



REIMAGINING MEDICINE: DIGITAL HEALTH CARE IN 2025

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According to an International Data Corporation report, health care data is expected to experience a compound annual growth rate (CAGR) of 36% through 2025. Based on this projection, one of the most important medical innovations in the next five years could be how people use and access health care information.

THE PATIENT BECOMES MORE EMPOWERED

By 2025, patients will become more empowered. The fee-for-service model of health care is giving way to one that is more lifestyle based. Easier access to an increasing amount of medical data (“big data”)—delivered at real-time speeds—makes patients more self-sufficient in terms of maintaining and managing their own health. Perhaps the biggest revelation of all is that this is happening right now.

Medicine is going from bench to bedside to the digital space. People now have choices beyond the physical infrastructure and limitations of hospitals, medical offices and outpatient clinics. Medical records, lab results and physician notes are becoming digitally centralized instead of segmented and siloed. In addition, non-medical businesses are quickly coming to market with technologies that could help lead to better patient outcomes while improving the overall health care experience.

A person’s wellness status and data can now be aggregated and expressed as a “health index.” Greater access to information, more preventative care options and real-time diagnoses are enabling people to influence their own “health index” in ways that transform patients into informed and actively-involved customers.



PREVENTION AS THE CURE

In a digitally connected world, medical professionals are now able to seamlessly download and assemble lab results, diagnostics and imaging scans. Artificial intelligence (AI) and machine-based learning can manage, process and analyze all this big data in a relatively short period of time. Doctors even have access to a collective database of medical cases that could help identify and rank treatments based on responsiveness and effectiveness.

This collaboration of speed, AI and self-learning algorithms can alert doctors about any potential warning signs, hidden patterns and possible treatment options that could improve a patient’s overall care while preventing a disease. These capabilities enable health care professionals to “forecast” a medical condition that might otherwise be missed due to limited resources or human error.



THE DOCTOR BECOMES A MEDICAL ADVISOR

As patients become more confident about managing their own wellness, expect the doctor-patient relationship to be more balanced. Health care today is a group effort made up of medically-trained professionals and actively involved patients, instead of physicians acting alone.

Doctors are also competing against information, advice and opinions that are readily available across multiple digital platforms. Patients are no longer beholden to the monopoly health professionals once had on medical studies, research and other science-backed perspectives. In addition, telehealth technology offers people even more diagnostic and treatment options. A doctor's role now includes that of a medical advisor who helps interpret all this data while giving patients an equal say in their health care decisions.

DATA IS THE CURRENCY OF THE DIGITAL HEALTH AGE

Data-driven health care delivery models are becoming the new normal. Medical data can now be examined at any time due to the continuous capturing of real-time information. Knowledge can also be cross-referenced and shared, enabling a patient to make informed decisions about every aspect of their life. This ability to evaluate medical data is what defines power in the age of digital health. Those wanting to stay competitive in the health care industry must be able to efficiently process medical imaging and diagnostic tasks that were once considered expensive and resource intensive.

MEDICAL DEVICE AND SYSTEM MANUFACTURERS (MDMS) BECOME DIGITAL HEALTH PROVIDERS

Medical data and records need to be regularly shared and available to all team members involved with a patient's care. Every record department is different, creating systems within systems. As more and more medical records get requested and accessed from various sources, large volumes of information are aggregated across multiple medical devices/systems. Now MDMs as well as responsible organizations (ROs) are in charge of retrieving and delivering trustworthy and valid information.

Once data gets transferred, so do the liability risks. The ownership of responsibility changes as medical data travels from one legal entity to another. This also applies to the Big 5 tech companies that are expanding into the medical device/app market. As software, telecommunications and electronics companies, they are used to following the regulatory clearances for their own industries. But now, they have also become medical device companies responsible for the safety and effectiveness of their medical devices and systems, including massive amounts of collected data.

MDM systems in health care once focused on aggregating data from different medical devices, hospital units and facility locations. All that technology is now following the patient. Consequently, medical devices/systems of digital health providers have been redefined more as cohesive, accessible and value-oriented support systems for delivering health care.

ABOUT THE AUTHOR



Oliver Christ has been active in international standardization efforts for more than 25 years and co-founded PROSYSTEM with the late Dr. Jürgen Stettin in 1999. The company was acquired by NSF International in 2017. In Germany, Mr. Christ has served as chair or co-chair of national committees including Human Factors/Usability for Medical Devices, Risk-Management for Medical Electrical Equipment, and Software for Medical Devices and Networked Medical Systems. Mr. Christ represents Germany on international standard committees for programmable electrical medical systems, human factors, risk management, software life cycle processes, and risk management for IT-networks incorporating medical devices (published as IEC 80001-1:2010). In 2013 Mr. Christ became an international delegate for Germany for the AAMI/UL initiative UL 2800 on Interoperability for Medical Devices. He received the DKE Needle award in 2014.