NATIONAL INSTITUTE OF TECHNOLOGY
RAIPUR

BIOMEDICAL ENGINEERING

ASSIGNMENT

Future of Healthcare

Submitted By:
Name : ChidPrakash Dubey
Roll No. : 21111016
Semester : First
Branch - Biomedical Engineering

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

FUTURE OF HEALTHCARE

February 11, 2022

1 INTRODUCTION

The life sciences and health care industry is on the brink of large-scale disruption. In a future of health that's defined by radically interoperable data, open yet secure platforms, and consumer-driven care, what role will you play? COVID-19 has revealed how vulnerable the health care industry is to change and its need for structural and technological transformation. In the future of health, we expect six key areas—data sharing, interoperability, equitable access, empowered consumers, behavior change, and scientific breakthrough—to collectively transform the existing health system from treatment-based reactionary care to prevention and well-being. The traditional boundaries of the industry will dissolve and new roles will emerge in the future of health as exponential innovation propels the industry towards 2040.

2 OUR VISION FOR THE FUTURE OF HEALTH

By 2040, health care as we know it today will no longer exist. There will be a fundamental shift from "health care" to "health." And while disease will never be completely eliminated, through science, data, and technology, we will be able to identify it earlier, intervene proactively, and better understand its progression to help consumers more effectively and actively sustain their well-being. The future will be focused on wellness and managed by companies that assume new roles to drive value in the transformed health ecosystem.

2.1 DATA AND PLATFORM

A data platform is an integrated set of technologies that collectively meets an organization's end-to-end data needs. It enables the acquisition, storage, preparation, delivery, and governance of your data, as well as a security layer for users and applications.These archetypes will be the foundational infrastructure that form the backbone of tomorrow's health ecosystem. They will generate the insights for decision making. Everything else will build off of the data and platforms that underpin consumer-driven health.

2.2 WELL BEING AND CARE DELIVERY

Health care delivery forms the most visible function of the health system, both to patients and the general public. ... It concentrates on patient flows as well as the organization and delivery of all

services dealing with the diagnosis and treatment of disease, or the promotion, maintenance and restoration of health.

2.3 CARE ENABLEMENT

These archetypes will be connectors, financers, and regulators that help make the industry's "engine" run.Rationale, aims and objectives: The enablement process is defined as a professional intervention aiming to recognise, support and emphasize the patient's capacity to have control over her or his health and life.

3 WHAT ROLE WILL YOU PLAY IN THE FUTURE OF HEALTHCARE

3.1 DATA CONVENER

Data-gathering organizations will have an economic model built around aggregating and storing individual, population, institutional, and environmental data. They will also promote interoperability and help ensure privacy/security. Data will be used to drive the future of health.

3.2 SCIENCE AND INSIGHT ENGINES

Some organizations will likely have an economic model driven by their ability to derive insights and define the algorithms that power the future of health. These organizations will conduct research, develop analytical tools, and generate data insights that go far beyond human capabilities in care delivery.

3.3 DATA AND PLATFORM INFRASTRUCTURE BUILDER

This new world of health will need infrastructure and platforms that can serve highly empowered and engaged individuals in real time. Someone will need to lay the pipes. Data and platform infrastructure builders will develop and manage site-less health infrastructure to link consumers and health stakeholders and set standards for platform components.

4 WHAT CHANGES ARE COMING?

One area of exciting research is the identification of the causal genetic risk-factors that lead to some people developing cardiovascular disease. Some people are more vulnerable to cardiovascular disease when these genetic factors are combined with environmental and lifestyle factors than others. We're trying to understand which factors could be a cause and which are not significant.

5 WHAT DOES THE FUTURE OF LOOK LIKE?

The vision I'm sketching for the future is one where, for instance, a GP uses their tablet ultrasound to make a movie of a patient's beating heart. When irregularities are noted, the GP shares this immediately with a cardiologist to diagnose the patient and set up a care plan there and then.

There's no need to make an appointment in weeks or months – the issue can be dealt with in real-time. This is what we have become accustomed to when booking flights, doing our finances or shopping online. It's a world where someone with a chronic condition has all their vital data streamed to their care team who will probably know before the patient does that someone needs to step in to provide support or treatment.