

Integrating Governance of Research Informatics and Health Care IT Across an Enterprise: *Experiences from the Trenches*

(Moderator) Peter J. Embi, MD, MS, The Ohio State University, Columbus, OH

(Panelist) Umberto Tachinardi, MD, University of Wisconsin-Madison, Madison, WI

(Panelist) Yves Lussier, MD, University of Illinois at Chicago, Chicago, IL

(Panelist) Justin Starren, MD, PhD, Northwestern University, Chicago, IL

(Panelist) Jonathan Silverstein, MD, MS, NorthShore University HealthSystem, Evanston, IL

Abstract:

Advances in health information technology and biomedical informatics have laid the groundwork for significant improvements in healthcare and biomedical research. For instance, Electronic Health Records can help improve the delivery of evidence-based care, enhance quality, and contribute to discoveries and evidence generation. Despite this promise, there are many challenges to achieving the vision and missions of our healthcare and research enterprises. Given the challenges inherent in doing so, institutions are increasingly moving to establish dedicated leadership and governance models charged with designing, deploying and leveraging various information resources to advance research and advanced care activities at AHCs. Some institutions have even created a new leadership position to oversee such activities, such as the Chief Research Information Officer. This panel will include research informatics leaders discussing their experiences from the proverbial trenches as they work to operationalize such cross-mission governance models. Panelists will start by providing an overview their respective positions and environments, discuss their experiences, and share lessons learned through their work at the intersection of clinical and translational research informatics and Health IT.

Description:

Increasingly, academic health centers are recognizing the importance of enabling advances in healthcare and research via the leveraging of information systems. New governance and process models are needed to drive the optimal design and use of the various information systems related to advancing practice and research, and academic health center have begun to recognize the need for leaders to drive such efforts. Unfortunately, the very nature of what is often needed to enable research activities and clinical activities across an organization differs and this makes it challenging integrate research functionality into the clinical systems. This is not only a significant impediment to current research, quality, and decision support efforts, it also limits the ability to obtain new grant funding and impacts on the ability to recruit new faculty. Traditional clinical IT groups are rarely structured or staffed to meet even a small fraction of this growing demand, and without effective leadership and changes to governance and prioritization structures, research endeavors are often delayed in favor of projects impacting day-to-day clinical and financial operations. Indeed, resource levels and prioritization are not the only issues. Development and deployment cycles needed for success are often different between research and clinical IT projects, with the clinical systems forcing longer release cycles while development and release cycles for research projects often require implantation and testing of new functionality in weeks to months. Because of the necessity to learn the intricacies of the local clinical systems and the long planning cycle of clinical systems, it is frequently difficult or impossible to transfer production clinical staff to a research project in a timely manner, even when funding is available. Yet, fully redundant workforces for each mission area are often not practical. Similarly, related activities that increasingly are complex and require dedicated attention include those related to data warehousing, clinical research information systems, research resource tracking, research compliance and regulatory systems, and myriad issues around data storage and sharing.

Given the challenges inherent in achieving the promise of leveraging information systems across academic health centers for activities that span clinical care and research, institutions are increasingly moving to establish dedicated leadership and governance models charged with designing, deploying and leveraging various information resources to advance research and advanced care activities at AHCs. Some institutions have even created a new leadership position to oversee such activities. One such position is that of the Chief Research Information Officer (CRIO), a role that is critical to managing the interface between clinical systems and research needs. Indeed, that emerging role was the subject of a very popular panel at last year's AMIA Summits on Translational Science. While progress is being made, those in leadership positions such as this one are quickly gaining experience that should be of great interest and value to the attendees of this year's Summits on Translational Science.

Therefore, we propose to follow-up to last year's popular panel on research informatics governance by convening a group of leaders who are functioning in such roles across a range of medical centers. Through this panel, they will address in detail some of their experiences from the proverbial trenches.

Presentations summary and objectives:

Dr. Embi will serve as moderator, leading off with a brief survey of the types of research informatics governance models emerging and speak briefly to his experiences as a CRIO. The other four panelists (Drs. Tachinardi, Lussier, Starren, and Silverstein) will then follow sequentially, each with presentations of approximately 10-minute length. Panelists will provide an overview their respective positions and environments, discuss their experiences as leaders at the intersection of research and health informatics/IT within their respective organizations, and share lessons learned with the audience. The panel will conclude with a question and answer exchange with the audience.

At the conclusion of the session, attendees should be able to:

1. Provide a survey of the types of governance models that are emerging and how they are positioned within their organizations;
2. Review the challenges that must be overcome to successfully integrate research practices and methods into health information system environments;
3. Discuss prevailing examples of ongoing efforts to work across organizational boundaries to develop and operationalize comprehensive research and clinical information solutions for the enterprise;
4. Discuss how groups are successfully leveraging academic informatics groups to advance their research and clinical missions and realize "learning health systems"

Panelist Biographies are included below (please see attached Biosketches/CVs for more details):

Peter J. Embi, MD, MS, FACP, FACMI

Dr. Embi is Associate Professor of Biomedical Informatics and Internal Medicine (Rheumatology), and Vice-Chair of the Department of Biomedical Informatics at The Ohio State University. He serves as Chief Research Information Officer for the The Ohio State University Wexner Medical Center (OSUWMC), a role that provides him oversight of the IT environment for research at OSUWMC. Dr. Embi is also co-Director of the Biomedical Informatics Program for the NIH-CTSA-funded OSU Center for Clinical and Translational Science, and he currently serves on the operations committee of the national CTSA Consortium's Informatics Key Function Committee. As an NIH-funded investigator focused on the field of Biomedical Informatics, Dr. Embi is internationally recognized for his expertise, particularly in the area of Clinical Research Informatics. He has held various leadership roles in the American Medical Informatics Association (AMIA), and served as scientific program chair for the first-of-its-kind AMIA Summit on Clinical Research Informatics in 2010. In recognition of his efforts to advance this sub-domain of biomedical informatics, he was awarded the AMIA leadership award in 2011. He is also active in the leadership of the American College of Rheumatology, having served on the ACR Board of Directors and now as chairperson of the ACR's Registries and Health IT committee. Dr. Embi earned his MD from the University of South Florida, completed Internal Medicine and Medical Informatics training at the Oregon Health & Science University, and completed a second fellowship in Rheumatology & Immunology at the Cleveland Clinic. Prior to joining the faculty at The Ohio State University, Dr. Embi was Associate Professor of Medicine and founding Director of the Center for Health Informatics at the University of Cincinnati, where he also served as director of Biomedical Informatics for the NIH-CTSA-funded Cincinnati Center for Clinical and Translational Science and training.

Umberto Tachinardi, MD, FACMI

With more than 25 years of experience in Biomedical Informatics, Dr Tachinardi has had the opportunity to participate in innumerable projects in the field of biomedical informatics. He has an extensive experience in designing, developing and implementing data analytics and automation systems in healthcare and biomedical research. His role in shaping the clinical research informatics structure is part of his Associate-Dean for Biomedical Informatics (UW-Madison School of Medicine and Public Health) role. In that capacity he can leverage the technology infrastructure for clinical research available at the SMPH, and at the same time support the mission, distinct needs and characteristics of the UW Carbone Cancer Center. Substantial parts of those services and technologies are provided by the Biomedical Informatics Core of the Institute for Translational and Clinical Research (ICTR), where he is the Director, and also the Clinical/Research Data Warehousing services developed by the Health Information Management Center (HIMC), that he oversees in his Chief Research Information Officer for UW-Health capacity. Dr Tachinardi coordinates the efforts of the various IT/Informatics structures, and organize

them to provide solutions to the administrative, as well as the academic and scientific IT/Informatics needs of the SMPH community. His multiple institutional roles at the UW-Madison, and the UW-Health (an overarching entity that combines the UW-MSPH, UW-Health and UW-MMF), gives him flexibility and access to resources across a broad spectrum (ambulatory, inpatient, population and biological data systems). On the operational side he also oversees Oncore and ClickCommerce systems for clinical trials management and data collection, biospecimens storage and tracking, and IRB workflows. Dr. Tachinardi is the chair-elect of AMIA's CRI-WG, as well as a co-chair of the CTSA Consortium IKFC.

Yves A. Lussier, MD, FACMI

Yves A. Lussier, MD, is Prof. Medicine & Engineering, Chief Research Information Officer & Assistant Vice-President for Health Affairs, Director of the Institute for Health Informatics at University of Illinois-Chicago. Before joining UIC, Dr. Lussier was the the Associate Director for Informatics of the University of Chicago Cancer Research Center (UCCRC), co-Director for Biomedical Informatics of the UC Clinical and Translational Science Award (CTSA), and Director of the Department of Medicine (DOM) Center for Biomedical Informatics. From 2001-6, Dr. Lussier was an Assistant Professor in the Departments of Biomedical Informatics and Medicine of Columbia University where he has mentored or co-mentored 26 graduate students. During his tenure at Columbia University, he was the first recipient of the "Columbia University Faculty Mentoring Award for faculty member in the Biomedical Sciences and GSAS affiliated professional schools". Yves Lussier has served or is serving on more than a dozen boards (governance, technology transfer, scientific and editorial). A member of the American Medical Informatics Association (AMIA) since 1990, he was inducted fellow of the prestigious American College of Medical Informatics (ACMI) in 2005. He cumulates over 250 publications, communications and invited lectures.

Justin Starren, MD, PhD, FACMI

Justin Starren, M.D., Ph.D., FACMI, is Associate Professor of Preventive Medicine and Medical Social Sciences. He joined Northwestern University in early 2011 as Director of the Northwestern University Biomedical Research Center (NUBIC), at the Feinberg School of Medicine. He is also Chief of the newly-formed Division of Health and Biomedical Informatics in the Department of Preventive Medicine. He remains an Adjunct Associate Professor of Clinical Biomedical Informatics at Columbia University. As director of the Northwestern University Biomedical Informatics Center (NUBIC) Dr. Starren is responsible for the informatics components of the Northwestern University (NU) CTSA. Dr. Starren brings nearly two decades experience developing informatics solutions for both clinicians and lay users. Prior to joining NU, Dr. Starren was Director of the Biomedical Informatics Research Center at the Marshfield Clinic. There he led the informatics activities for the University of Wisconsin CTSA and was architect of the Wisconsin Genomics Initiative. In eMERGE at Northwestern, he oversees the integration of genomic data into the EHR. In all of these roles, he has provided a bridge between the research and clinical computing realms. He brings many years of experience developing large system to support novel clinical practice. He will address the relation between research and clinical systems in the planning for the Northwestern University Translational Applied Informatics Laboratory (NU-TRAIL).

Jonathan C. Silverstein, MD, MS, FACMI

Jonathan C. Silverstein, vice president for clinical research informatics at NorthShore University HealthSystem (NorthShore) heads the Center for Clinical and Research Informatics (CCRI), whose mission is to preserve and improve human life through innovative collection and use of clinical data. CCRI builds upon NorthShore's award-winning electronic health record and extensive data warehouse to be a nationally recognized leader in informatics for clinical quality improvement and research. CCRI supports matrix staff reporting across NorthShore (e.g. Enterprise Data Warehouse team, Epic Optimization team) and has recruited six faculty directors of informatics working across a wide range of medical domains and computational methods. Dr. Silverstein joined NorthShore after serving as the associate director of the Computation Institute at University of Chicago and Argonne National Laboratory where he became internationally known for his expertise, and federally funded research, in the application of advanced computing architectures to biomedicine; and on the design, implementation, and evaluation of high-performance collaboration and visualization environments for anatomic education and surgery. He is recognized as one of three founding scientific directors of the Chicago Biomedical Consortium, and was an attending general surgeon for seven years while he was a lead physician informatician for enterprise electronic medical record deployments at the University of Chicago and the University of Illinois at Chicago. Dr. Silverstein holds an M.D. from Washington University (St. Louis) and an M.S. from Harvard School of Public Health. He is a Fellow of the American College of Surgeons and a Fellow of the American College of Medical Informatics.