NATIONAL INSTITUTE OF TECHNOLOGY
RAIPUR

ASSIGNMENT

Future of Healthcare

Submitted By:
Name : Smriti Priya
Roll No. : 21111060
Semester : First
Branch - Biomedical Engineering

Under The Supervision Of:
Dr.Saurabh Gupta
Department Of Biomedical Engineering
NIT Raipur

Future of Healthcare

The healthcare system of the future will be patient-centered. Medical and scientific advances leads to significant challenges on today's health care systems. Developments in genetics, information technology, and nanotechnology are changing as they are tending to health care toward personalization, and tries to move outside the hospital.
Making medical equipment patient-friendly, easy to use, low maintenance and cost effective is the basic need.

- The patient-medical relationship will change as it will be more personalised. It will focus on early warning signals and continuous monitoring of a multitude of data from different sources.
- Patients will be able to receive care where and when they prefer . It will also be possible for each facility to be informed about the patient's medical record regardless of where the patient had treated.
- Technology giants such as Amazon, Apple, Google, Microsoft, etc. These Giants have entered the world of health care launching mainly products in the field of prevention and diagnostics.
  $Google$ launches DeepMind Health, Bringing AI to Healthcare.
  $Microsoft$ Cloud for Healthcare provides capabilities to manage health data

Future Technologies

- $\dot{Telemedicine}$: It enables video or phone appointments between a patient and their doctor, benefits both health and convenience.

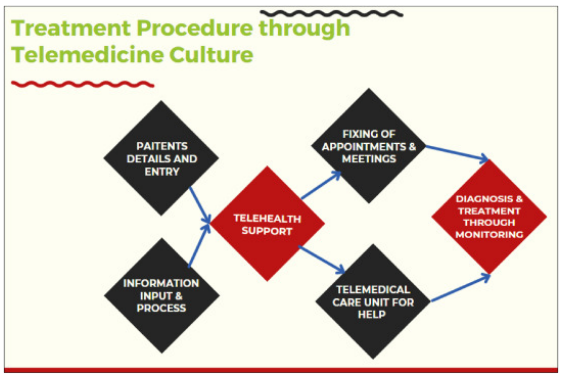

Figure 1: Telimedicine

- $\dot{AI}$: When computer and other machine starts mimicing humans cognition. They will be capable of learning, thinking, and making decisions or taking actions.

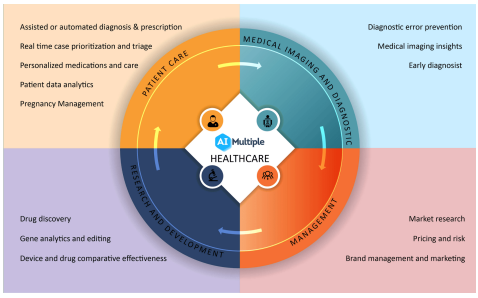

Figure 2: Uses of AI

- $Augmented\dot{reality}(AR)$: is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information.

Future Of Medical Devices

- Brain-computer Interface : We will be able to control computers, machines and instruments with our thoughts alone. We are just learning how to tap into the synaptic pathways of the brain and translate neuronal signals into electromechanical ones. Prostheses will be controllable by thought, making them function more like a natural limb.

- Self-powered Machines : To power body-worn or implanted medical devices, using small, flexible batteries is one solution. Other research is being done that seeks to harness energy created by the body's function. For example, research is underway to harness the kinetic energy of the beating heart as a power source. A biological battery that exists in the inner ear is also being investigated as a possible power source for devices.

- Nanotechnology : Nanoscale technology will enable devices that can be powered by the body's own energy. It will also be used to create flexible circuitry and electronics that will in turn enable the advancement of sensors and devices that conform to skin and other organs and move as the body moves.