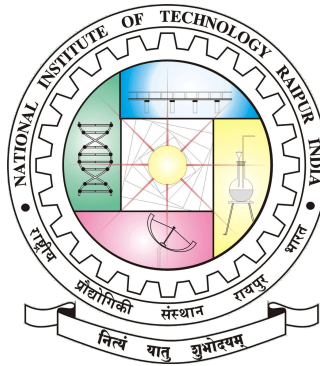# National Institute Of Technology, Raipur

Assignment-2

"Evolution of Modern Health Care System."

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1 Overview

Healthcare changes dramatically because of technological developments, The evolution of health care information systems has made a huge difference in the way patients receive care and the hospitals reimbursed. and this has not been very easy. The Diversified Branches of Medical Sector e.g. Bioinformatics, Biomechanics, Biomaterial, Pharmaceutical engineering, Medical imaging, Implants, Bionics, Genetic engineering, Clinical engineering, Biomedical sensors,etc. has been Evolved to a Great Extent from the Initial Stage.

Across all health care sectors, there is a demand for creative, thoughtful uses of health informatics, mobile technology, cloud systems, and digital diagnostics.

2 Background

From 1800's to 1900's, Local governments did engage in public health initiatives, Built public hospitals and public health clinics. Hospitals took a central role in the Health Care System. Hospitals almost exclusively served the poor, indigent, aged, and disabled. Patients treated as helpless but as the Private Players Came and Medical Education System Evolved and Mass Production began, Health Care Technology was also changed and there was a dramatic rise in the Number of Hospitals. New facillities were introduced in the Hospital and The Goal was Set to Establish Hospital in Every community And Now more Focus was set to Citizen Health in Our Health System because Citizen Health plays a very Important role in Economical Development of any Country.

3 Discussion

There are Certain Things which played a key roles and Helped to Achieve This Milestone in the Evolution of Modern Health Care System :-

⇨ **Skilled doctors** : The role of the doctor within the healthcare team has changed, and will continue to change. They are the healthcare professionals who together make up the complete spectrum of care that people rely on.

⇨ **Citizen/Community Health** : CHCs[1] are established and maintained by the State Government. This has also played an Important role in Maintaining Community health Better under the Various Health Programs.

⇨ **Economical** : The leadership has formed an array of partnerships and joint ventures that have allowed it to control costs with mass production and improve outcome and achieving Certifications Levels. Now, Medical Treatment has been very Economical with Various Health Insurances and Policies.+

⇨ **Nano Technology** : Technologies Such as IoT, Arduino, Wearables, Sensors, has Made Health Sector Automated, Compact and Portable, More Non-Invasive or Minimal Invasive and Cost Effivtive.

⇨ **Reduced Human Errors** : Human error is a common and serious situation that causes severe but unintentional harm to patients. Now It Has Been Reduced With the Help Of Technologies at a Greater Extent. Studies show that in reducing errors, and improving quality of care, CPOE[2], CDSS[3] and EHR[4] are more effective than other technologies.

⇨ **Telehealth**: Technologies Such as Social Media, Chatbots allows health care professionals to evaluate, diagnose and treat patients at a distance.

⇨ **E-Health(Medical Database)**: Medical DBMS provides a systematic way to create, retrieve, update and manage. It is Very Easy For EveryOne to manage data including prescription, survey, Medical History, Clinical Trials and diagnosis of patients can be carried out.

⇨ **Hackathon and Open Challanges** : It has helped Medical Sector alot with Bringing Innovations, Reliable Ideas and Creativity.

3.1 Future of Health Care

Healthcare is constantly evolving and Many More Innovations will come to Every Field of Health Care with Integrations of Technologies. Some Tech-

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[1]Community health centers
[2]Computerized Physician Order Entry
[3]Clinical Decision Support system
[4]Electronic Health Record

nologies are Still in Developing Phase like, use of Super Computer in Developing Medicines,Biological Robots in Treatment and Surgery, Deep Learning and Machine Learning in Analysing Medical Data, Artificial Human Organs, Gene Editing, etc.

3.2 Security, privacy and monitoring

✳ **Data Privacy**: According to recent research by Skyhigh Networks, more than 13% of cloud services in health care are considered high-risk for security breaches, and 77% of them are medium-risk.

✳ **Technical Errors** : Medical errors can occur in almost any healthcare settings and This is One of the Leading cause for Deaths and Injuries in Hospitals. Technical failures can include complications or failures with medical devices, implants, grafts, pieces of equipment, Communication Breakdown,etc.

✳ **Lack of Resources** : We need Large number of Resources as Medical Proffesionals and Equipments in India as There is Lower number of Doctors per 10000 people as per WHO than Required.

4 Conclusion

The Evolution Of Modern Health Care System has been Strongly Influenced by the Advancement of Scientific research and Technological Developement.

As knowledge increases about the genetic bases of disease, the healthcare system will make greater use of gene therapies, developing ways to prevent genetically caused diseases. Just as the impact of new technologies, such as x rays, antibiotics, vaccines, and surgical advances changed early and mid-twentieth-century medicine socially and scientifically, scientific and medical innovations, as well as social movements and economic realities, will continue to shape twenty-first-century medicine and health care.