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Cover Story

Smart Diagnostics

Role of Wearables in Combating COVID-19

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The current pandemic has highlighted the importance and usefulness of wearable medical devices during an infectious disease outbreak. An expert on wearables explains the benefits of the technology and urges all the stakeholders to implement it as soon as possible.

Key Points

- In isolation, people resort to calling an ambulance if there is an emergency. This reactive system of care leads to unnecessary burden on hospitals.
- With wearable medical devices, this system can become much more efficient providing remote monitoring and timely medical care.
- The combination of wearables and AI will be the game changer in the healthcare sector allowing for handling big data and identifying trends and anomalies.
- The pandemic has stressed the urgent need to adopt wearable technologies as fast as possible. All stakeholders must embrace this as their priority.

Our lives have been disrupted like never before. Governments around the world have been advising us on measures such as social distancing, isolation, lockdown and quarantine. In seemingly every city, country and township around the world, people are closing up shop, keeping kids home from school, and keeping to themselves, all in the hope of minimising the spread of COVID-19. But what happens to us in isolation? How do we monitor and/or record our health and wellbeing efficiently and effectively when on our own?

Using Wearable Devices to Measure Vital Signs

One of the problems that we are facing right now is that behind closed doors nobody knows what's happening to you. Then if something happens, the only option is to call an ambulance that comes with necessary equipment to take you to the nearest hospital.

It is the reactive healthcare system that we all know, perhaps the only system that most people know, including healthcare professionals, nurses, doctors and clinicians.

It is extremely costly, inefficient, and it is a kind of hit-and-miss approach, saving all those who are not too far off the mark with regards to their health. But it must be another way... most of you would argue.

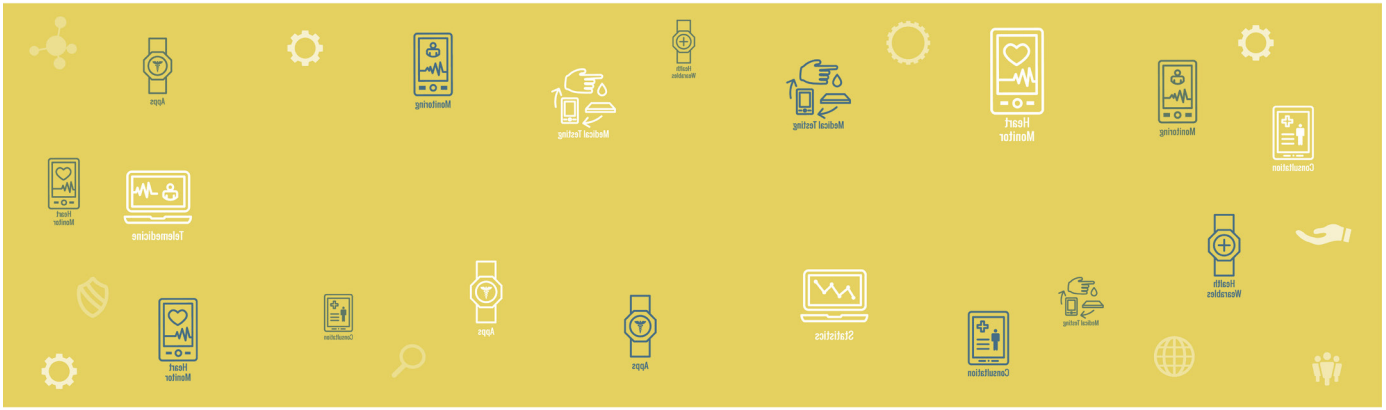
YES, there is – using wearable medical devices to measure, monitor, and continuously assess individuals and patients' health regularly and remotely. This is basically the term 'remote monitoring' that we hear so often amongst industry professionals, but that does not exist in the real world. Furthermore, the reactive (and old) approach is not scalable and just adds more and more pressure on health systems bringing more and more patients to hospitals and clinics.

However, there is hope, and the good news is that there are a handful of innovators with great wearable medical devices in the market. Especially in the last year, I witnessed several robust wrist device solutions that would make it possible to monitor the health of large quarantined populations, predicting the signs of potential illnesses early and sending medical care where it's needed most.

With COVID-19, the health and social care crisis was magnified to very large proportions due to the highly infectious and contagious characteristics of the coronavirus.

Tracking health metrics at home, e.g. by wearing an Apple Watch, has to be the way forward. Wearable devices now display better capabilities in terms of battery power, connectivity and even data accuracy.

I truly believe that the coronavirus has opened up a much



broader potential of wearable devices application and an opportunity to make the use case for adoption an easy task in the future.

Let me outline a scenario for you. Imagine ten thousand people under quarantine in one particular region. Each person has a wearable medical device on their wrist to get insights about their vital signs remotely. The device is continuously measuring the skin and body temperature, respiratory rate, pulse rate, heart rate and blood oxygen and, possibly, other health parameters. All of these health vital signs are directly correlated to COVID-19 – we could start triage, access and plan appropriate and targeted interventions early, and at the same time measure and mitigate health risks of spreading the virus by taking to the hospital only those requiring hospitalisation. This would prevent the spread of the disease and provide an early diagnosis for better outcomes – definitely a win-win for patients, healthcare workers and society at large.

Wearables+AI: Game Changer in Healthcare

I have had this vision for a long time that the combination of wearables and artificial intelligence (AI) will be the true game changer in healthcare. In my book I have explored this vision further.

The acquired medical-grade health data is captured and retained in the cloud in order to instantly identify anomalies and trends. In this hypothetical scenario, any nurse or doctor could monitor the health metrics of ten thousand patients under observation, thanks to intelligent predictive AI, spotting problems before anyone dials 911 or even uses other methods, such as telemedicine.

In an ideal world, physicians don't have to be concerned and watch patient data until there is some kind of sophisticated and alarming alert. This is, in fact, my vision of the future and the true value of using wearable medical devices. Unlike traditional telemedicine, that in most cases still requires one-by-one interactions, the wearable medical devices that I have mentioned would predict problems before they manifest themselves and automatically advise on immediate medical care interventions where those are most needed.

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But why are we not doing this yet? Are we waiting for another global pandemic after COVID-19 to make this a reality?

Hopefully, COVID-19 passes by as soon as possible, and we all get back to normal. But I really wish that governments, health systems, healthcare providers and all stakeholders make utilisation of the technological capabilities available to us today their priority.

Using wearable medical devices in the health and care settings is a must, we cannot afford not to use them. Wearables are proven to be extremely efficient and could be a very powerful weapon that constitutes a perfect alliance for health results and the best possible delivery of sustainable healthcare of the future, that we all dream of and wish for. ■