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BIOMEDICAL ENGINEERING

ASSIGNMENT

Disruptive Innovations in Healthcare

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DISRUPTIVE INNOVATIONS IN HEALTHCARE

The role of disruptive innovation

Disruptive innovations in healthcare can influence a new system that provides a continuum of care focused on each individual patient's needs, rather than focusing primarily on complex disorders and urgent health crises.1 Because of advances in diagnostic and therapeutic technologies, NPs and physician assistants can competently diagnose and treat disorders that would have previously required a physician.

Accurate new tests and detailed protocols allow these clinicians to diagnose conditions as simple as strep infections and as serious as diabetes. In addition, studies have shown that NPs typically devote more time to patients during consultations than physicians, with greater emphasis on prevention and health maintenance.

Technology

Technology is the biggest driver of many disruptive innovations in healthcare since every aspect of healthcare is dependent on some form of tech. From wearables and mobile phone apps to big data and artificial intelligence (AI) use in diagnosis, any new technology could potentially shake up healthcare.

Consumer devices, wearables, and apps

In the past, a patient could get only biometric data about their pulse, heart rate, blood oxygen, and blood pressure when they went to the doctor's office. Now, consumers take charge of their own health journey, using data gathered from their Fitbits, smartwatches, and mobile phone fitness apps. Physicians can use the data gathered from these wearables to make treatment decisions, although the vast amount of personal information collected by these apps has led to legal and ethical concerns over data privacy

AI and machine learning

AI applications can manage patient intake and scheduling as well as billing. Chatbots answer patient questions. With natural language processing capabilities, AI can collate and analyze survey responses. AI will probably increase in use as a way to bring down healthcare costs and let doctors and staff focus on patient care. Healthcare leaders must be knowledgeable about the issues surrounding database management and patient privacy.

Blockchain

Blockchain is a database technology that uses encryption and other security measures to store data and link it in a way that enhances security and usability. This innovation facilitates many aspects of healthcare, including patient records, supply and distribution, and research. Tech startups have entered the healthcare sector with blockchain applications that have changed how providers use medical data.

Electronic health records and big data

Electronic health records (EHRs) have been a growing part of patient care since the adoption of the Affordable Care Act. The massive amount of EHR data goes far beyond patient health records, however, and can be used to conduct research, improve care, build AI applications, and create new business opportunities. Therefore, healthcare providers have to be aware of the issues surrounding EHR security.

LASIK

Advancements in laser technology have made it easy for physicians and affordable for patients, eliminating their reliance on eyeglasses and contacts and electing for a more permanent vision-correction process. Vision correction is yet another procedure that technology is helping to cut costs on — a significant pain point in the healthcare industry.