African Journal of
Clinical Medicine and Pharmacy Research

ISSN: 1595-7993

Index: Harvard, Boston, Sydney University, Dimensions, Lens, ResearchGet Scilit, Semantic, Google Scholar, Base etc

https://doi.org/10.58578/AJCMPR.v2i2.5454

Transforming Healthcare Through Telemedicine: A Post-Pandemic Perspective

Muhammad Akram[1], Isaac John Umaru[2], Abid Mahmood[3], Mohammed Khudhair Hasan[4], Hind A. Abdulghafoor[5], Fahad Said Khan[6], Fethi Ahmet Ozdemir[7], Gaweł Sołowski[8], Jaouher Ben Ali[9]

[1,3]Government College University Faisalabad, Pakistan; [2]Federal University of Wukari, Taraba State, Nigeria; [4]Al Manara College for Medical Sciences, Maysan, Iraq; [5]University of Fallujah, Iraq; [6]University of Poonch Rawalakot, Azad Jammu and Kashmir, Pakistan; [7]Bingol University, Bingol, Türkiye; [8,9]University of Tunis, Tunisia
umaruisaac@gmail.com

Article Info:

Submitted:	Revised:	Accepted:	Published:
Mar 20, 2025	Apr 5, 2025	Apr 17, 2025	Apr 22, 2025

Abstract

The global chaos caused by COVID-19 gave birth to emerging telemedicine innovations throughout the world. Telemedicine automates the diagnosis and therapy processes as well as provides care to aid in such physically demanding tasks. In today's world, telemedicine is becoming one of the most effective methods of assisting patients directly due to its easily accessible reach and practicality. This paper concentrates on the epidemiology of telemedicine, along with the diverse services prescribed by the doctors through telecommunication, as well as the prevailing global communications and access problems.

Keywords: Digital Visitations, Digital Wellness, Distant Patient Care, Remote Healthcare

AJCMPR Journal is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License

Introduction

Since remote health care services were enabled by telephone technology, ensuring healthcare services through telehealth has become easier and smoother. The system of offering healthcare services has changed dramatically with the introduction of telehealth systems (Sharma et al 2022). Highly driven by law, technology and infrastructure, the system of offered services was never fully utilized until the onset of the COVID-19 pandemic. In order to provide core services, many critical socios enhanced services offered through video calls, secure text messaging, remote monitoring, and many other advanced technologies. There was an immediate recognition of the need for fresh methods to deliver health care, and the acceleration of the acceptance of telehealth was remarkable. However, at the onset of the pandemic, the services became more challenging to deliver because of the sudden surge in demand for contactless care (Lee et al 2021). But with the growing implementation of telehealth technology, it was obvious that these technologies were not just short-term solutions; rather, they were meant for the amelioration of service delivery for the long run.

Benefits of Telemedicine

The pandemic period created a remote care void which made telehealth services more difficult to operate. The advancements in the technologies used in telehealth care enhanced the functionality of remote care and ensured it is not a short term solution but a long-term improvement in service delivery.

Aside from the extensive patient services offered, telemedicine is also beneficial to the healthcare system in operational steering efficiency. An illustration of remote consultations is where doctors are able to virtually attend to more patients, thus reducing waiting periods (Khalil et al 2009). This minimizes congestion at clinics and hospitals and enables optimal resource utilization. In terms of finances, telemedicine reduces travel expenses, lost work days, facility overheads, and in turns the rate of readmissions to hospitals due to ongoing monitoring and early intervention.

Telemedicine helps patients take more initiative and encourages them taking self-care tasks, so it no longer remains a passive activity. Digital platforms that monitor vital signs, educate patients about their health, and remind them to take their medications enhance adherence to prescriptions. This coupled with robust patient trust in doctors due to improved

physician-patient relationships increases proactive symptom reporting (Drossman et al 2020).

Challenges and Limitations

A promise seems plausible with telemedicine, despite the many challenges to consider. One issue of concern is the so-called "digital divide" that mainly impacts older people, the lower class, as well as people living in rural areas. Existing health inequities in underserved populations are worsened by lack of internet connectivity and computers or smartphones. In addition, some patients may lack the necessary technical skills to enable them participate in virtual care sessions.

Equally important are concerns about privacy and security. Protecting sensitive health information is difficult and highly vulnerable to hacking and data breaches (Ronquillo et al 2018). More risk mitigations must be put in place. Regulatory frameworks like HIPAA in the US attempt to safeguard patient information, but have proven inadequate with the sharp increase in telehealth services during the pandemic. Legally mandated policies for comprehensive data protection require stringent enforcement of data privacy laws and secure IT frameworks, full staff education on the policies, and proper custody of patient information with answerability.

Other fields have other set of limitations especially in the areas requiring imaging techniques, manual procedures, or any form of surgical hands-on intervention (Su et al 2022). In some cases, hands-off approaches may result in cases being overlooked or, worse, misdiagnosed. Resolution issues with pictures and videos, time delays in video transmission, and even language differences can obstruct conversations and attendant levels of focus. Finally, there are still subnational differences concerning the law, which address telemedicine payment, as well as where the legal practice can take place, establishing jurisdictional barriers and restraining the development of services across state and federal boundaries.

Telemedicine in the Post-Pandemic Era

As the world gradually moves away from the acute focus on COVID-19, one of the main areas still developing is telemedicine and virtual consultations (Nittari et al. 2022). As both

patients and healthcare professionals adopted digital methods for seeking and delivering care, their understanding shifted during the pandemic. In the post-pandemic years, blended models of care, which incorporate remote and in-person consultations, are expected to fully integrate telemedicine. While most sophisticated assessments require physical presence, these models provide greater flexibility by allowing routine follow-ups and consultations to be conducted remotely.

Nearly every healthcare institution is now revamping its telehealth and telemedicine systems, which includes investing in the digital infrastructure and teaching employees how to utilize these systems. In order to sustain and maintain usage of telehealth services, policymakers have tried to streamline the standardization of telemedicine and reimbursement policies (Nicol et al. 2020). Remote monitoring and real-time monitoring, along with constant advancements in AI, mobile health applications, and wearable technology, will undoubtedly further aid telemedicine. Enhanced clinical outcomes, reduced expenditure from lowered long-term costs and morbidity, and better results are made possible with proactive healthcare models enabled with remote diagnostics, predictive analytics, and remote monitoring.

Aside from telehealth services, telemedicine affects teaching and monitoring the public health as well (Fong et al. 2011). The system's efficiency and responsiveness are enhanced as a result of having epidemiological information systems, interdisciplinary collaboration, and distance education.

Conclusion

Over recent years, there has been an immense integration of telemedicine technology into the frameworks of various schools of medicine, primarily due to the ability of patients to seek care remotely. It is clear that the concept of digital health is starting to make an impact amongst the healthcare givers and receivers. Even though issues such as telehealth regulations or technological limits are currently impeding some of the potential, it is unquestionable that telemedicine is becoming more popular and accepted as time goes by. Greater changes and advances in the field of medicine will be required in order to widen its scope. Appropriate policies and resources alongside attention are critical in unlocking telemedicine's potential of providing timely and effective services regardless of location.

References

Drossman, D. A., & Ruddy, J. (2020). Improving patient-provider relationships to improve health care. Clinical Gastroenterology and Hepatology, 18(7), 1417-1426.

Fong, B., Fong, A. C., & Li, C. K. (2011). Telemedicine technologies: Information technologies in medicine and telehealth. John Wiley & Sons.

Khalil, I., & Sufi, F. (2009). Cooperative remote video consultation on demand for e-patients. Journal of Medical Systems, 33(6), 475-483.

Lee, S. M., & Lee, D. (2021). Opportunities and challenges for contactless healthcare services in the post-COVID-19 Era. Technological Forecasting and Social Change, 167, 120712.

Nittari, G., Savva, D., Tomassoni, D., Tayebati, S. K., & Amenta, F. (2022). Telemedicine in the COVID-19 era: A narrative review based on current evidence. International Journal of Environmental Research and Public Health, 19(9), 5101.

Ronquillo, J. G., Winterholler, J. E., Cwikla, K., Szymanski, R., & Levy, C. (2018). Health IT, hacking, and cybersecurity: National trends in data breaches of protected health information. JAMIA Open, 1(1), 15-19.

Sharma, A., Pruthi, M., & Sageena, G. (2022). Adoption of telehealth technologies: An approach to improving healthcare system. Translational Medicine Communications, 7(1), 20.

Su, H., Kwok, K. W., Cleary, K., Iordachita, I., Cavusoglu, M. C., Desai, J. P., & Fischer, G. S. (2022). State of the art and future opportunities in MRI-guided robot-assisted surgery and interventions. Proceedings of the IEEE, 110(7), 968-992.

Turner Lee, J. K. N., & Roberts, J. (2020). *Removing regulatory barriers to telehealth before and after COVID-19* (Report No. 5). Brookings Institution. https://www.brookings.edu/research/removing-regulatory-barriers-to-telehealth-before-and-after-covid-19/