7th International conference
On
Public Health and Technology
December 25-26,2023
Topic - THE HEALTH AND TECHNOLOGIES IN TELEMEDICINE
Organized by – center for academic and professional career development and research (CAPCDR)
Presented by – Jagtap Dhanashree S. Jadhav Sayali.G, Bhor Surekha.A

Introduction

► By combining cutting-edge technologies with top-notch network services, people can enhance healthcare delivery and increase its accessibility for an increasing number of people. A more advantageous technology that can help people receive Some clinics use online video conferencing to offer doctor appointments virtually. These appointments allow patients to continue receiving treatment from their regular physician when an in-person visit is neither necessary nor required. Another kind of interactive appointment is a visit via the internet with a physician or nurse practitioner.

Several large corporations have automated doctor's offices available as part of their health care offerings. Conversely, nurses working at a nursing call center provide guidance for at-home treatment through a question-and-answer format.preventive care and improve their long-term health is telemedicine. This is especially true for people who can't afford or can't get access to high-quality care. Telehealth holds promise for improving the availability, efficiency, and organization of health care. Although research in this field is still in its infancy, it is growing. For instance, telemonitoring vital signs and providing telephone-based care to individuals with heart disease has been shown to improve quality of life while lowering mortality and hospitalization risks.People should get a diagnosis or recovery plan for a number of good reasons. Patients may feel more confident that they are getting the best care possible as a result. For the treatment of mental health conditions, telemedicine is a great option. It gets rid of some of the things that keep patients from getting this important kind of care.

What is telemedicine ?

► A health-related service provided through electronic information and communication technologies is known as telemedicine. It describes the entire set of deliverables intended to empower patients and their doctors or other healthcare professionals.
Numerous applications can be made of it, such as remote control, telehealth nursing,
online patient consultations, and remote psychiatric and physical rehabilitation.It makes it possible to make better decisions about health care, improves the effectiveness and quality of emergency services, speeds up the diagnosis process,
and lowers costs for both patients and physicians by streamlining clinical processes and cutting down on hospital transportation.

Why healthcare system needs telemedicine

► An increasing number of hospitals are looking into the advantages of telemedicine due to rising healthcare expenses and the demand for better care. They desire greater utilization of healthcare facilities and enhanced communication between doctors and patients who live ase in hospital readmissions and complete adherence by patients to their prescribed treatment regimens. The improved contact benef it of telemedicine also applies to doctor-to-doctor correspondence. Physicians can create support networks through telemedicine in order to share knowledge and deliver better medical treatment. Telemedicine refers to the practice of providing medical care via the internet, typically via video chat. There are many benef its to this technology for both patients and healthcare professionals. Even with its current set of challenges and detractors, telemedicine can support and improve the patient experience in general

Capabilities and features of telemedicine when use in healthcare management system

► These days, the idea of telemedicine and related services is well-established and shown to benef it society. The different advantages and amenities that the telemedicine concept, specif ically for the healthcare area, offers are reflected in Fig. 1. This approach is eventually
made possible by the chronic health management, prescription compliance, remote services, care-for-all in critical and severe instances, etc. that it offers. Furthermore, a range of tele-wearables provides patients with healing and unique updates on their health status.

The treatment work flow process as being used in telemedicine care

► The process for attempting telemedicine culture-based treatment in healthcare services is depicted in Fig. 2 as a line-way diagram. It offers a cutting-edge facilities and care throughout the entire implementation process. Everything begins with the patient's entry or comprehensive data, and the telehealth supportive care unit comes next. This stage also pertains to assigning a doctoral assistant to the patient, and after the diagnosis, providing the patient with the best care possible (22,23)Through communication, telemedicine and other technologies enhance clinical and administrative processes. It is a versatile method that offers emergency care in situations that are essential as well as non-critical. Generally speaking, people with chronic illnesses are treated with it. However, a hospital can make up for telemedicine if it has the right ambulance crew or other staff. Moreover, the telemedicine system can be expanded to include other features like e-prescriptions, treatment dynamics graphs, and the patient's past medical history.

Barriers for the adoption of telemedicine practices in making health care services effect

▶ The various barriers to the effective use of telemedicine treatment to assist the medical units and patients in receiving the best care possible are illustrated in Fig. 3. While attempting to implement telehealth-related practices for Healthcare and its related areas, there are certain common and customary obstacles that must be addressed. Everything has to be completely free of any kind of breach of privacy, disclosure of sensitive information, fraud and abuse, erroneous answers, etc., as any of these problems could depress someone or make the case more complicated in terms of health implications.

Telemedicine in health care significant application areas

► With the use of telemedicine technology, patients can receive a wide range of medical services, such as physical therapy, psychotherapy, and primary care consultations. It uses wireless technology, including computers and smartphones, to deliver treatment. In telemedicine, video conferencing is typically utilized. Conversely, certain providers opt to offer treatment via phone calls or emails. Patients frequently work with their primary care physician in conjunction with telemedicine. When a patient is unable to visit a healthcare facility or needs maintain a physical distance, this technology can be useful. It enables practitioners to charge for weekend or extended hours without having to pay for office space. Additionally, this increases the practices' appeal to the increasing number of patients who need telemedicine as their primary care provider.It is an easy and affordable way to help patients with serious illnesses take control of their condition, participate in their care, and stop complications from getting worse.

Limitations of telemedicine inhealth care

► When compared to traditional medical methods, telemedicine offers a number of potential disadvantages. It supports the traditional healthcare system for its most basic purposes but does not replace it. Patient medical data hacking is a signif icant problem, particularly when a patient connects to telemedicine over an unencrypted route or a public network. This technology can delay the administration of medication when a patient needs emergency care, mostly because a doctor cannot do laboratory testing or provide life-saving care from a distance. Different states have different laws, therefore depending on which state they are licensed in and which state the patient resides in, doctors cannot practice medicine across state lines.
Additionally, clinicians need to make sure that the telemedicine service they employ complies with privacy laws and is both serious and safe.

Conclusion

► In order to guarantee that patients make long-term lifestyle changes, telemedicine is an invaluable tool for connecting doctors with patients. For employees at medical offices, it offers several advantages. By doing this, the hassle of patient check-in is frequently removed, freeing up time for higher-value work. Clinicians can treat patients and possibly help other afflicted practices at the same time when they have the option to visit patients online. By using electronic means to communicate with the patient regarding diagnosis, treatment, and illness prevention, this also lessens the impact of distance. The most comprehensive telemedicine application can bring health care closer to those who reside in remote places, where it would otherwise be impossible to obtain access to high-quality care. The ability of this technology to provide information sharing across vast distances has been demonstrated in recent years to improve the quality of healthcare facilities. It increases accessibility to underprivileged communities and facilitates appointment scheduling and attendance. Individuals with limited mobility receive the necessary medications and medical advice from doctors faster. The medications, examinations, and processes they have to oversee at their location. Telemedicine transforms each sick person's life and ensures that they receive the right medical care by reducing the amount of time that doctors and patients must travel across the globe.

Reference

[1] L.S. Wilson, A.J. MaederRecent directions in telemedicine: review of trends in research and practiceHealthcare informatics research, 21 (4) (2015 Oct), p. 213View article CrossRefView in ScopusGoogle Scholar

[2] S. Hajesmaeel-Gohari, K. BahaadinbeigyThe most used questionnaires for ev aluating telemedicine servicesBMC Med. Inf. Decis. Making, 21 (1) (2021 Dec)

[3] D. Lupton, S. MaslenTelemedicine and the senses: a reviewSociol. Health Illness, 39 (8) (2017 Nov), pp. 1557-1571

[4] F. SarhanTelemedicine in healthcare. 1: exploring its uses, benefits and disadv antagesNurs. Times, 105 (42) (2009 Oct 1), pp. 10-13View in ScopusGoogle Scholar

[5] A. Moghadas, M. Jamshidi, M. ShaderamTelemedicine in healthcare system2008World Automation Congress, IEEE (2008 Sep), pp. 1-6

[6] R. Chunara, Y. Zhao, J. Chen, K. Lawrence, P.A. Testa, O. Nov, D.M. MannTelemedicine and healthcare disparities: a cohort study in a large healthcare system in New York City during COVID-19J. Am. Med. Inf. Assoc., 28 (1) (2021 Jan), pp. 33-41View article CrossRefView in ScopusGoogle Scholar

[7] B.J. KasparLegislating for a new age in medicine: defining the telemedicine standard of careto improve healthcare in IowaIowa Law Rev.,99 (2013), p. 839Google Scholar

[8] R.S. Weinstein, A.M. Lopez, B.A. Joseph, K.A. Erps, M. Holcomb, G.P. Barker, E.A. KrupinskiTelemedicine, telehealth, and mobile health applications that work: opportunities andbarriersAm. J. Med., 127 (3) (2014 Mar 1), pp. 183-187View PDFView articleView in ScopusGoogleScholar

[9] E. Parimbelli, B. Bottalico, E. Losiouk, M. Tomasi, A. Santosuosso, G. Lanzola, S. Quaglini, R. BellazziTrusting telemedicine: a discussion on risks, safety, legal implications and liability of involved stakeholders