NATIONAL INSTITUTE OF TECHNOLOGY
RAIPUR

BIOMEDICAL ENGINEERING

ASSIGNMENT

Evolution of Modern Healthcare

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EVOLUTION OF MODERN HEALTHCARE SYSTEM

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1 INTRODUCTION

An introduction to the health care environment, this course focuses on the health care team and delivery systems. Students will learn about legal responsibilities, ethical issues, safety, infection control, communication, interpersonal behaviors, wellness, and disease.A health system, also known as health care system or healthcare system, is the organization of people, institutions, and resources that deliver health care services to meet the health needs of target populations. There is a wide variety of health systems around the world, with as many histories and organizational structures as there are nations. Implicitly, nations must design and develop health systems in accordance with their needs and resources, although common elements in virtually all health systems are primary healthcare and public health measures.[1] In some countries, health system planning is distributed among market participants. In others, there is a concerted effort among governments, trade unions, charities, religious organization, or other co-ordinated bodies to deliver planned health care services targeted to the populations they serve. However, health care planning has been described as often evolutionary rather than revolutionary.[2][3] As with other social institutional structures, health systems are likely to reflect the history, culture and economics of the states in which they evolve

2 MEASURING AND IMPROVING SAFETY

Measuring and improving safety is difficult. Not all safety measures lendthemselves to rates. We have come to understand that a critical factor forsuccess in improving patient safety is to actively change the culture of the institution. Considering these challenges, how will we answer the toughquestion asked by Sorrel King,"How do we know patients are safer?" (2,3)This chapter provides an overview of the issues in measuring patient safety, and presents a framework for measuring and improving safety. It isimportant to recognize that safety is a component of the broader conceptof "quality," which includes care that is effective,efficient, patientcentered,timely, and equitable (4). The boundaries between these concepts areunclear, and measures can often fall in more than 1 category. For example,is the failure to use an evidence-based therapy a safety measure—a mistakeof omission—or an effectiveness measure? Is a complication

3 SENSORS AND WEARABLE TECHNOLOGY

In healthcare, the Wearable IoT is a network of patient-worn smart devices (e.g., electronic skin patches, ECG monitors, etc.), with sensors, actuators and software connected to the cloud that

enable collection, analysis and transmitting of personal health data in real time.Some wearable devices are equipped with sensors that can detect human physiology status, such as heartbeat, blood pressure, body temperature, or other complex vital signs (e.g. electrocardiograms). Using these signals, new systems can be developed to monitor mental condition.

4 REMOTE MONITORING TOOLS

Remote Monitoring (also shortened to RMON) refers to the specification that helps MSPs monitor network operational activities of their clients by using remote devices, which are known as probes or monitors. This helps MSPs ensure efficient network infrastructure control and management.Remote monitoring and management, also known as network management or remote monitoring software, is a type of software designed to help managed IT service providers (MSPs) remotely and proactively monitor client endpoints, networks, and computers. This is also now known as or referred to as remote IT management.

5 WIRELESS COMMUNICATION

Wireless Communication is a method of transmitting information from one point to other, without using any connection like wires, cables or any physical medium. Generally, in a communication system, information is transmitted from transmitter to receiver that are placed over a limited distance.Wireless communication (or just wireless, when the context allows) is the transfer of information between two or more points that do not use an electrical conductor as a medium for the transfer. The most common wireless technologies use radio waves.

6 SMART BEDS

The smart mattress is a mattress that has sensors to monitor sleep patterns.Smart medical beds are integrated solutions for patient care, assistance and monitoring, based on a comprehensive, multidisciplinary design approach. Research in this field is critical in a context of global ageing, and powered by a surge in opportunities for accessibility condition.And from a family engagement standpoint, smart hospital rooms are connecting caregivers with more information about patient health and real-time updates about health status and procedures. This helps family members learn more about their loved ones' health and know where they are on the care journey.

7 PORTABLE DEVICES

Portal technology refers to the use of centralized portals to expose underlying functionality of a system. A portal acts as a doorway, allowing the underlying functionality (which is often quite complex) to be presented and used in a much more user-friendly manner.

7.1 Data Virtualization Layer- The first capability that makes "mashup" technology distinct from "portal" technology is that it has a data virtualization layer on its front end that allows it to source data simultaneously from data sources from around the enterprise from within the firewall, from files and feeds that are externally located outside the firewall, such as from the servers of business partners, and from anywhere on the Internet, and then combine any combination of those feeds into a visualization.

7.2 Cross Data Landscape Metrics- The second capability that makes "mashup" technology a long-term direction is its ability to report on reports from across the IT landscape Few realize the fact that there are often tens of thousands or even hundreds of thousands of reports across a large enterprise.

7.3 Data Security- The third capability that makes "mashup" technology distinct from "portal" technology is that it has a variety of data security capabilities built into it. This begins with having an LDAP lookup capability built into it, with the ability either to pass the permissions to the data sources or, our favorite, to apply the data permissions dynamically for any ad hoc query where the permissions are controlled by business owners with oversight from legal and regulatory compliance.