

Virtual ACS 2021 Surgeons and Engineers: A Dialogue on Surgical Simulation Meeting

Promoting Technology and Collaboration

A Common Language Introducing SNOMED is Essential for Simulation Training

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Background: A common language for multiple simulator interaction is the future of technology assisted training which in turn is essential for individual and team training. The fundamental underpinning for the future of simulation and technology-based training is the ability of various sources (and industry products) to interrelate. Current technologies are not interoperable and no standards exist to enable interoperability. This lack not only affects engineers attempting to build heterogenous technological training environments but also educators and administrators that want to reuse, comprehend, and analyze the data in these systems. This requires a common language describing medical conditions.

Technology Overview: At the core of creating an environment supporting dynamic interoperability is a nomenclature that is both understandable to the humans using these environments and the computers running within. Problems this nomenclature needs to be able to address are amongst others: defining medical cases, being able to understand data streams that are emitted from simulation systems, correctly labeling and processing the large variety of medical procedures and actions, and interpreting and assessing the results of an individual and team learners progress through a collection of scenarios. SNOMED-CT has a nomenclature, and a system of terms already spanning a large area of medicine that is both human and computer readable, it is well suited to serve as a lingua franca for information exchange between computers during a simulation and also supporting solving other challenges that occur when addressing understanding complex medical training.

Potential Application in Surgical Simulation and Education: We are using SNOMED-CT an international open standard, as a basic language for the Medical Simulation Training Architecture, MSTA, for the U.S. Army and will use this to link their medical simulation centers to the Department of Defense's Synthetic Training Environment and to civilian training systems. A brief characterization of SNOMED-CT and its application into these domains will be given.

Potential Opportunities to Collaborate: Simulation software companies.