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Telemedicine
in **2020** & Beyond

Executive Summary

In this age of technological innovations, no industry remains uninfluenced from the rising tide of **digital transformation.** The easy, abundant and affordable access to the internet has fundamentally changed the way how we as people create, provide, and consume goods & services - including health care.

With the integration of ever-evolving data analytics capabilities, healthcare is on brink of a technological revolution - and this revolution is facilitated by Telemedicine.

By definition, **Telemedicine** is the remote treatment of patients by medical professionals through the use of telecommunication tools such as telephones, smartphones, and computers.

Telemedicine solutions have been predicted to be worth more than **$34 billion** by the end of the year 2020. In the usual times of growing pandemics and economic depression, the convenient and efficient nature of telemedicine makes it a profitable investment for medical specialists and healthcare providers.

Improved services at a reduced cost :

As per one new England journal, one patient spends almost 2 hours securing an appointment with their doctor and spend only 20 minutes with them for the treatment. The remainder of the time is wasted in travel and waiting rooms.

But with telemedicine, these physical and time barriers and eliminated as doctors are instantly connected with their patients, cutting down on the travel and wait time for both parties involved.

Initially, telemedicine was being seen as a facilitator for patient's improved access to healthcare services – but now many industry gurus are speculating the telemedicine benefits in cutting down costs and increasing revenue streams for healthcare professionals.

With the help of telemedicine, doctors can now provide treatment & diagnosis to 20% of patients who account for 80% of their total health care expenditures.
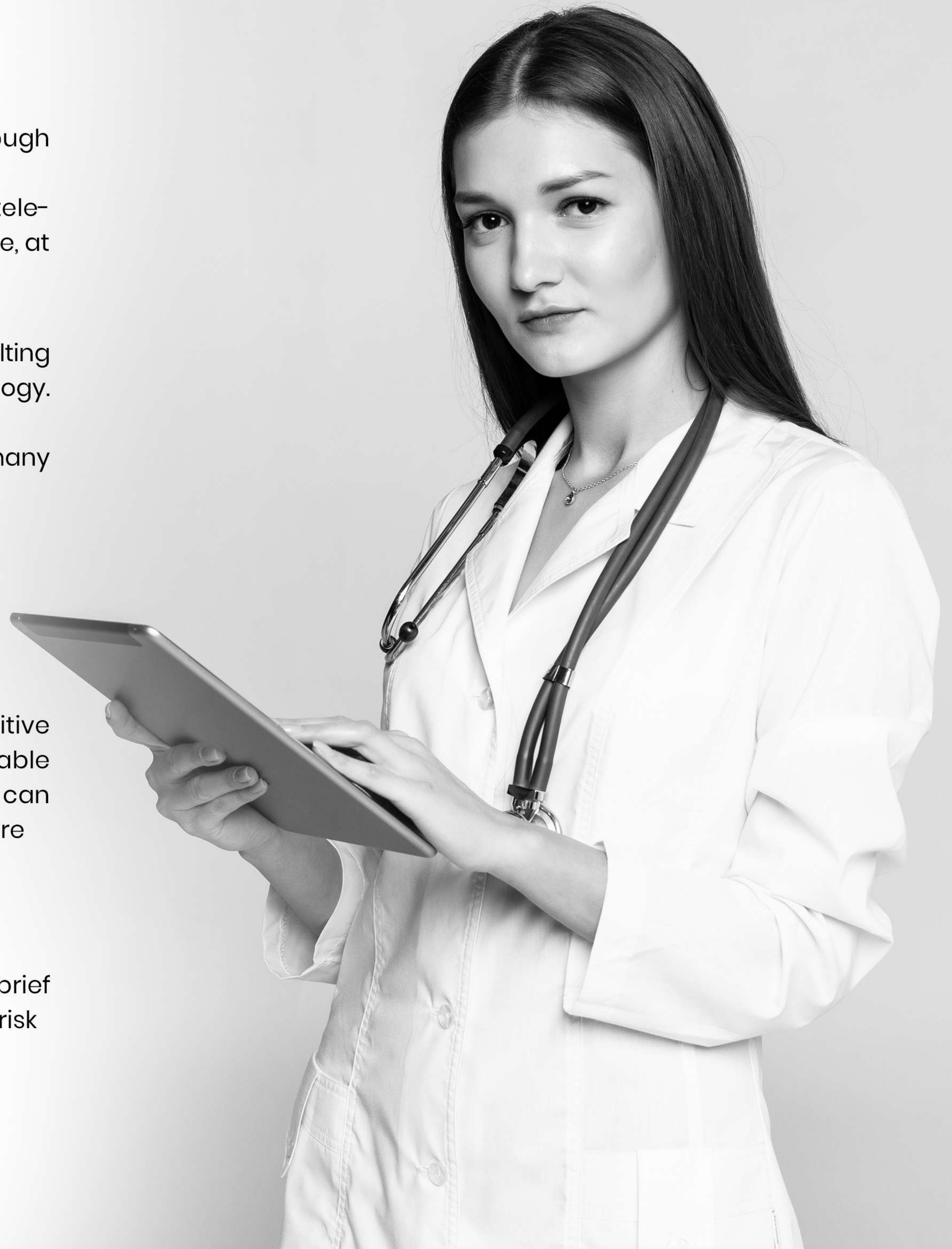
A New Age of (Tele)medicine

Telemedicine enables patients to avail vital health care services through video consultancy, remote monitoring, e-prescriptions, and wireless communications. By increased access to physicians and specialists, tele-health ensures that a patient receives the right care, at the right place, at the right time.

Right now, 76 percent of U.S. hospitals connect with patients and consulting practitioners at a distance through the use of video and other technology. Almost every state Medical program has some form of coverage for telehealth services, and private payers are embracing coverage for many telehealth services.

Telehealth Solutions not only enable doctors to provide instant, contact-free services to the patients in need but also eliminate the unnecessary risk of their exposure to harmful infections and diseases.

With the ability to access high-speed internet, even in the most primitive parts of the world, & share a large amount of data being readily available – both patients and doctors have come to believe that telemedicine can be an affordable, secure and reliable channel to proliferate healthcare services.

This whitepaper dives deep into the current market scenarios of the telemedicine industry in different parts of the world. It also explores a brief history of telemedicine, its types, current applications, use cases, and risk management considerations.

Brief History of Telemedicine

While telemedicine may seem like a fairly modern phenomenon, it has a long and diverse history. It originated back in the 1850s during the prime of (then) recently invented revolutionary communication channels like the telegraph and later the telephone.

In 1924, Radio news magazine featured a cover illustrating a family interacting with their doctor via a video screen. An ambitious idea for the time, given that televisions were not even invented yet.

Telemedicine remained a piece of fiction till the mid-20th century when it had its origin in the era of military modernization and space explorations. Initially, it was used only as a tool to gather & share medical information – including education, electrocardiogram monitoring, the transmission of radiology images, and management of advanced medical practices.

But due to the high costs involved in data transmission & setting up proper equipment, the interest in telemedicine by healthcare professionals remained limited. These barriers were somewhat reduced in the 80s and 90s with the introduction of advanced technology and the arrival of the internet.

Telemedicine is a thriving industry these days, which is being integrated with day to day operations of hospitals, private medical offices, specialty clinics, and homes/workplaces of patients.

Due to its multi-faceted benefits and ability to instantly connect healthcare professionals with patients, it has grown into a multi-billion industry which not going away anywhere soon.

Benefits of Telemedicine

Telemedicine offers a wide range of benefits for both doctors and patients. These include the proliferation of health care services through an electronic medium (generally video chat), regular consultations, virtual health checkups, psychotherapy, physiotherapy, medical records data management, and some emergency services.

Benefits for Healthcare providers :

- Instant connectivity with patients through video/voice calls and chats.
- Direct medical services from practitioners to patients.
- A contact-free environment reduces the risk of exposure to H2H infections.
- Removes distance barriers for patients from rural areas where access to primary healthcare is not prominent.
- Enables healthcare providers to make additional income through telehealth services at their convenience/schedule.

Other Beneficiaries

- For employers, it is a cost-effective alternative for employee wellbeing than setting up in-house doctor visitors and medical checkups.
- Medical staff can benefit from a seamless integration of easy to use telemedicine products for managing their day to day tasks.

Benefits for Patients

- Improved access to varied medical specialists for an extended period.
- Eliminates travel/wait time & expenditures.
- Medical records and treatment history management through e-prescriptions.
- Instant access to treatment plans in critical situations.
- On the go appointment scheduling and booking.
- Regular sessions for certain therapies can improve patient satisfaction.

Affordability of a telemedicine solution is by far the most lucrative benefit for all parties involved as it not only reduces overhead expenses for healthcare providers but also saves significant money for patients who require regular healthcare services.
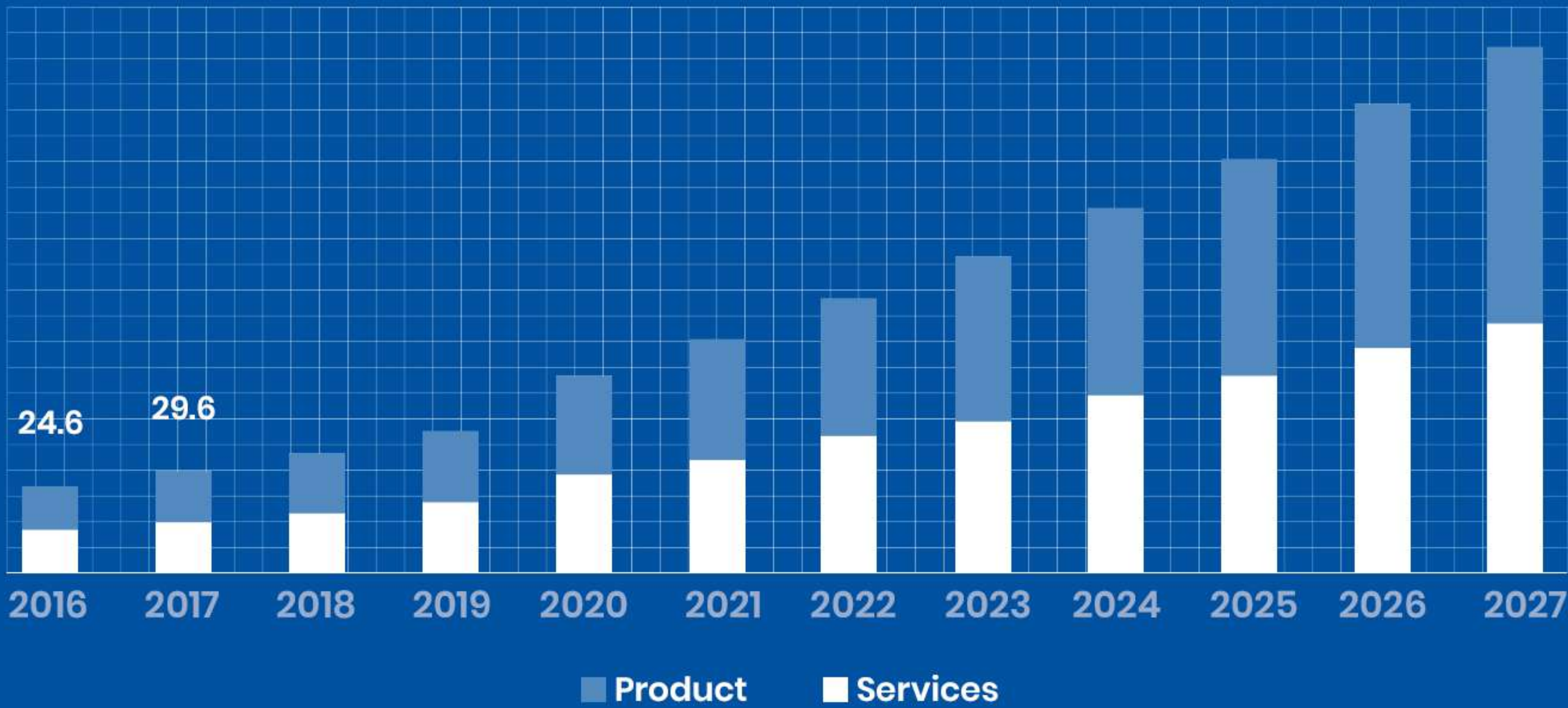
Global Rise of Telemedicine

Several factors have contributed to the rapid rise of telemedicine around the world. As industry professionals are reaching beyond teleconferencing, remote patient monitoring & routine services to explore further aspects to deliver specialized healthcare services.

More and more healthcare professionals are investing in telemedicine software and apps to make use of predictive analytics, automated data collection tools, and AI integrations in the data stream. Regulatory agencies are also warming up to the idea of digital healthcare, opening the door for new companies to capitalize on this trend.

A recent report projects that the global telemedicine market will expand from its current $38.3 billion valuations to $175 billion by 2026.
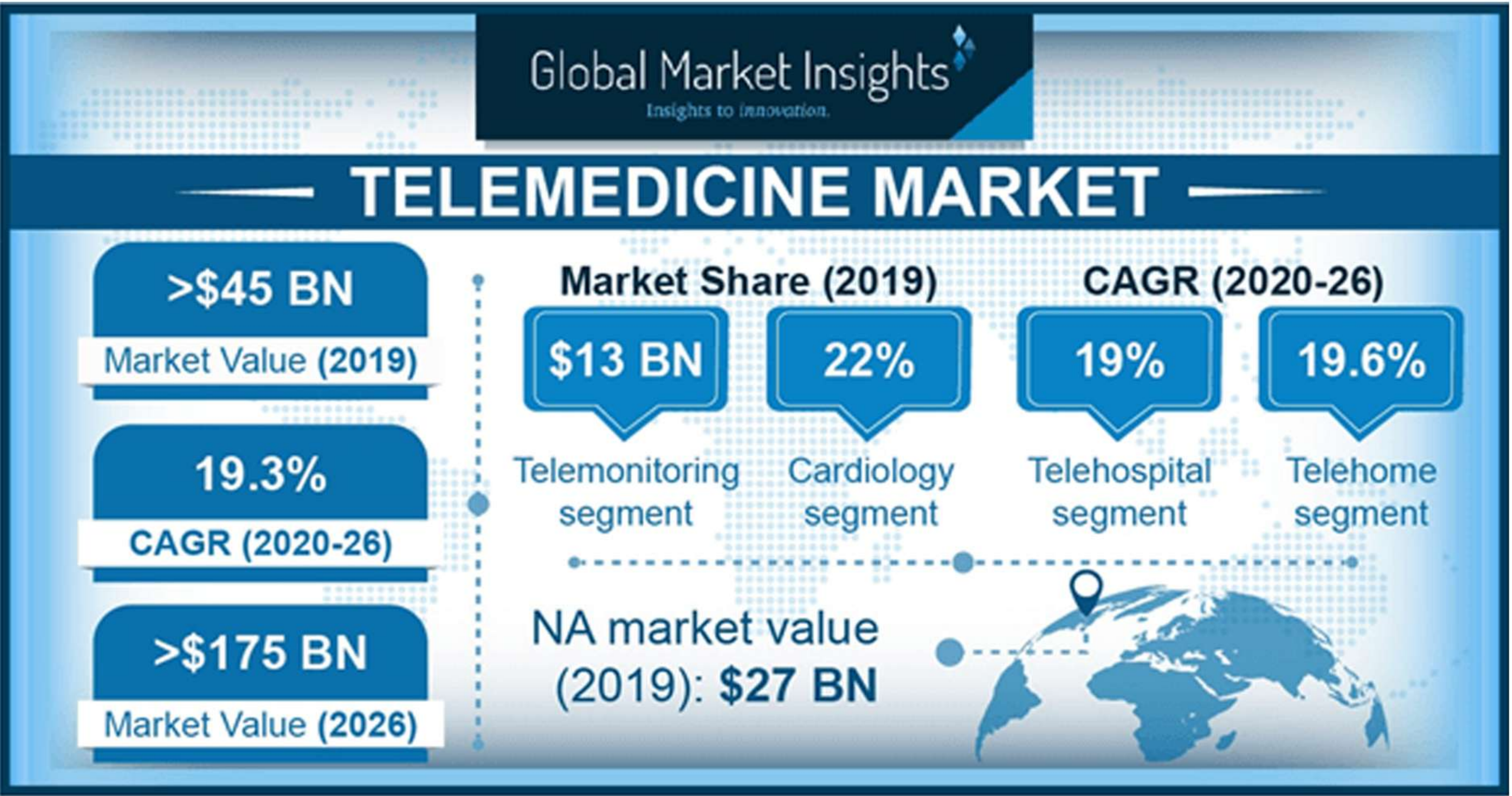
A **study by Global market** insights suggests that this 19.3 % compound growth rate (CAGR) will be a result of telecommunication network development around the world, market opportunities in rural areas where easy access to healthcare services is not prominent, continued integration between IT and healthcare sectors.

However, this growth can be hindered due to inconsistent reimbursement of telemedicine services and its low awareness in developing economies.

The report breaks down individual telehealth use cases and global markets. Roughly half of the market will be within the US alone, although China and India are also positioned for growth.

Global Tetemedicine market size, by components, 2016-2027 (USD Million)

Product   Services

Global Market Insights
Insights to Innovation.

TELEMEDICINE MARKET

>$45 BN
Market Value (2019)

19.3%
CAGR (2020-26)

>$175 BN
Market Value (2026)

Market Share (2019)

$13 BN — Telemonitoring segment
22% — Cardiology segment

CAGR (2020-26)

19% — Telehospital segment
19.6% — Telehome segment

NA market value (2019): $27 BN

United States

Telemedicine as a whole is set to reach a **$64.1 billion** valuation by 2025. These numbers are growing much faster than some industry analysts might have predicted a decade ago.

In North America, the telehealth market was valued at nearly $27 billion in 2019, but it is expected to experience tremendous growth due to **COVID-19**. Due to stringent lockdowns, fear of community transmission, and limited access to healthcare professionals, patients now prefer virtual consultations over conventional visits to the doctor.

China

A 23% CAGR is expected for the telemedicine industry in China. The **National Healthcare Security Administration (NHSA)** of China issued its anticipated guidelines on pricing and insurance coverage for internet medical services, marking a significant milestone for telemedicine adoption in China.

India

With the majority of healthcare services concentrated in cities & towns (including 75% of doctors), away from rural India – telemedicine has seen a sharp growth in the country and it is further expected to grow at **22.4% CAGR**.

Initiatives are taken by ISRO, **Department of Information Technology** (DIT), Ministry of External Affairs, Ministry of Health and Family Welfare, and the state governments which played a vital role in the development of telemedicine services in India.

Some successfully established telemedicine services in India include **mammography** services at Sri Ganga Ram Hospital, Delhi; oncology at Regional cancer center, Trivandrum; surgical services at Sanjay Gandhi Postgraduate Institute of Medical Sciences, School of Telemedicine and Biomedical Informatics, and more.

Telemedicine services in India come under the combined jurisdiction of the Ministry of Health and Family Welfare and the Department of Information Technology. Telemedicine division of **MoHFW**, GOI has set up a National Telemedicine Portal for the implementation of various projects on e-health.

Telemedicine and COVID-19

The sudden outbreak of coronavirus has boosted the usage of telemedicine as these solutions not only help healthcare professionals to effectively communicate with their patients but also avoid the risk of exposure to the diseases.

The lockdowns and social distancing measures are undertaken by governments around the world have caused telemedicine to rise as an efficient alternative for better communication & delivery of healthcare services during the pandemic.

The **WHO** has mentioned telemedicine as one of the essential services in its policies in response to the **COVID-19** emergency. A better adoption rate for telemedicine among healthcare systems is being expected due to mounting pressure to improve service quality standards as well as reduce the burden on medical professionals.

Some effective use cases of **telemedicine technology** include delivery of medical education, training, information, and services across large distances as well as the transfer of advanced specialty care for patients in remote locations.

In developing countries like India, the easy availability of smartphones among all socio-economic sections of the population has had a positive impact on telemedicine market expansion.

Telemedicine call centers have also grown across the healthcare system. These call centers have trained medical professionals who attend patient calls in case of emergencies. Due to the coronavirus outbreak, more and more hospitals are maintaining such helplines to provide instant healthcare to remote locations and areas with travel restrictions.

Launching Telemedicine Programs

Telemedicine is being quickly embraced by healthcare providers of all types and sizes as a channel to increase revenue, reduce cost, combat competition, avoid chronic disease transmission, and provide better medical services to modern patients.

With little investment and easy deployment, telehealth technology helps them achieve all these while centralizing all processes through one solution. However, a few important factors and steps should be taken into account to avoid common pitfalls & make this integration into practice a success. Listed below are some best practices for launching a successful telemedicine program.

○ **Defining goals and strategies** should be the first step to undertake while planning to launch a telemedicine program. Measurable metrics like revenue, number of patients, appointment scheduling and booking rates, custom satisfaction score, administrative costs, and other criteria that are important to medical practices should be established. This will help in value assignment and measurement of success.

○ **Staff Recruitment & Training** helps in the seamless integration of telemedicine in one's practice, as it affects many and all functional areas. Proper education of assisted staffs in areas like appointment scheduling & management, accounting, technical resourcing & other business functions can help in the smooth proliferation of tasks and activities.

○ **Understanding Rules, Regulation, and Legal liabilities** can go a long way for the success of any telemedicine program. The progressive nature of legislative laws towards telemedicine has proven advantageous for the industry, but there is still a large degree of inconsistency among rules regarding patient data collection and e-records management. A comprehensive understanding of limitations on certain services and reimbursement approaches in your region can help providers establish an effective telemedicine service plan.

○ **Choosing a Technology partner** is the most vital factor in the success of a telemedicine program. Healthcare providers might want to select a partner with a solution that is easy to learn/use for doctors, staff, and patients; it comes with highly secure encryption; HIPPA compliant and can be integrated with existing (billing/accounting) systems.

O **Develop protocols and schedules** that are customized to the medical specialty or practice of the provider. Identify specific patient concerns and set up guidelines for the use of telemedicine solutions can help make efficient use of it. Further, blocking certain time slots or making after hour appointments available (in case of emergencies) can help the provider cost-effectively improve appointment volume.

O **Implementation of Telemedicine** solution is the easiest part of the process. Modern cloud-based technology requires very little configuration and enables quick setup & deployment. Vendors, these days provide solutions which are fully customizable to healthcare practice or system. Guided tutorials and demo sessions help bring doctors and staff/patients up to speed for using the product.

O **Gathering Feedback** from patients and staff is equally important to identify problems and pitfalls in the telemedicine processes. One simple way for this is to set up a review popup at the end of every consultation session, allowing patients to give feedback regarding the use of telemedicine interface and areas for improvement. Similar feedbacks should be accumulated from assistance staff for improving the office workflow & processes.

O **Adjustments and Course Corrections** can help providers ensure success for their telemedicine program. As telemedical solutions replace the in-person interactions with video/audio consultations, it is important to make patients feel secure and cared for through the new medium. It is vital to remove any obstruction in the delivery of healthcare services and constantly improve the workflow for maximum patient satisfaction.

Potential Limitations for Telemedicine

While telemedicine has clear benefits and is forecasted to grow rapidly in the next decade, it still has some technical & practical limitations for healthcare providers. Some of the key problems are mentioned below:

○ **Technical training** of staff and equipment setup may momentarily increase overheads for the healthcare provider, but this can later be compensated with a reduced requirement for additional staff.

○ For **patients** using on-demand doctor directories to find telemedicine providers, consistent consultation from a single doctor may not be possible. And treatment history and medical records from previous consultations are not accessible to primary healthcare providers of a patient. This limitation may be eliminated by care consistent with the continued and widespread rise of telemedicine adoption among doctors.

○ Some **medical professionals** worry about facing the technical problems of poor internet bandwidth and even more, are fearful of losing the 'personal touch'. But in areas with strict travel restrictions in times of pandemic, telemedicine proves to be a good alternative for connecting with patients regularly.

○ **Healthcare laws**, reimbursement policies, and an individual's privacy protection rules are struggling to keep up with the growing pace of telemedicine. While there has been some revolutionary development recently with telemedicine laws, many specialty healthcare providers are still reluctant to make a move towards telehealth services. It is recommended to do some research in the reimbursement of telemedicine in the region/ area of practice.

○ In a **public health** crisis like the coronavirus, there might be a smaller subset of higher-risk patients that require more than what conventional telemedicine has to offer i.e. personalized healthcare and hospitalization. To combat this, telemedicine may need to be modified to help manage rapid testing, diagnosis, and identification of those who require in-patient care.

Key Takeaways

Telemedicine is a multi-billion-dollar industry, which is projected to rise exponentially throughout the next decade. And with the recent outbreak of the **COVID-19** pandemic, it has risen as a key alternative to traditional healthcare services.

While it still has some practical limitations, many technology **conglomerates & healthcare** providers are testing and innovating to solve these issues and improve patient's access to quality healthcare.

Now that the clear benefits and some disadvantages are laid out, it is up to the modern health care providers to **start thinking** about the integration of telemedicine in their regular practice.

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