Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Technology in the COVID-19 era: pushing the boundaries

In the continued absence of a vaccine or cure, efforts to contain the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) have focused mainly on establishing public health and social measures, such as frequent hand hygiene, physical distancing, and travel restrictions. Given the pressure to restart economies, governments worldwide have been racing to find ways to ease lockdown restrictions without putting public safety and the most vulnerable at risk, including people with diabetes.

One solution that several countries are relying on, but which so far only a few have adopted, is the use of contact-tracing apps, such as TraceTogether (Singapore), COVIDSafe (Australia), and AarogyaSetu (India). Contact tracing can help to control the transmission of the virus by alerting people who might have been exposed to it so they can self-isolate. Central to the introduction of these apps is the issue of privacy and data protection, hence the use of the Bluetooth technology, rather than Global Positioning System data, to prevent location tracking. However, with the urgent need to introduce new technology during a pandemic, it can be easy to overlook some of the potential pitfalls associated.

In April, 2020, Diabetes Australia said in a Facebook post that a number of people with diabetes had reported experiencing connection problems with their continuous glucose monitoring (CGM) apps after downloading the COVIDSafe app to their smartphone.

CGM systems can be connected to apps via Bluetooth so that users can check data immediately on their mobile phone or on other devices. However, there has been speculation that the constant active usage of Bluetooth by COVIDSafe could disrupt the communication of such devices with the phone, including the signal transmitted by the CGM app. Some have also attributed the interference to some simple bugs with the smartphone application, that could presumably be easily solved. The Department of Health of the Australian Government has thus advised users to stop using the COVIDSafe app if interference with medical devices arises. At the time of writing this Editorial, this issue is still under investigation and no formal communication has been released confirming or denying it. However, as similar contact-tracing apps are already being used or will soon launch in other countries, including the UK, people with diabetes worldwide should be aware of possible interference with their CGM apps.

This concern is especially relevant as different countries are also exploiting CGM to allow remote monitoring of patients with diabetes, in order to limit their exposure to potentially risky environments such as health-care facilities and hospitals. Along these lines, the US Food and Drug Administration has recently released temporary guidance that allows, for the first time, the use of non-invasive monitoring devices, such as CGM devices, in hospitals, so that health-care workers can easily continue to monitor their patients without direct contact. These guidelines have been well-received by companies, such as Abbott and Dexcom, who indicated their intention to donate CGM sensors and phones to hospitals across the USA.

Notably, the UK National Health Service (NHS) COVID-19 App has been built using an approach similar to the one used by the Australian COVIDSafe app. To solve some of the technical challenges faced by governments in developing Bluetooth-based apps, Google and Apple have partnered to develop a native contact-tracing solution integrated within a phone's operating system and available to public health agencies. This could help to establish a global contact-tracing system, shared among countries. The UK Government has tasked a Swiss agency to investigate the potential integration of the Apple and Google framework with the NHS COVID-19 App. At present, the UK has started phase 2 of lockdown without a contact-tracing app, and it remains difficult to predict if it will perform as advertised.

Whether a fundamental problem or simply app or device bugs that can occur, the concern of contact tracing apps interfering with medical devices should be addressed quickly to prevent creating fear and confusion and undermining deployment and use of this (essential) technology.

The commitment to develop and deploy digital health technologies, catalysed by the COVID-19 pandemic, is unprecedented and admirable, but not without risks. Now more than ever, safe digital health solutions accessible for all are a necessity. ■ *The Lancet Diabetes & Endocrinology*

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For more on the **Diabetes Australia Facebook post** see https://www.facebook.com/DiabetesAus/posts/3342953369066516

For more on **FDA Enforcement policy for non-invasive remote monitoring devices used to support patient monitoring during COVID-19** see https://www.fda.gov/regulatory-information/search-fda-guidance-documents/enforcement-policy-non-invasive-remote-monitoring-devices-used-support-patient-monitoring-during

For more on **NHS COVID-19 App** see https://www.nhsx.nhs.uk/covid-19-response/nhs-covid-19-app/

For more on **Google and Apple partnership on tracing technologies** see https://www.apple.com/newsroom/2020/04/apple-and-google-partner-on-covid-19-contact-tracing-technology/