



EVOLUTION OF MODERN HEALTHCARE

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1. INTRODUCTION

Healthcare has always been a very crucial part of our lives for ages. A healthy society has always demanded a 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.

2. HISTORY(PRE-21st CENTURY)

It was during the mid-19th century when two proponents of sanitation, Chadwick from England and Shattuck from the U.S, produced revolutionary data-driven scientific reports substantiating the origin of disease from rotten organic matter and drew public and government attention to the significance of public approaches to solving and preventing health problems; that marked the onset of modern healthcare era.

Eventually, towards the end of 19th Century; bacteriology dramatically revolutionized the scientific understanding of the origin of diseases through innumerable legit and rational reports; many communicable diseases were checked, average life of human beings gradually increased and thereby, science became a suitable vehicle for desired social changes. This marked the first modern public health revolution.

Although communicable diseases came very well under control, people were still suffering from mammoth mental and physical health issues. It was during the late 1940s when WHO took a massive step to encourage “mental hygiene” movements which enabled every vulnerable individual to achieve a satisfactory synthesis of his/her own potentially conflicting and instinctive drives; to form and maintain harmonious relations with others; and to participate in constructive changes in his/her social and physical environment; through well-planned and systematic neurobiological activities and techniques.

In the mid-20th century, Tuberculosis and child health clinical setups were incepted in order to improve individual access to healthcare. Along with that, mass immunization programs were introduced to further leverage the healthcare benefits.

3. 21st CENTURY ONWARDS

This phase of Modern Healthcare Timeline has undoubtedly been characterized by exponential Technological advancements. Modern healthcare is impacted by the growth of a consumerization culture in which consumers can simply shop around for relevant providers. Medical practitioners have been able to adapt to these developments by devising strategies that allow them to provide the best possible patient care while remaining profitable.

For over 2 decades, technology has been very well utilized in medicine to operate specialist machinery, like MRI scanners and x-ray machines. Increasingly, technology is being used to provide a better patient experience and run even more efficient practice.

Modern healthcare is characterized by increasingly inquisitive patients who incessantly research and question the authenticity of advice given to them. As patients use technology to assist them in their health challenges, they also expect medical practitioners to utilize technology to provide them with the highest level of care.

3.1 KEY FEATURES

3.1.1 Electronic health records

The traditional process of using paper filling systems to store patient records made it difficult for clinicians practicing in different facilities to collaborate when it came to patient care. However with the advent of EHR, things have become reasonably better. EHRs are changing the face of global healthcare by providing medical professionals with a complete, more holis-

tic picture of a patient's health history, enabling them to make better nuanced decisions regarding their treatment.

EHRs provide proof of care to support billing without having to fill out forms or faxes. Auditor surveyors can read proof of service details without searching through cumbersome binders. Orderly incident reports can be assessed and, if needed, appropriately and quickly escalated. Issues are handled quickly, by the right person, at the right time. Results include improved quality and safety within a better network of services.

3.1.2 Personalized treatment

Electronic devices and wearable technology can provide deep insights to help create hyper-targeted, personalized health and wellness plans; thereby increasing patient engagement.

Personalization proves to be very precise and can be accomplished through analyzing individuals' data and presenting care, coaching and health recommendations that precisely address their set of conditions, goals and lifestyle. Individual and specific motivations of patients can be clearly understood; thus providing solutions that are particular to their lifestyle in small and manageable steps.

Targeted steps are very much helpful for people across the humongous range of healthcare needs: whether they are perfectly healthy and want to remain that way; or positioned between healthy and sick and want to prevent the onset of chronic conditions; or currently managing chronic conditions.

3.1.3 Artificial technology and augmented reality

In many cases, a lethal combination of the two highly evolving technologies will only open up more possibilities in purview of healthcare. These two complementary technological deployments could easily equip medical personnel with highly advanced features, such as X-ray vision, heat-sensing abilities, etc. Not just that, they can even improve design speeds and reduce the amount of time it takes for a product to reach market by erasing the need for a physical prototype.

To exemplify, a handheld device used by nurses and doctors to scan a patient's body in order to make the veins visible; such a device can tremendously improve accuracy when it comes to blood draws or IV insertions, thereby; minimizing the likelihood of having to stick a patient multiple times.

4. IMPACT OF COVID ON HEALTHCARE

The global COVID-19 pandemic is accelerating the need for digital reinvention and adoption of healthcare technology solutions. It has put the medtech industry at center stage with unparalleled demand for diagnostic tests, personal protective equipment (PPE), ventilators, and other critical medical supplies.

4.1 ACCELERATED CAPACITY

This applies to equipments that are essential to save the lives of critical COVID-19 patients. These equipments—primarily ventilators and PPE—is where we face universal shortages. Likewise, equipments to diagnose, monitor, and treat COVID-19 patients—such as anesthesia devices, mobile X-ray and ultrasound

equipment, and infusion pumps—face select, localized shortages are the futuristic demands.

4.2 MAINTAINED CAPACITY

This primarily applies to equipments used in COVID-19 treatment or that requires replacement—such as CT machines, dialysis equipment, or ECMO machines.

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