

HEALTHCARE

How 5g will impact healthcare

APU is a knowledge-based consultancy company providing research and analysis, data, technical and business advice and services, sought by business leaders and strategists, to help them capture tomorrow's opportunities, today.

APU delivers market research reports covering markets, industries, countries, companies and technologies.

By continuously updating our desk research, and leveraging market research publications from leading institutes and consultancies worldwide, we provide relevant, current and credible research, critical to the success of your business.

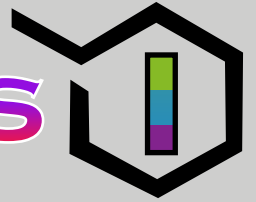
Our clients use our insights, critical analysis, statistics and forecasts to help make strategic business decisions and grow their organizations. Our approach combines deep insight into the dynamics of industries and markets to help clients build more capable organizations and sustain lasting results.

Global Business Intelligence

Trends and forecasts for 18 global industries and over 1200 industry subsectors in up to 60 economies.

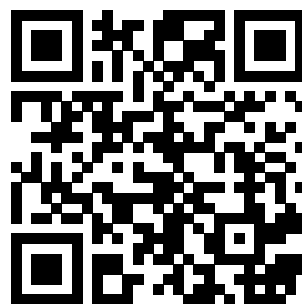
Our subscription services for data, news, analysis and forecasts, help clients understand how the world is changing and how that creates opportunities to be seized and risks to be mitigated and managed.

DIGITAL FUTURES



DIGITAL FUTURES is an online content publication platform catering for technology business leaders, decision makers and users, by sourcing and sharing valuable information and best practices in connection to the latest emerging technologies trends and market developments that leverage capabilities and contribute towards enhanced enterprise-wide performance.

DIGITAL FUTURES



WATCH
DIGITAL FUTURES VIDEO



WATCH VIDEO

LEARN
MORE



HEALTHCARE
HOW 5G WILL IMPACT
HEALTHCARE

The healthcare industry require innovation at every stage and with rising chronic illnesses and an increasingly aging population, the demand for healthcare professionals has been more than ever before. Moreover, many qualified healthcare professionals are ill- suited to deal with the peculiar requirements of their respective geographies, which urges/ drives many of them to move countries to find relevant work.

With new technologies arising, researchers and scientists are hopeful that these tools and equipment can help reduce the workload by automating some of the healthcare tasks that are repetitive/hazardous such as transfer of equipment and disinfecting rooms.

5G is the fifth generation of wireless cellular technology and is expected to surpass all the limits of the earlier generation, 4G. The technology is expected to remove or at least reduce latency which will improve communications across all mediums.

Among the various potential collaboration partners, healthcare professionals believe their ideal collaboration will be with telecom partners.

Telecom operators are attractive partners in the healthcare ecosystem

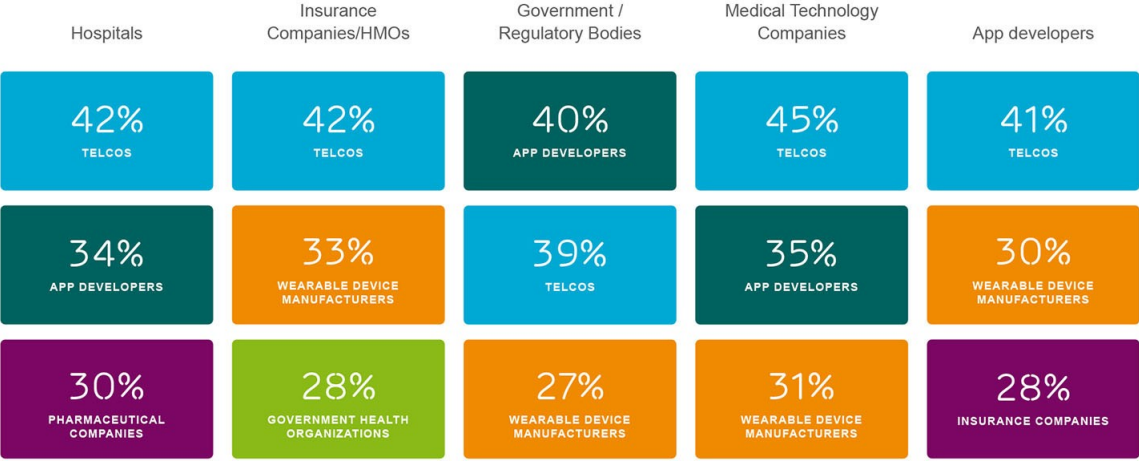


Fig 1. Telecom Operators are attractive partners in the healthcare ecosystem. Ericsson. (2019). 5G and Healthcare. (2020, March 06).



Telecom partners can provide effective rates and customized services for healthcare organizations which allows them to perform at the optimal level. Once telecom partners and healthcare organizations establish partnerships, they can look to working with developers who can design better systems for healthcare treatment and improve the security of their data and equipment. After collaboration of the key parties, we can look forward to changes in certain areas of treatment. Some of these are as follows:

Firstly, the impact of 5G will change the transmission speed of various files such as healthcare records of the patients, as well as the medical imaging such as X-Rays, endoscopy, ultrasound magnetic resonance imaging and other types of images that may require gigabytes of data transfer. This will allow for quicker analysis and the doctors can make the diagnosis faster.

Secondly, the impact of 5G will allow for expanding telemedicine. To attend telemedicine appointments, both patients and doctors need access to high quality video so that the doctor can correctly diagnose what the patient is suffering from and save costs of travel. Artificial intelligence (AI) may help in future diagnosis after a patient's medical record is analyzed. Furthermore, this would give patients access to doctors who are otherwise not available in the area they live in.

Thirdly, the increase in internet connectivity may allow AR and VR applications to scale. AR and VR applications are held back by latency issues. This may be solved by the introduction of 5G, and then, these technologies can be used to supply stimulating/ engaging content to reduce anxiety and stress in terminally ill patients undergoing treatment.

AT&T is working with VITAS Healthcare to study the effect of AR & VR on patient engagement. Terminally ill patients may feel distressed by the lack of movement and with AR & VR, they could possibly take a walk across a field or visit virtual places, allowing them to feel calmer as the doctors look to ease their pain.

Furthermore, there is a vast potential in remote monitoring of patients. By giving patients wearables that keep track of potential symptoms and vitals, they will be able to continuously check their own data sent to the doctors in charge, who can request the patient to visit at any time they feel it is necessary. With the reduced latency and increased data output, the amount of energy consumed is expected to fall and this is key for remote monitoring. Patients with wearables can be given 5G routers that they can carry which gives them freedom of movement while not in treatment.

There is also a case for improved robotic surgery. Yet, remote robotic surgery is already happening in today's world. However, the surgeon is situated right next to the robot to see the surgery and interfere whenever they feel it is necessary. There are certain requirements for such surgeries to take place, such as haptic feedback and improved internet speeds. As mentioned above, the improved medical imaging and battery life (less energy consumed) will also contribute to facilitating this form of treatment.



There are caveats such as the issue if the internet goes down for too long preventing haptic feedback from flowing to the robot administering the surgery, and security issues, if someone else manages to gain control of the robot, which could have catastrophic consequences.

Real-time analytics will help in also diagnose patient's illness based on past records, which can also give them a complete picture on what treatment they need to go through and how long it may have to last.

Ultimately, 5G will improve the importance of AI and real-time analytics which could help in instant diagnosis and transmission to the relevant healthcare authorities.

REFERENCES

1. PwC. (2019). How can 5G connect a post-COVID healthcare ecosystem?
2. Ericsson. (2019). 5G and Healthcare. (2020, March 06).
3. AT&T Business. (2019). AT&T and VITAS Healthcare Launch Virtual Reality Study for Hospice Patients.

