Coronavirus has forced us to embrace digital healthcare – it could transform how we look after patients

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Around the world, barriers to providing healthcare remotely—known as "telemedicine"—have come down overnight. COVID-19 has moved us from a cautious debate about whether to use telemedicine to an immediate need to revolutionize practice.

It has not been easy. The sudden withdrawal of providing non-urgent care in person has left GPs and specialists everywhere with the challenge of working out how to do what they do best online.

In our own speciality of chronic pain management, we have provided advice on how to keep the clinic doors open if at all possible during the current pandemic. But we have also been encouraging others to observe and capture experience from this massive natural experiment in online medicine.

What's clear is that there are immediate hurdles to overcome in delivering telemedicine—but also great opportunities. Here's what we've seen.

The difficulty of going remote

It's too soon to know what the exact trends are in the rise in remote healthcare under COVID-19, but four themes are starting to emerge. These will first need addressing if telemedicine is to be useful in the long term.

First, some clinical tasks transfer more easily to being done remotely than others. For example, maintaining an existing therapeutic relationship is easier than initiating a new one. And taking personal histories, reviewing medication, asking difficult or embarrassing questions and giving serious news are all challenging. It can be difficult to appear empathetic remotely. But in oncology, for example, there is excellent advice and experience on how to break down these challenging tasks and avoid the pitfalls.

Second, video or teleconferencing using commercial products designed for general use does not allow for close assessment. Commercial services also lack the security needed to integrate electronic medical records.

Zoom, Microsoft Teams, BlueJeans, GoTo and FaceTime are not designed for medicine. However, there are some products out there that show that these problems aren't insurmountable. For example, there are online GP services in the UK designed specifically for remote consultation, which use self-assessment to help support decisions and link up with medical records.

Third, digital communication is generally fatiguing. In a health setting, this can be a risk to quality and increase the fear of suboptimal care being provided, a major source of stress for all users. Early anecdotal evidence suggests a heightened fear of error and an uncomfortable sense of distance on both sides.

Finally, healthcare planners are finding it difficult to monitor, govern, account for and in some systems bill for episodes of remote care. If telemedicine is here to stay, complex ways of paying for it—such as under the insurer BlueCross BlueShield in the US—need to be overhauled.

What should happen next?

The move towards telemedicine under COVID-19 has helped maintain access to healthcare, but this only scratches the surface of what's possible. Telemedicine could increase the level of care we provide to people. And it could let us personalize the care they receive. The COVID-19 response hasn't created this disruptive shift—but by moving things online, it has made it more possible.

One approach would be to personalize care, making full use of what Deborah Estrin from Cornell University calls "small data". Each day, we leave digital traces that an expert system could capture—for instance when we check the news on a smartphone, exercise using a fitness monitor or shop. With this data, it's easy to build up a digital version of a

person's life, including relevant biological, psychological and lifestyle factors. In healthcare, knowing the changes in a person's daily routine can provide invaluable information for keeping them healthy, such as when to intervene, how to improve treatment adherence and so on. COVID-19 has shown that people will access care from the home, and has started a debate in the UK about health surveillance using mobile devices. We are gaining experience in public attitudes to daily health monitoring.

Unexplored is how to improve treatments. Early e-health innovation asked the wrong question: whether we can achieve the same level of safety and efficacy associated with face-to-face interventions. More interesting is whether can we design interventions for the modern age that are better. In chronic pain management, we are working on new treatments using virtual and augmented reality and remote sensing and monitoring to help people reduce disability and distress. We also believe we can improve recommended psychological treatments by designing them with current technology at the forefront of our design process.

The current move to telemedicine is speeding up the development of these sorts of new interventions. In the US, for example, our colleagues in Washington, hit hard by COVID-19, have used this opportunity to extend the roll-out of WebMAP, their successful child pain management system.

The opportunities for scalable, personalized and more effective healthcare are tantalizingly within reach. Yes, there will still be barriers, such as concerns around surveillance that prevent widespread user uptake, as well as ensuring the technology itself is affordable and accessible for all.

But what COVID-19 has shown is that when change is necessary, we can quickly overcome barriers.

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