



NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR

ASSIGNMENT 03

Future of Health Care

Submitted To:

Saurabh Gupta

Asst. Professor

Department of Biomedical
Engineering

Submitted By :

Harsh Kumar Sinha

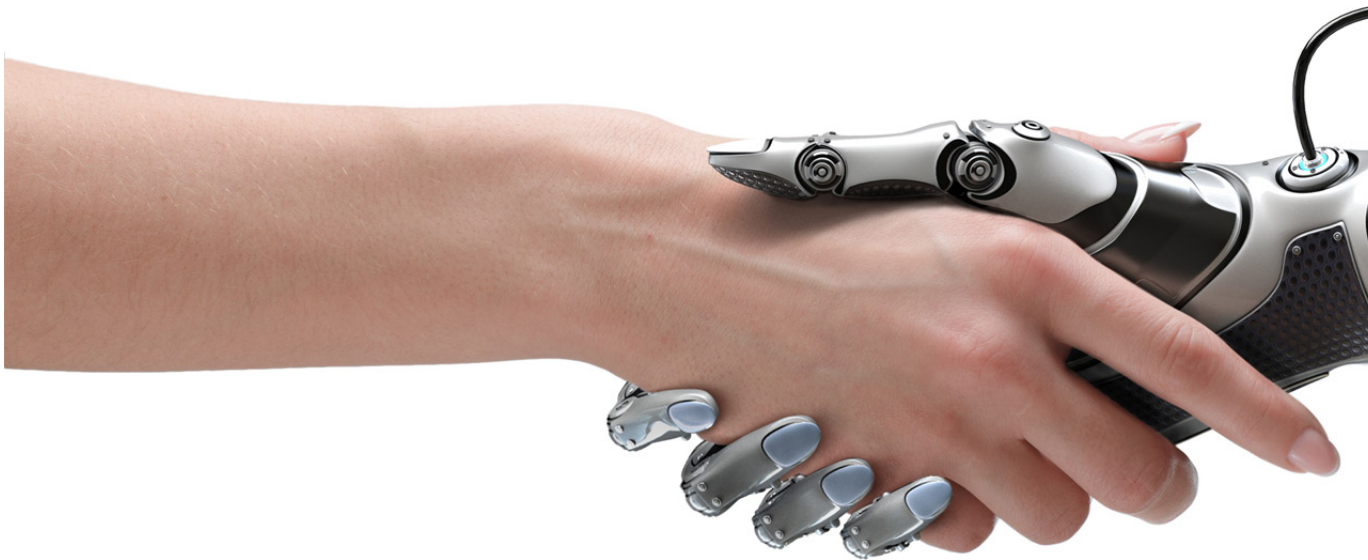
21111022

First Semester
Biomedical Engineering

1 Introduction

Like many other sectors, healthcare is about to enter a period of rapid change. Longevity and the advance of new technologies and discoveries – as well as innovative combinations of existing ones – are among the many factors propelling patient empowerment, which is fundamentally changing how we prevent, diagnose and cure diseases.

To understand what we should expect in the years ahead, we empaneled experts in the field of healthcare to predict which technologies and innovations we will see in the near term (the next five years) and in the long term (twenty-five years and beyond). We then surveyed 400 global business leaders in and around the healthcare sector on whether they agree with the panel's views, and what they perceive as the biggest hurdle to these technologies coming to fruition.



1.1 Tomorrow's hospitals will no doubt rely more heavily on Robotics and Digital Technologies

While the advancements in Medical Knowledge and capability made over the years have been remarkable, hospitals have remained basically the same over the past fifty years.

In some ways, this is not so suprising. Hospitals are profoundly complex buildings, comprising of a wide range of services and units, from emergency rooms and operating theatres, to clinical laboratories and imaging systems, to food services and housekeeping. These functions have developed in a patchwork, overlapping manner over decades - resulting in bloated infrastructure that can be difficult to equip with the latest innovation, such as new IT systems.



Tomorrow's hospitals will no doubt rely more heavily on Robotics and Digital Technologies. Many of the physical and mental tasks that doctors perform today will be automated via Hardware, Software and combinations of both. That will leave hospitals with more space in addition to the space already being freed up through Telemedicine and Remote Healthcare, which reduces the need for patient visits. Babylon Health, a London startup, developing an AI that fields patients health questions like a GP, currently being piloted by Britain's NHS, reckons that 85 per cent of consultations do not need to be in person.

The consequences will be far reaching. Quality Healthcare will become more accessible, as it will become more cheaper, more efficient and more convenient.

One likely scenario is the advent of dispersed, localised healthcare with hospitals of different functions. Emergency treatment centres with operating theatres and a clinical decision units, local clinics that provide outpatient diagnostics and elective care, with beds for short stays may become common.

After that, intermediate and longer term care and rehabilitation centres would fill the remaining need. Artificially intelligent smart assistants- next generations Siris and Alexas that can attend to basic everyday whims of patients - will help with taking measurements and performing diagnostics. Robot carers will supervise and assist the elderly.

Innovation trends in healthcare point towards a future where our health is monitored and provided continuously, wherever we are, with less and less need for bulky physical infrastructure. The Hospital of the future may well be the home.