Panel 1: Clinical Systems - Have Access Control Methodologies Kept Pace with Users’ Expectations and the Regulatory Environment?

Chaired by Andrew Gettinger, MD CMIO Dartmouth-Hitchcock; Associate Dean for Clinical Informatics, Dartmouth Medical School and Sean Smith, Professor of Computer Science, Dartmouth

Panelists: Steven Schlossberg, Yale University; Joshua Lee, UC San Diego; Ross Koppel, University of Pennsylvania

Summary of the Panelists’ Presentations and Panel Discussion

Each hospital, each department within a hospital, even each physician operates differently. This makes it hard to design clinical systems that are usable. If something even as seemingly simple as authentication does not cleanly fit into a clinician's workflow, a clinician is more likely to develop workarounds and not use the system to its full potential. We must design clinical systems to work with clinician's workflows, yet workflows are dynamic and change with the introduction of new technology. Clinicians will use clinical systems in the ways that work best in their own workflows, sometimes in ways that the developers did not intend, triggering unintended consequences.

There are no workable industry-wide standards for processes as basic and widely-used as authentication. Requirements for password complexity and lifetime are set by each hospital, and there is an enormous amount a variation between different institutions. While medical institutions wish there was an industry standard that they can work from, they also all recognize that each institution operates in a vastly different manner, making it hard to find a one-size-fits-all solution.

While some regulations require strong, two-factor authentication for certain types of transactions, medical institutions have found that the two-factor solutions used in industries are not so workable in a healthcare setting. In fact, data show that multifactor authentication is not really being used in healthcare settings. Biometrics don't work well in hospital settings because masks, goggles, and gloves get in the way. Tokens can act as an alternative to biometrics, but given how easy it is to share a physical token or barcode, the panel participants generally believe that tokens will be misused in healthcare setting, as they have been misused in the past.

Clinicians also struggle with clinical systems that work to enforce good work habits and that try to helpfully limit and sanitize the data written into the system (such as lab results). Although there may be times when such enforcements are helpful, clinicians struggle when they need to break a rule or input some otherwise not-valid data. There is a fine line between enforcements being helpful and just getting in the way. This must be kept in mind as the medical industry starts working toward data/interoperability standards.