The healthcare sector will increasingly harness new technologies to address problems currently afflicting healthcare providers.

While the advent of technology has shaped the healthcare sector over the past five years, evidenced by many healthcare providers rapidly adopting electronic health records (EHRs), the effects of technology have yet to be fully realized. Over the five years to 2020, the healthcare sector will increasingly harness new technologies to address problems currently afflicting healthcare providers. For example, operators in Western Europe are set to launch a mobile application that will enable doctors to share patient images. In the long-term, this technology has the potential to help train new healthcare professionals, as well as aid discussions pertaining to patients’ diagnoses, which may be particularly helpful in keeping healthcare providers up to date for rare patient cases. In addition, new technologies that assist in the exchange of patients’ health information will prove to be useful. For example, the fragmented nature of the healthcare system, which has been further exacerbated by many primary and specialist providers lacking tools to communicate, will incite some information technology (IT) firms to develop tools that foster coordination. To improve patient care and boost patient satisfaction, e-consulting technology, a web-based system that enables primary care providers and specialists to share medical information and discuss patient care, will become increasingly popular.

New care delivery models
Over the next five years, new technologies may help address physician shortages or cut costs within the healthcare sector. In particular, technology may help mitigate the burden of the projected shortage of 20,400 primary care physicians by 2020, according to data from the US Department of Health and Human Services. For example, the Telehealth Services industry will likely become more prevalent over the next five years; services offered by this industry may be used to replace patients’ face-to-face appointments with physicians or help mitigate costly patient complications that result in hospitalization. While many healthcare providers have already implemented some telehealth applications, including the ability for users to access their test results online, telehealth’s potential has yet to be fully harnessed. In particular, telehealth may enable consumers to...
New healthcare technology cuts costs

access high-quality care despite being located in underserved and rural areas. In addition, telemedicine may help patients overcome geographical barriers, such as poor access to healthcare providers at health centers, referral hospitals and tertiary centers.

Mobile health (mHealth), the use of mobile applications and devices to exchange medical information, data or to provide clinical services, will also characterize the healthcare information technology (HIT) landscape. In the coming years, the healthcare sector will likely benefit from the ability of medical equipment to communicate patient data, such as a patient’s blood glucose monitor transmitting data to physicians. Overall, the healthcare system is experiencing a fundamental shift, which can be partly attributed to its movement away from a fee-for-service model to a pay-for-performance one. In response, IT firms will increasingly partner with healthcare providers to develop tools that provide early disease detection, bolstering patient outcomes.

For example, Google X has developed a contact lens with microscopic sensors that monitor blood sugar levels for diabetic patients, with the patient’s tears being used as a fluid sample. In addition, Google X has partnered with Novartis and lens maker Alcon to license this smart lens technology, which may be used for early diabetic intervention. All in all, the healthcare sector will likely move away from relying on inpatient care and move toward outpatient, namely in-home, patient-monitoring services. This trend will likely shape the Home Care Providers industry. For example, medical sensors, such as biomedical sensors, may scan an individual’s body from the convenience of their home. An example includes haemodynamic sensors that are surgically implemented to monitor a patient’s blood pressure, which may help lower the incidence of patient hospitalization.

Information overload

Health information technology (HIT) involves the Software Publishing industry’s design, development, creation or use of information systems that have healthcare applications. Due to HIT lacking interoperability standards for medical equipment and related software, the implementation of new technology may pose as an arduous task for healthcare providers. Overall, the lack of an integrated system, such as sharing a patient’s health information throughout the healthcare service supply chain, may result in diagnostic errors and failure to identify patients that have deteriorating conditions. The healthcare sector is already experiencing the integration of EHRs, included in the Electronic Medical Record Systems industry, enabling healthcare providers to access patients’ entire medical history, which encompasses radiology images, laboratory testing results, medication and allergies, among other health information.
New healthcare technology cuts costs

In addition to HIT interoperability measures, the use of technology in the field of pharmacogenetics will also help cut costs. According to the World Health Organization (WHO), adverse drug reactions result in more than 2.0 million hospitalizations each year, costing the US healthcare system $1.0 billion annually. To mitigate the prevalence of adverse drug reactions, the IT Consulting industry may partner with healthcare providers to develop tools that analyze a patient’s drug metabolism and molecular pharmacology (i.e. how genetic variations can affect drug efficacy and side effects for patients). In addition, technology may resolve patient noncompliance, with patients’ medication noncompliance costing the US healthcare system $100.0 to $289.0 billion each year, according to the Annals of Internal Medicine Journal. For instance, Sagentia has developed Smarthaler, which transfers patients’ healthcare data to a cloud-based server via a mobile medical application, which warns inhaler users if they did not administer the medical device correctly.

While the advent of new technology will help bolster patient outcomes over the next five years, patient compliance will also be integral to driving favorable clinical outcomes. As a result, tools that help determine whether or not a patient has properly administered medication will likely dominate the healthcare technology landscape. Furthermore, technology will link inpatient with outpatient care. For instance, Health Hero Network, which is part of Bosch Healthcare, has used a “Health Buddy” system, which enables personal and interactive communication between patients and healthcare providers. Patients receive queries each day via the internet, with patients’ answers being subsequently sent to a processing center that analyzes patients’ health information. Overall, this technology has been linked to increasing patients’ ability to self manage their asthma while also slashing the volume of urgent calls to hospitals. Over the next five years, many healthcare providers will rapidly adopt similar technology to address a multitude of patient diseases.

Big data provides opportunities

While healthcare providers will continue to be inundated with data, harnessing the potential of advanced patient analytics will provide opportunities for the healthcare sector. To cut costs, private and public health insurers (i.e. Medicare and Medicaid) will hold healthcare institutions more accountable for patient outcomes than in previous years. As a result, technology that can streamline healthcare providers’ access to patient information, including patient records, clinical trials, insurance claims, government records and wearable devices, will become vital in implementing a value-based healthcare model.
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