



CONGRESO

INNOVATION AND STANDARDIZATION: THE FOUNDATION FOR RELIABLE PATIENT SAFETY



Verónica Muzquiz Edwards

Doctor of Business Administration, HSI Foundation
Taylor, D., Masters of Healthcare Administration, The University
of Texas at Dallas McCaskill, A., Masters in Global Health, Health-
care Standards Institute

vedwards@hsi.health



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Robotic, cloud technology, artificial intelligence, telemedicine, blockchain, facial recognition, virtual ICUs, hospital at home and wearables. Are these big innovations, big risks, big ideas, or just more disruption added to an already complex, fragmented, high-cost system? During the pandemic, one of China's top university researchers designed a "cobot" to

help healthcare staff perform the dangerous task of testing for the virus. These tasks which are normally carried out by doctors, nurses or assistants in person, can be done more safely by "cobots" fitted with cameras that can learn repetitive, standardized procedures to reduce the exposure to potential viral infection by healthcare staff. This emerging technology



does not come without risk. That risk must always be balanced with the moral responsibility for the safety of patients, healthcare workers, and other caregivers.

Telemedicine is another technology that has grown exponentially over the past three years. A 2022 Study by Grand View Research, suggests that “The global market size for telemedicine is projected to increase from around 70 billion U.S. dollars in 2021 up to nearly 380 billion dollars by 2030.” This a compound annual growth rate of over 19%, which in itself will bring the risk of hap-hazard implementation by those seeking rapid return on investment. Telemedicine has several advantages, including cost savings, convenience, and the ability to provide care to people with mobility or geographic limitations. Challenges to telemedicine include possible breaches of health data security, insurance coverage, and virtual visits do not include imaging tests and blood work, so additional in-person visits might be

required. According to the American Hospital Association, since the pandemic, telehealth has stabilized at levels 38 times higher than prior to the pandemic, 57% of providers view telehealth more favorable and 64% are now more comfortable using it. Even 40% of consumers expect to use it as they seek for care solutions. This is a compelling, potentially chaotic innovation that demands standardization to assure safety, improve quality and a better patient experience.

Virtual Reality (VR) and Augmented Reality (AR) technology has also been useful in educating staff and treating patients. It can be used to guide patients or staff through surgeries before they happen to improve understanding of the risks. Additionally, it has helped reduce memory loss, help teach and engage autistic children, and increase a patient’s desire to participate in physiotherapy. Importantly, VR can be a powerful tool to treat mental health conditions such as phobias and post-trauma-



tic stress disorder (PTSD). Clearly, there is a role for VR and AR in our global healthcare system. However, with the potential for short-term profit and the lack of real understanding by both the provider and consumer, it can be a massive risk. It has the potential to add complexity, reduce equity, further fragment the entities, and reduce safety for an already challenged global system. Unless these innovations are implemented with collaborative oversight, clear understanding of value and globally accepted standards, they can potentially do more harm than good.

There are undoubtedly many positive and promising attributes about emerging innovations in healthcare. However, history shows us that regulations and law cannot foresee, or even keep up with the ever-changing, rapid technological innovations in an already challenged system. When you blend these changes with the economic incentives, ingrained fragmentation of care, challenges of care equity and a knowledge gap of providers and consumers, there is a great risk of these well-meaning innovations creating confusing, controversial, and potentially harmful outcomes for patients, the healthcare workforce and society in general.

The growing gap between emerging technologies and legal-ethical oversight has been called “the pacing problem.” This gap between the pace of science and technology, and the lagging responsiveness of legal and ethical oversight that society relies on to govern is problematic. For the “health” of healthcare providers, patients and caregivers, scientific and technological advances must be tempered with unders-

tanding, safety and their positive contribution to humanity. Standards can bridge the gap.

Standards are the foundation for services, processes and product development and performance. They allow for the codification of evidence-based processes and procedures. Their implementation reduces risk, encourages innovation, teaches stakeholders, supports sustainable practices, and allows for the tracking and measurement of key performance indicators.

It is truly an awe-inspiring time for new healthcare technologies. The COVID pandemic has accelerated this movement and forced providers and consumers to embrace new ways of thinking, engaging, and acting. Patient and workforce safety must always be at the forefront of healthcare management and the provision of services. Each of us must do our part to assure health and improve safety. One such way is to participate in the creation of standards that connect, teach, assure reliability, increase efficiencies, optimize safety and improve overall system performance.

[The International Organization for Standardization](#) (ISO) is a non-governmental organization based in Geneva, Switzerland, that develops voluntary consensus standards. [Technical Committee \(TC\) 304](#) Healthcare Organization Management is the body responsible for bringing together experts to write standards within the scope of healthcare organization management. Standards published and under development include Quality Management, Telehealth Management, Patient-Centered Staffing, Infection Prevention Management as well as Pandemic Preparation and Response.