How wearable technology will reshape healthcare

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In today's hectic world people are too busy to take care of their health in a traditional manner. It takes too much time to make an appointment with the physician, undergo tests and wait for reports. The solution could be devices that are well-worn on the body, monitor our health, and regularly transfer data to the physicians. Well, devices like these do exist!

As technology emerges, healthcare now has more access to data than ever before. Under the impact of medical wearable, the healthcare sector has undergone several changes. Sensors, automated gadgets and devices like Fitbit that are FDA approved have improved the diagnosis and treatment process and also offer people to monitor health in a well-managed way.

Wearable Technology in health

Let's try to understand the meaning of wearable technology; as the name implies, the wearable technology includes the gadgets and devices that we can wear.

It's the electronic gadgets that people wear on their bodies to collect health data. These devices are user-friendly and are worn as accessories or few times as implant.

The wearable technology has the power to transform the healthcare sector. This technology does not only provide patient's data from remote areas to the medical experts, for an effective treatment process but also increased health awareness. It also gives additional information about a patient for a more accurate diagnosis even when the patient is busy in his day to day activities. It's ability to gather and manage

huge amounts of data and transfer it through wireless data transmissions like Bluetooth and WiFi over a period of time and their minimal cost is the main reason for its acceptance and use in the health industry. High tech medical products like smart pills, activity trackers, Fitbit and other varieties of smart gadgets have transformed the health industry. This looks pretty cool and can be worn as a fashion accessory, but importantly they help in constantly monitor patient's health even without hospitalization.

Wearable technology is used by industry for:

- Improving customer experience
- Increasing productivity
- Providing a safer work environment
- Predicting employees injuries

According to research, the wearable devices in healthcare will reach $14 billion until 2022, as compared to $6 billion in 2017 in the global market. One of the main reasons for such rapid growth is technological advances in the medical field, which is followed by the creation of smartphones medical apps. Another reason is now people are more digital and more aware of their health.

Wearable technology has a huge influence on doctors and patients as they are continuously in contact. Patients can take real-time feedback from physicians without being distracted from their work or without leaving their home; they are empowered to take control of their health 24x7 and this results in active patient engagement. This results in lesser visits to hospitals and doctor's clinics and hence reduces stress. Wearable technology offers doctors to give full attention to every patient without spending a lot of time. Proactive measures can be taken instantly in case of worrisome symptoms through wireless data transmission and alert notifications.

Wearable Devices available in the market

There are different types of smart devices available - smart clothing, smartwatches, activity tracker and patches. Wearable devices in the health industry are divided into different categories:

- Sports and fitness
- Home healthcare
- Health monitoring

There are devices available for different purpose such as:

- Diagnostic and monitoring devices that control your heart rate, blood pressure, pulse, sleep, glucose level, nervous system.

- Therapeutic devices that control pain, pump insulin, rehabilitation.

Presently, the main manufacturers and providers of medical software are Fitbit, Nokia, Medtronic, and Philips.

Factors responsible for the popularity of Wearable technology:

- Increasing no. of smart devices.
- More independence.
- More health and fitness awareness.
- Combination of smart sensors with consumer devices.
- More accessible method to get medical help.

Let's have a look at major trends in healthcare wearable technology

Wearable technology is an effective way to cut down the communication gap between patients and physicians and to improve the level of medical care. Here are some trends in wearable technology for healthcare:

- **Small Devices**

  Earlier wearable devices were heavy and chunky as a result of which patients didn't like wearing them. So the biggest trend is smaller devices and now they have become pretty cool and fashionable. These devices are now designed in such a way that you can wear them as accessories. These are now light-weighted and compact and will become affordable for everyone.
- **Wide range**

  Presently, the trend is the development of a smarter device for different body parts, so the popularity of medical wearable is increasing. Wearable technology is one of the hottest trends now and gaining popularity among the new generation.
  - Google glass is usually worn with regular eye specs. It is voice-controlled and provides augmented reality through visuals and audio based on location.
  - Smartwatches, such as Apple?s iWatch, are worn on the wrist.
  - Smart t-shirts for recording the patient's movement and biometric.
  - Smart shoes are wearable as normal shoes and offer navigation without looking at maps.
  - Few smart implants (ex. cardiac) also are getting attention.
- **Smart Apps**

  Wearable health smart apps are now growing hand in hand with modern technology. More apps are developed using virtual reality, artificial

intelligence, the internet of things, machine learning. So apps are getting smarter and can perform almost every task a human can do in a more accurate way. With these smart apps integrated with practice management workflows, now doctors don't need to waste time gathering vital information from different systems. This enables them to focus more on patients.

- **Patient-doctor customized model**
  In today's hectic life people don't have time to visit clinics, they are not patient enough to wait for the doctor but rather now they demand more customized treatment individually. So this is possible with wearable technology. Smart sensors gather a huge volume of data that influences the personalization of health experience. In the future, every patient will be treated based on personal data and situations rather than average clinical standards. The communication gap between patient and doctor is reduced and this is making a shift from generalization to personalization. Patient's data will be easily available to physicians, hence enables physicians to make better decisions.
- **Shifting from reactive to preventive**
  '*An ounce of prevention is better than a pound of cure*'. This is really true in the health sector and wearable technology is shifting the care model from reactive (a person is already ill and requires treatment) to preventive (a person is healthy and doesn't fall sick because of controlled measures). This process will surely minimize healthcare costs and improve quality of life.

In the near future, industry experts expect a huge acceptance of wearable technology in the health sector as it brings positive outcomes undoubtedly. These smart devices and apps are expected to boom in the coming years. Quite soon it is possible that we will be able to buy bio-sensors and smart wearable in nearby drug stores.

Simultaneously, prevention systems must be developing to avoid data leaks, ransomware attacks, and data hacking. The wearable technology is constantly growing. In the future, wearable app development companies will be working on an enhancement that will bring a drastic shift in the healthcare industry.

The success of wearable technology will depend on intelligent EHR software, which would accurately analyze the data sent by hardware and present it to the user so that meaningful decisions can be taken.

In the future, we can expect the launch of more wearable devices but it should have the right combination of hardware and software, to serve its real purpose otherwise it will just be a cool fashion accessory. Lastly, the real purpose of wearable technology is to make diagnosis easier, more efficient and improve the patient experience.