Applications for health

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Healthcare apps present exciting possibilities for GPs, their patients and the future of general practice.

From top: Dr Steven Kaye has found apps allow GPs more timely access to up-to-date information during consultations; Prof Michael Georgeff believes GPs will have a gatekeeping role in recommending high-quality apps to patients.

International accounting firm and professional services network Deloitte has described apps as 'one of the most disruptive innovations of the last century' because, together with tablet and smartphone devices, they are at the forefront of a revolution in the way people carry out their daily business.[1]

In today's world, apps can be used for a wide range of tasks, from banking and online purchases through to dating and learning languages, and even taking care of your health. But, while using apps in general practice might sound a bit like science fiction to some, Dr Steven Kaye, GP and member of the RACGP Expert Committee eHealth and Practice Systems (REC–eHPS), observes that most Australian GPs already use them.

'There are two types of apps: phone apps and the various programs or apps within our desktop systems,' he told *Good Practice*. 'Components of our clinical software that are innovative and improve our patient flow and systems within the practice are certainly highly valued [by GPs].'

Prof Michael Georgeff, Professor in the Faculty of Medicine, Nursing and Health Sciences at Monash University, believes GPs will find apps increasingly useful as they and their surrounding technologies continue to develop.

'I think that, particularly with the "internet of things" [the interconnection of devices such as wearables that can send and receive data] and the miniaturisation of a whole lot of health-related equipment, GPs will have a range of apps available to them,' he told *Good Practice*.

Dr Kaye looks forward to this vision of the future and its potential implications for healthcare.

'I think it's a very exciting time for fine-tuning general practice and taking it forward into the next part of the century to create an environment of improved care for our patients,' he said.

Using apps

According to Prof Georgeff, apps will provide vital assistance as the GP's role becomes situated more within a multidisciplinary approach to healthcare.

'I think the apps developed for GPs will be ones that make team care much easier,' he said. 'Particularly if we move to the Health Care Home or a patient-centred medical

home model, we will absolutely need IT [information technology] to connect everyone and to help coordinate care.'

In addition to improving communication within healthcare teams, apps can also help GPs access information during patient consultations.

'The information explosion is impossible to be on top of for any individual, so if the GP can have readily accessible, current, up-to-date information to use, that's clearly of advantage,' Dr Kaye said.

'Therapeutic guidelines would be the main app or program used to give that up-to-date thread of information to the doctors.

'If you know where to find the information, that's as good as having it in your head.'

By contrast, Prof Georgeff believes healthcare apps aimed at patients will tend to be less systematic.

'Many [patient-centred apps] will be stand-alone ones that don't actually connect into the system, but remind the patient about their medicines, give them advice and try and change their behaviour in various ways, from games through to videos,' he said.

And, like their GPs, patients will also be able to access a vast amount of health information via an app. Dr Kaye feels this can potentially improve patients' health literacy and ease some burdens from GPs.

'We'd like to think that if people have information through their apps, they may see a doctor earlier should their symptoms indicate that there's something serious going on, rather than holding off,' he said.

'So certainly there's clinical advantage if the patients use the information correctly.'

But therein lies the danger: namely ensuring patients are accessing apps that provide reliable healthcare information.

'There's going to be a lot of information out there that is not legitimate, but is instead based on hearsay or small studies, unverified from poor sources,' Dr Kaye said.

'So the quality of the information really needs to be at the highest possible level in order to help in the best possible way.' >>

Recommending health apps

The RACGP has released a factsheet designed to provide GPs with information on what to consider when discussing health apps with patients. Visit www.racgp.org.au/your-practice/ehealth to for more information and to access the factsheet.

The MediTracker app is designed to provide relevant information to assist all healthcare professionals during patients' clinical handover.

>> Prof Georgeff believes that, in the future, GPs should ultimately have a key gatekeeping role to ensure patients are using high-quality apps.

'It will become more important for practices to be able to recommend certain apps to their patients,' he said. 'Over the long term, I see a role for the RACGP in, for example, being able to endorse certain apps or systems for GPs and help them understand which ones to recommend.' (Refer to breakout on page 11.)

As helpful as apps can be, it is important to keep in mind that they are an additional healthcare tool and not a substitute for face-to-face care.

'I don't think anything is going to replace the doctors,' Dr Kaye said. '[These apps are] all additive, accessories to the doctors themselves. The doctor–patient relationship

is still the absolute cornerstone of any therapeutic process.

'The apps will have positive benefits for patients and doctors in order to ascend to that very highest level of quality care.'

GP and app developer Dr Christine Colson emphasises that doctors should never become over-reliant on apps or any other type of technology.

'If doctors rely [solely] on what's in computers, that can be extremely dangerous,' she told *Good Practice*. 'I rely on the horse's mouth, which is the patient.

'The patient is the best app available.'

> ❝ It's a very exciting time for fine-tuning general practice and taking it forward into the next part of the century ❞

Building apps

Healthcare apps are generally designed to solve an existing problem. Many GPs can no doubt think of multiple healthcare problems they would like to solve, but what is actually required when it comes to building an app?

Prof Georgeff is chief executive officer at Precedence Health Care, a company that aims to transform the care of people with chronic illnesses through broadband and mobile technologies. Precedence Health Care launched cdmNet,

an online healthcare planning service for GPs, in 2009, and this year released MediTracker, an app designed to provide a simple solution for a complex problem in Australian healthcare.

'There's a lot of evidence that poor communication during clinical handover, when out of GP hours or when the patient attends an emergency department, is one of the biggest causes of preventable adverse events and increased morbidity,' Prof Georgeff said.

To combat this issue, MediTracker provides the patient with access to their GP-recorded health information via smartphone or tablet from any location.

'It's something patients have been asking us for a long time,' Prof Georgeff said. 'It provides patients the safety [at clinical handover] of being able to correctly answer all of the questions about what medications they are on, their doctor, their care team, their latest measurements and pathology results.'
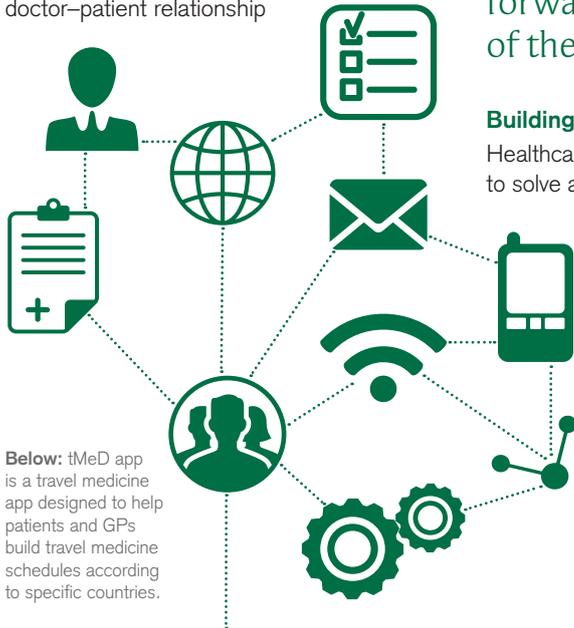
According to Prof Georgeff, apps like MediTracker may not only help to reduce poor patient outcomes, but also benefit GPs.

'We believe care should be patient-centred, but also that it should be strongly GP-led,' Prof Georgeff said. 'So the other aim of the app is to encourage loyalty to a single GP.

'The app connects to a single GP and only the GP can change the record. So patients tend to stick with the one GP, which is what we want to encourage.'

Aspiring app developers should take note: building an app is a lot of work. Even with an entire development team and the pre-existing cdmNet platform, it took Precedence Health Care a full year to complete MediTracker.

For Dr Colson, who built her app in her spare time, it has taken a couple of

Below: tMeD app is a travel medicine app designed to help patients and GPs build travel medicine schedules according to specific countries.

decades, but she is pleased with the result. Her app was designed to remedy a problem she experienced when working in travel medicine.

'We were regularly seeing people coming in on their GP's advice for [travel medicine] things they didn't need, or discovering that they weren't getting what they did need,' Dr Colson said.

While these situations were frustrating, Dr Colson does not blame GPs.

'There are myriad sources out there,' she said. 'GPs have a 10-minute or 15-minute timeslot to see patients. They have to give them general advice as well, and they can't be burrowing around in different resources trying to find out what [travellers] need for each country.'

Dr Colson recruited a developer and formed her own company, Rover TravelScript. They set about creating an app that would help GPs recommend the correct information to travelling patients, and also help them identify vaccines and medications they would need for different destinations.

The end result of Dr Colson's work is tMeD, a travel medicine reference software designed for desktop computers, and TripGenie, an online app configured for tablets and smartphones.

'tMeD allows you to do a whole travel medicine consult from start to finish,' Dr Colson said. 'You see the patient, list the countries they're going to and work through the program to build vaccine and malaria schedules. You can print that out and the nurse administers it.

'TripGenie has two functions. It's an information resource and it creates a travel report which tells users everything they need to know about where they're going, although it doesn't have the capacity to build those vaccine and malaria schedules.'

The initial task of collating and entering the data was a mammoth one that occupied Dr Colson seven days a week for three years. The app covers 229 countries and Dr Colson took great pains to ensure all information was correct, detailed and from reputable sources. This groundwork has laid a firm foundation for the app and its annual information updates now take a mere two or three days.

All of this background work ensures operation is as simple as possible for users.

'The information is there if the user wants to have a look at it,' Dr Colson said. 'But the logic is done for them so, as far as working out what's required, the user only has to list the countries and then the program does the rest.'

While Dr Colson is satisfied with her finished product and believes it can be of great help to GPs, she has found the process of putting it out into the world to be almost as challenging as its creation. She has some advice for any other GPs thinking of developing their own apps.

'You have to have a very thick skin,' she said. 'You have to be resilient enough to pick yourself up after rejections and keep going.

'It's like a constant job application.'

Dr Colson advised that having something of an obsessive nature can also be helpful.

'I work as a GP every day of the week except Wednesday,' she said. 'So I have the early mornings, lunchtimes and evenings [to work on the app]. There has to be a degree of obsession with it to keep you going.' ☯

Reference
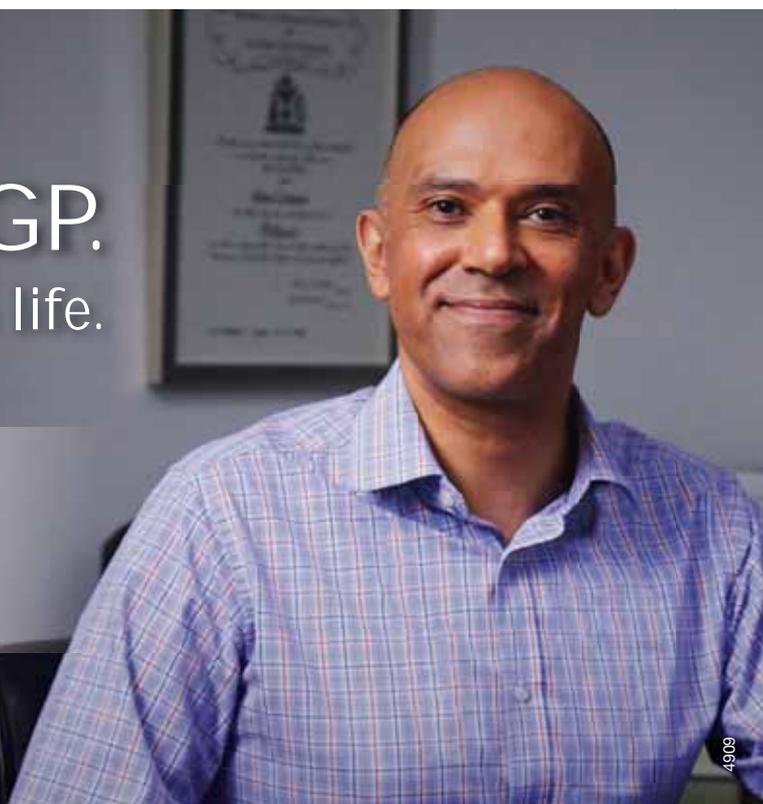
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