

Informaticians, CxIOs and Industry: Strengthening the Fabric of HealthIT

Panel organizer: Titus Schleyer, DMD, PhD, Professor and Director, Center for Biomedical Informatics, Regenstrief Institute, Indianapolis, IN

Panel participants

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- Bret Shillingstad, MD, Physician/Clinical Informatics Lead, Epic Systems Corporation, Verona, WI
- J. Marc Overhage, MD, PhD, Chief Medical Informatics Officer, Siemens Health Services, Malvern, PA
- Constantin Aliferis, MD, PhD, Director, NYU Center for Health Informatics and Bioinformatics, New York University, New York, NY

Abstract

Health information technology (HIT) is often touted as an important remedy for many problems in healthcare. However, biomedical informatics, the "engine of innovation for HIT," is at a turning point: Can the field evolve to meet the challenge of developing and implementing safe and effective HIT while continuously innovating in both academic and industrial settings? The culture and values of informatics and industry differ significantly. Successful academic/industry collaboration is rare and the contributions of informatics to the operational context of healthcare delivery are increasingly marginalized. Informaticians are often viewed as closeted researchers while IT staff do the "real work." At the same time, industry is looking to academic informatics for leadership in important areas of HIT and electronic health records, such as providing and maintaining evidence-based content for clinical decision support; integrating basic science breakthroughs into EHRs; designing the EHRs and clinics of the future; and aggregating and analyzing data on large cohorts (nationally and internationally) to support health services research and care delivery optimization. This panel will present thought-provoking viewpoints from key industry and academic leaders, and stimulate discussion on strategies to improve informatics' contribution to positive change in healthcare.

Panel description

Health information technology (HIT) is often touted as an important remedy for many problems in healthcare. Informatics is struggling for relevance in a landscape increasingly dominated by other players laying claim to data, information and knowledge. Much informatics research falls short of achieving the goal of affecting healthcare processes and outcomes in a positive, meaningful and sustained way. Successful cooperation and collaboration between informatics and industry on practical applications at the point of care is rare. The health IT industry is fragmented, unnecessarily competitive and without a joint vision of essential common principles and standards beyond the current policy mandates of meaningful use. The purpose of this panel is to present thought-provoking viewpoints from key industry and academic leaders, and to stimulate discussion on strategies to improve informatics' contribution to positive change in

healthcare. (This panel summarizes key discussions from the 2013 Winter Symposium of the American College of Medical Informatics.)

Dr. Middleton will discuss the culture of biomedical informatics, specifically with regard to its current context. The archetype of the medical informatician emerged at a time when problems in healthcare could be solved locally by smart people working at the interface of medical care and computer science. As it evolved, the role of the clinical informatician focused increasingly on implementing home-grown or acquired technologies, and managing user expectations and requirements within the limits of technology. However, this role became at risk of being marginalized if its pursuits did not align with business concerns. This development often removed informatics progressively from the mainstream of HIT implementation and use. Given a problem-solving approach characterized by quick fixes, informaticians and health IT professionals may make uncertain promises and underdeliver. This phenomenon may be rooted in a vicious cycle in which informaticians struggle to meet the expectations of their customers/stakeholders, work harder as a consequence to redeem themselves, but never solve the underlying problem(s). In the process, informaticians often undermine their ability to implement fundamental or transformative solutions that would be more effective and sustainable than short-term problem solving. For informaticians to become more valuable partners in the development and implementation of HIT, they must get the right things done, well, in a timely way, as well as preserve and restore resources for sustainability at the same time – a disciplined approach to software engineering and product development more familiar to the vendor community than academic informatics.

Dr. Shillingstad from Epic will provide an industry perspective on the contributions of informatics to HIT. Electronic health records are shaped by many agents and factors, such as industry, academic and informatics research, government regulation and professional societies. At a time when making products compliant with federal regulations is hampering the HIT industry's capability to develop and innovate, it is not clear who will control the future direction of HIT and EHRs. We are at a crossroads in which academia and professional societies could assume a major role in leading innovation in HIT. Possible areas for leadership in informatics innovation include providing and maintaining evidence-based content; implementing real-time decision support; integrating basic science breakthroughs into EHRs; leading the definition of Meaningful Use; designing EHRs and clinics of the future; aggregating and analyzing data on large cohorts (national and international); and guiding the implementation of interoperability standards and standardization of EHR content.

Dr. Overhage will focus on developing and evolving academic/industry collaboration on HIT. Historically, academics in informatics were focused on the pursuit of innovation which did not always get applied in a real-world context. Industry, on the other hand, was centered on creating effective products that produced a financial return to the corporation. In an era where both academic informatics and industry are under increasing pressure to develop and prove that biomedical informatics has a positive impact on health care both in terms of the quality of care as well as cost, these operating paradigms have become outdated. Neither academia nor industry alone will be able to achieve the vision of a well-functioning healthcare system supported by useful, usable and effective information technology. Academic-industry collaborations hold both positive and negative potential but can create virtuous cycles for both partners when well-

executed. As all partnerships, achieving that potential requires that both partners share a passion, are patient, put their egos aside and trust one another. This presentation will explore examples of successful partnerships in the field of informatics and suggest a framework for success.

Dr. Aliferis will conclude the panel with a look at the domain where informatics and information technology (should) meet in the operational context of healthcare facilities: the areas of responsibility of Chief Information (or Informatics) Officers, Chief Medical Informatics Officers, Chief Nursing Informatics Officers, etc. Ideally, informatics and information technology should work hand-in-hand in order to improve healthcare. However, in most academic health centers, this is not the case. Informaticians are often viewed as closeted researchers while IT staff do the "real work." Recently, several major academic health centers have curtailed or eliminated their efforts in applied informatics research. Dr. Aliferis will discuss the implications of these developments, and present his thoughts on improving the partnership between informatics and IT in the context of healthcare operations.

All participants have agreed to take part on the panel.