

FUTURE OF HEALTHCARE

BY AMARRAM MADHU MALVEETIL

ROLL NO.:21111009

"Department of BIOMEDICAL ENGINEERING"

"NATIONAL INSTITUTE OF TECHNOLOGY, RAIPUR", CHATTISGARH"

BATCH:2025 SEMESTER:I

Assignment 3 of BASIC BIOMEDICAL ENGINEERING

SUBMITTED ON FEBRUARY 11, 2022

1. INTRODUCTION

Healthcare has always been a very crucial part of our lives for ages. A healthy society has always demanded a very strong and faithful healthcare to cater to all its intricate needs and requirements. Human intellect has for long been able to be adept to all the incessantly increasing demands of society when it comes to medicine and healthcare. A strong and reliable healthcare system comprises of numerous inter-dependent highly skilled manpower at various levels with different interdisciplinary roles and suitable infrastructure offering spaces for innovation and researches, for its smooth functioning.

From the evolution of a simple system of home remedies and itinerant doctors with little training; to a complex, scientific, technological, and bureaucratic system, often called the medical industrial complex, professionalization of doctors, technological advancements in treating diseases, rise of great institutions of medical training and healing, and; to the advent of medical insurance; healthcare and medicine has had no stone left unturned!! Apart from these sophisticated advancements many corporations have also grown up for supporting and creating profits in healthcare.



The future of healthcare has certainly been one of the most sought-after and curiosity-sparking topics of discussion in the recent times. Scientists and Medical professionals are highly anticipating about the possible outcomes that the medical destiny would bring about. Many people are even worried that the influx of technology in Medicine would even replace the jobs of many medical professionals with Robots and AI-driven machines!! However, so far medical technology has only been impactful with a lethal combination of both Human manpower and Futuristic automated devices. Therefore, it can be very well interpreted that, the future of healthcare lies in working hand-inhand with technology; and healthcare workers would, no doubt, have to embrace the emerging healthcare technologies in order to stay relevant and competent in the coming years.

Healthcare is being shaped up in front of our eyes with numerous advances in digital healthcare technologies; such as artificial intelligence, Augmented Realty, 3D-printing, robotics or nanotech-

nology, etc. In medicine and healthcare, digital technology could substantially transform the unsustainable healthcare systems into sustainable ones, equalize the relationship between medical professionals and patients, and provide cheaper, faster and more effective solutions for diseases, and many more..... Therefore, our motive at this point of time is not to worry about the daring transformations that the Medical technology would bring about in the future; but to courageously accept technologies with an open mind, and to prepare for the changing world with as much knowledge as possible!!

2. FUTURISTIC HEALTHCARE PRODUCTS

Growing Technology can only be well-understood by emphasising upon the market-targeted, relevant, credible, robust and competent services!!So let's have a sneak-peak into some of the emerging tech-oriented medicinal products and services that we can expect in the near future:

2.1 AUGMENTED REALTY

Augmented Realty puts information into eyesight in the most realistic way; as fast as possible. This can inevitably aid doctors in doing real-life operations, as well as enable surgeons to enhance their intrinsic surgical capabilities. AR enables the usage of some digital specs that can create virtual, discrete and high-refined detailed images of organs with their corresponding data. Hence doctors can have access to very detailed, accurate and virtual depictions of the human anatomy and study the subject without any presence of real bodies!!



2.2 NANOTECHNOLOGY

Nanoparticles and nanodevices would soon operate as precise drug delivery systems, cancer treatment tools or tiny surgeons!! Micro, smart pills like PillCam are already in use for colon exams in a noninvasive, patient-friendly way. Pillcam is basically an electronic pill that can be controlled wirelessly and used to relay diagnostic information or release drugs in response to smartphone commands!!In future, we can even expect pill-Cams to take biopsy samples for further analysis; whilst, remotecontrolled capsules could make the prospect of nano-surgeons a reality!!

2.3 MEDICAL TRICORDER

Medical Tricorder is basically a device that can analyze and diagnose many diseases at a time!! Palm-sized Tricorder is one such gadget that can measure ECG, heart rate, oxygen saturation, temperature, blood pressure and many more aspects of



human body!! Then there is a tricorder called Biosticker which; despite being tiny and thin, can measure a wide range of parameters like respiratory rate, heart rate, skin temperature, body position, activity levels, sleep status, gait and more. Hence, there is enormous potencial in this endeavor as well!!

3. CONCLUSION

Through this dissertation, we can very well understand that technology can harness the best out of Medicine to provide a highly reliable and robust service to public at large. Also, it is to be understood that the best of technology can be tapped only with the strong support of a highly skilled manpower. Hence, as already mentioned above, a hand-in-hand process of Techno-Health-worker is the ardent need of the hour to offer best service to humanity!! Hence, it should be the prime intent of every medical specialist to get adept with the dramatically changing technology and understand its impact in healthcare. let us all hope for great medico-technological innovations uprooting in the coming years!!

4. BIBLIOGRAPHY

- 5.1 https://cf.son./NRSG780/module1/subtopic2.htm
- 5.2 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2408392/
- 5.3 https://www.ibm.com/industries/healthcare
- ${\bf 5.4} \qquad {\rm https://www.rasmussen.edu/technology-in-health caretransformation/}$