease and stroke, optimize care, and improve outcomes

Provide Clinically Detailed, Efficient, and Timely Information on Large, Diverse Populations
Congressional Interest
Authorizing Legislation

- **Leading Infrastructure for Tomorrow’s America Act (LIFT America Act) (House)**
  - $100,000,000 for each fiscal year 2020-2024
  - Under consideration by the House Energy & Commerce Committee

- **Saving Lives Through Better Data Act (House)**
  - $100,000,000 for each fiscal year 2020-2024
  - Under consideration by the House Energy & Commerce Committee

- **Lower Health Care Costs Act (Senate)**
  - “there are authorize to be appropriated such sums as may be necessary for fiscal years 2020 through 2024”
  - Reported out of Health, Education, Labor, and Pensions (HELP) on 6/26/19
Thank You

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
HL7’s 33rd Annual Plenary

Public Policy Updates Impacting the HL7 Community

9:50 – 10:20 am

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Brad Wolters
Director, Federal Government Relations at Marshfield Clinic Health System
Brad Wolters is the Director of Federal Government Relations for the Marshfield Clinic Health System, an integrated health system based in Wisconsin with over 10,000 employees. Before joining Marshfield Clinic Health System he was an Executive Vice President at Signal Group, a boutique government affairs and public affairs consulting firm where he co-led the healthcare practice. From 2013-2016 he served as the White House Liaison at the US Department of Health and Human Services (HHS) where he was responsible for coordination between the Department and the White House, and oversaw the 160+ political appointees at the Department. He also served as the Chief of Staff to the Assistant Secretary for Health at HHS (2010-2013). Prior to serving at HHS he worked on Capitol Hill for Senators Tom Daschle, Herb Kohl and Barack Obama. He is a graduate of George Washington University and the Creighton University School of Law. He lives in Alexandria, VA with his wife and two daughters.
HL7’s 33rd Annual Plenary

AWS Vision across Healthcare, Life Sciences and Genomics

10:55 – 11:25 am

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Shez Partovi, MD
Worldwide Lead, Healthcare Life Sciences, Genomics, Amazon
Dr. Shez Partovi obtained his medical degree from the prestigious McGill University, in Montreal, Canada and completed his neuroradiology subspecialty training at Barrow Neurological Institute in Phoenix, AZ. He is a serial entrepreneur and has launched a number of health IT companies, one of which was a telehealth company built on AWS. After a decade of clinical practice, Dr. Partovi transitioned into executive roles at Dignity Health where he served as its Chief Health Information Officer and, subsequently, as Chief Digital Officer/SVP of Digital Transformation. As the CHIO, Dr. Partovi oversaw the deployment of Cerner across the enterprise in both inpatient, outpatient and oncology settings. As the CDO, Dr. Partovi was responsible for the digital experience of consumers, patients and providers across Dignity Health. Shez joined Amazon Web Services in 2018 as the Worldwide lead for Healthcare, Life Sciences and Genomics. He is currently working on over a dozen large scale initiatives across the globe and has a unique perspective of the opportunities to transform healthcare worldwide. Dr. Partovi combines his clinical, entrepreneurial and AWS experience to help the audience Think Big and imagine the Art of the Possible.
HL7’s 33rd Annual Plenary

Democratized Innovation: Building a Healthier Future with Machine Learning and the Cloud

11:25 – 11:55 am

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Aashima Gupta
Director, Global Healthcare Solutions, Google
Aashima spearheads healthcare solutions for Google Cloud. In this role, she sets the direction for the transformative healthcare solutions and leads engagement with healthcare key executives in helping transform their business strategies that define new models for care, revenue generation and improved patient experiences. By incorporating strategic technology elements of artificial intelligence and Cloud technologies into the care regimen, she strongly believes that patient care and experience can be substantially improved. She founded and led healthcare vertical and interoperability efforts at Apigee and is a passionate advocate for open data and the use of APIs to overcome healthcare data silos. Previously, Aashima led Digital Health Incubations at Kaiser Permanente and brought several frameshifting opportunities to life including first-ever Kaiser Permanente API. She was responsible for driving innovation through the convergence of various digital technologies. She has authored several healthcare articles and is a frequent speaker at industry forums. Recently she was recognized as Most Influential Women in Healthcare IT by HIMSS and for the Top 100 Women in Fem Tech and Health Tech award. She is founder of GirlsInTek, an initiative with a purpose is to ignite girl’s innovative talent and interest in computer science.
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Reimagining Healthcare

11:55 – 12:20 pm

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Greg Moore, MD, PhD
Corporate Vice President, Health Technology and Alliances, Microsoft
At Microsoft, Moore has the responsibility of shepherding the dedicated research and development collaborations with its strategic partners, such as Walgreens Boots Alliance, to deliver next-generation technologies and experiences for healthcare. He brings into these partnerships the new AI and machine learning solutions that are being developed across Microsoft, to enable personalized care and empower care teams. He helps provide internal and external thought leadership that can lead to a more open, interoperable, and AI-infused foundation for healthcare delivery.

Dr. Gregory J. Moore is an engineer (MIT PhD), practicing neuroradiologist, clinical informaticist, and innovator experienced in assembling and inspiring highly talented teams to positively transform healthcare for the benefit of humankind. Prior to joining Microsoft, Greg was Vice President Google Inc, Google Cloud Healthcare & Life Sciences. In this role, Greg founded and led the healthcare vertical for Google Cloud and partnered closely with various Google teams and the Alphabet companies in the life sciences domains to guide and develop innovative healthcare products and solutions leveraging AI, machine learning and advanced analytics at scale.

Greg is board certified in Diagnostic Radiology, Neuroradiology and Clinical Informatics and is also an Adjunct Clinical Professor of Radiology at Stanford University School of Medicine. Prior to his leadership appointment at Google, he was Chief Emerging Technology and Informatics Officer at Geisinger Health System where he also was Director of the Institute for Advanced Application.

Moore received his Master of Science (MS), Nuclear Engineering in 1988, and his Doctor of Philosophy (PhD) in Radiological Sciences in 1992 (both from Massachusetts Institute of Technology). He went on to receive his Doctor of Medicine (MD) in 2004 from Wayne State University School of Medicine and completed residency in Diagnostic Radiology and Fellowship in Neuroradiology, both at Penn State University Hershey Medical Center.
HL7’s 33rd Annual Plenary

Closing Comments

12:20 – 12:30 pm

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Calvin Beebe
Chair, HL7 International