

## TELEMEDICINE PERSPECTIVES ON PATIENT’S WELLBEING IN SERBIA

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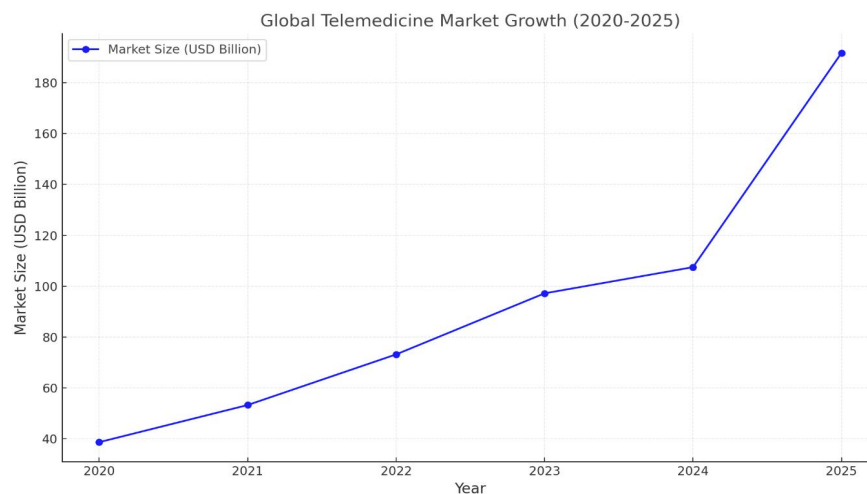
**Abstract:** Telemedicine has been on the rise for decades—including home-based, technology-driven interaction with healthcare providers. It is used today in setting up diagnosis, medical counselling as well as continuous follow ups of patients with chronic diseases. This literature data review intends to present new findings related to the trend of telemedicine, specifically related to the use and creation of telemedicine in Serbia. The primary benefit of telemedicine is possibility of providing medical consultations to patients who live far away or have other difficulties in reaching a medical facility for regular evaluations, such as patients suffering from many neurological, oncological, or autoimmune diseases. With telemedicine, assessments, intervention, and treatment can occur promptly. In addition, with more and more evaluations occurring (studies have shown this to be of benefit to patients), telemedicine decreases the costs and administrative burden on hospitals—as requirements for monthly in-facility evaluations cited decrease—if the process can be successfully achieved. Medical systems and facilities can reduce costs while experiencing better results in treatment efficiency, efficacy, and satisfaction with provided services.

**Keywords:** telemedicine, patient wellbeing, Serbia, remote healthcare, telehealth

### INTRODUCTION

Telemedicine entails the use of the technology to provide healthcare from distance. The World Health Organization (WHO) defines it as using information and communication technologies (ICT) to offer healthcare services at a distance to diagnose, treat, and prevent diseases. This covers many activities like doctor visits, health education, and monitoring on patients. People often use “telehealth” to mean the same thing as telemedicine, but it includes more than just medical care such as education and ways to increase public health knowledge (Serper & Volk, 2018; UNICEF Romania, 2022; Lawal et al., 2022).

Recent developments in telemedicine are enormous, with projections indicating continued expansion. According to the report by Fortune Business Insights (n.d.) and GlobeNewswire (2020), the telemedicine market is experiencing significant growth, as shown in the graphic no. 1.



**Graphic 1:** Growth of telemedicine market size from 2020 to 2025

The COVID-19 pandemic significantly accelerated the adoption of telemedicine, leading to an unprecedented increase in virtual healthcare visits (Medicare Payment Advisory Commission, 2021; Smith et al., 2020). Never before had such rapid growth in virtual appointments ever occurred—a pandemic transitioned telemedicine seemingly overnight (Medicare Payment Advisory Commission, 2021; Smith et al., 2020). Furthermore, with the progression of technology, telehealth for routine care is merely established. At this time, investors from every field are attempting to find telehealth solutions to supplement their current offerings. But the potential application of telemedicine does not end there. It fills in the blanks of care access that those in rural or hard-to-access or underserved areas may lack specialized care. With remote monitoring and mHealth apps, patients can receive the care they need without traveling far distances for necessary intervention (Dasgupta & Deb, 2008). For example, telemedicine exists within specializations like primary care where physicians can assess their patients via video and subsequent appointments can occur via texting. Additionally, remote monitoring devices can take blood pressures and glucometers can provide glucose assessments for such diseases as diabetes and hypertension, giving them the tools for preventative assessments to prevent complications (Wolfe, Seaman & Drasgow, 2016). Telepsychiatry exists so that patients can receive assessments from licensed professionals without necessitating in-person screenings (Hubley, 2016). Teleradiology exists to allow the radiologist to provide interpretation from afar and assess films sent to them from far away (Weiss & Krupinski, 2021). There is even a form of telemedicine within the cosmetic and dermatological field. For example, with telemedicine, a patient can send the image of their dermatological issue to a dermatologist—acne, eczema, or psoriasis are conditions that do not require an in-person meeting with a doctor; rather, any dermatologist can assess the issue from their home office. Therefore, this is another way that people who live in remote regions far away from more populated areas can benefit from receiving a diagnosis while still at home; for individuals in remote locations in the United States, this is critical (Telemedicine in Dermatology, 2024). More often than not, telemedicine seems like a viable alternative to in-person hospital visits, impacting not only access and cost savings, but similarly, diagnostic success (Comparative Effectiveness of Teledermatology Versus In-person Consultations, 2023; López-Villegas et al., 2022). In addition, it would make access easier for patients as it creates an element of convenience where people can speak to doctors and be evaluated from the comfort and confidentiality of their own homes—which is highly pertinent to rural populations (Telemedicine in Dermatology, 2024). But even within the emergency department, there seems to be a path for telemedicine via real-time consultations with other specialists for quick evaluations that allow quicker turnaround and onset of emergency treatment. Furthermore, it can help triage patients, allowing the emergency department to see which patients are in critical need while simultaneously treating less severe cases online. This reduces the overcrowding of emergency departments by more effective triage and preventing unnecessary patient admissions, creating more effective triage in the greater healthcare system and better patient satisfaction (Sharifi Kia, Rafizadeh, & Shahmoradi, 2022; Smith, Johnson, & Lee, 2009). Yet while there will always be a need for in-person evaluations for a variety of conditions, telemedicine can help ease care for a vast majority of healthcare concerns. Therefore, one would assume from all of this that such technology only enhances a patient's experience. There is a possibility for operationalization of telemedicine within Serbia as the medical status has changed over the years. The government has attempted to implement multiple pilot programs to determine whether telemedicine would be useful. For example, one such initiative is the eDiabetes program, a government-sponsored doctor/patient communication portal online for questions and transfer of information. Many such portals emerged during COVID, and many reported positive outcomes as those who suspected they had the virus could inquire early online and avoid entering hospital wings to reduce transmission (Government of Serbia, n.d.). Overall, telemedicine efforts within Serbia include diagnosing dermatological diseases where tele-specialists come to rural towns. Additionally, it has been successful with chronic diseases such as diabetes and hypertension, giving patients more control over their continued treatment (Milovanović et al., 2020; Dimitrijević et al., 2021). Ultimately, the telemedicine phenomenon is advantageous to the larger health care system. This means faster, easier access to doctors without the time and cost of an in-person appointment. This means that follow-up visits are easier to get, which means better reassessment and treatment of chronic conditions. When researchers study the efforts and outcomes regarding

telemedicine, effectiveness scores high with patient loyalty because of convenience and therefore practically oriented care. However, despite the positives, there are some negatives to the telemedicine phenomenon. First, for those who do not have access to the internet—older populations with less technological access may be more adversely affected. Second, there are grey areas in policies for safe payment and protection of information, which is always largely at risk. Third, the telehealth world is currently under a realm of regulations that is lackluster and not sufficient for long-term success in the larger health care realm.

## CONCLUSION

Serbia's telemedicine prognosis is optimistic. The conditions are improving with anticipated developments for digital telecommunications and an increasing digitally literate population. Once the additional steps are taken by the government agencies involved in the implementation, telemedicine is an option for appointments, diagnoses, and even chronic illness treatments in rural and low socioeconomic regions. Anticipated developments include extended telehealth services and integration of AI technologies as the latter supports anticipated developments in this field. Yet without taking expected complications into consideration for technology and regulation, the estimated developments in the field of telehealth will be deficient.

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