



NATIONAL INSTITUTE OF TECHNOLOGY

RAIPUR

B. TECH.: 1 SEMESTER, BIOMEDICAL ENGINEERING

ASSIGNMENT 04

DISRUPTIVE INNOVATIONS IN HEALTHCARE

Submitted To:

Mr. Saurabh Gupta

Department Of Basic Biomedical
Engineering

Submitted By :

Vivek Raj

21111072

Contents

1	Disruptive Innovations In Healthcare	2
1.1	Introduction	2
1.2	Why is innovation important in healthcare?	2
1.3	Technology	3
1.3.1	AI and machine learning	3
1.3.2	Blockchain	3
1.4	Consumer-centered care	3
1.4.1	Telemedicine	4

1 Disruptive Innovations In Healthcare

1.1 Introduction

Innovation is no stranger to the healthcare sector. New therapies, medical devices, and healthcare management practices are adopted all the time. However, up until fairly recently, examples of disruptive innovations in healthcare were far less common. Disruptive innovations are those that cause radical change and often result in new leaders in the field. They overturn the usual way of doing things to such an extent that they have a ripple effect throughout the industry.

1.2 Why is innovation important in healthcare?

When we talk about “disruptive innovation in healthcare,” there are a few ways to define what that means. Healthcare providers have long championed technological innovation as a way to deliver better care, from magnetic resonance imaging to new surgical procedures. But, the patient experience was an area more traditionally neglected in healthcare. Telehealth and the rise of consumerism changed the narrative today, providers succeed when they provide high-quality patient experiences.

The last two years required digital healthcare to scale the next step for providers is to dig deeper into the patient experience. The modern generation of patients shops for healthcare in a vastly different way from those in the past. Healthcare is now a consumer-centric market, as patients seek care at the quality and price standards that work for them. Changing regulations make it easier for patients to price shop, understand their in- or out-of-network options, evaluate a care provider’s reputation, and seek alternatives. On the provider side, there is still some work to do namely developing a more integrated experience that helps all aspects of the clinic run smoothly.

Disruptive innovation in healthcare will shape both patient care and the patient experience, as healthcare providers try to keep doctors’ schedules booked and hospitals running efficiently at full capacity. The value of digital healthcare is now firmly planted in the brains of executives.

The some examples of disruptive innovations in healthcare are centered on technology, customer-centric care.

1.3 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.

1.3.1 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.

1.3.2 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.

1.4 Consumer-centered care

Many examples of disruptive innovations in healthcare pertain to consumer-centered care. With the increasing consumerization of healthcare, the patient-healthcare provider relationship has also undergone radical change. In this arena, the combination of technology and public policy has transformed how patients access healthcare and interact with their healthcare providers.

1.4.1 Telemedicine

COVID-19 has undoubtedly accelerated the delivery of telemedicine, and experts affirm that telemedicine is here to stay. It's effective, doctors will be reimbursed for a telehealth consultation, and many patients prefer it. However, telemedicine is highly dependent on internet access, and some areas of the U.S. still have poor connectivity.



Figure 1 : Telemedicine