Hands up who remembers being sent around wards to do ‘obs’. The practice of going from bed to bed with an array of tools has been derided as ‘task orientated’ – and while few argue with this, I personally feel it had one benefit, in that it was a structured way of ensuring that all patients (even the quiet ones) had at least a basic assessment and a few minutes of chat regularly each day.

Did you ever imagine, as you wheeled that squeaky sphyg (or carried it awkwardly in the crook of your arm) that there would be a day when patients would show you their own recordings of their ‘obs’ on their phone, taken at various times during their day, at home in their own environment?

If you haven’t already had a patient show you a graph of their blood pressure readings on their phone yet, it’s only a matter of time. In many ways it is patients who are driving the move to mobile health. People are seeking better insight into their own health and there are plenty of app developers willing and able to provide the necessary technology for free or at a very small cost. There are predictions that in the not too distant future, patients will be prescribed health promotion apps along with medication and exercise programmes.

What exactly is an App?
A mobile app is application software, i.e. a computer program, that’s designed to run on smartphones, tablet computers and other mobile devices. Apps became widely available to smartphone users in 2008. The term Application Software was shortened to App in popular culture and became so widely used that in 2010 it was voted Word of the Year by the American Dialect Society. (For fun, or to score points at table quizzes, check out their website to see when the terms ‘tweet’, ‘bailout’, ‘hashtag’ and ‘mother of all – ’ were each voted Word of the Year).

There are over 1 billion apps on the market across all platforms – iOS, Android, Blackberry, Windows, etc. It’s believed that there are now 100,000 health related apps available. Some collect data that is entered by the user. Others encourage positive changes in health behaviour through encouragement and motivation,
A leading advisor on health technology in Canada has said that some apps on the market amount to “virtual quackery, of, if you prefer, digital snake oil”

e.g. smoking cessation apps that calculate how much money has been saved and how many measurable improvements have been made to quality of life since quitting. The really fascinating (and scary!) apps are the ones that are designed to have a diagnostic function, e.g. scanning skin for lesions, x-raying fractured limbs or reading cardiac arrhythmias.

Health Apps – a ‘rich’ opportunity
There are 11 million professional software developers globally and many see healthcare as a niche rich in opportunity (and income) because demand far exceeds supply simply because healthcare systems and structures are so far behind what patients demand in terms of e-Health. The mobile health market in general is estimated to be worth $9billion this year and expected to rise to $20billion by 2018. While this is good news for those in the IT sector, there is concern about the quality and effectiveness of apps, and the fact that they are largely unregulated. For example, relatively few lifestyle apps incorporate the processes necessary for behaviour change and an alarming number provide information that has no scientific basis. The FDA has only cleared about 100 mobile medical apps to date through its regulatory process.

A recent study of iTunes found almost 43,700 health related apps, but only 54% were ‘genuine’ healthcare apps and 69% of these were aimed at patients. 159 of these captured data – the rest were mostly educational in nature. Fewer than 50 related to management of specific conditions or included tools and calculators.

A leading advisor on health technology in Canada has said that some apps on the market amount to “virtual quackery, of, if you prefer, digital snake oil.” Experts and commentators refer to current times as “the Wild West of the app phase”, citing inadequate regulation and privacy issues when apps collect more information than necessary, such as geographical location of the user.

However, the future is also ripe with opportunity for improving healthcare and health literacy if app technology can be harnessed and managed properly.

A study of smartphone users in the US revealed that 38% used their device to find health information. By 2018, half of the world’s 3.4billion smartphone users will have downloaded a health app. Obviously this will represent a significant shortcut for healthcare providers to tap into each person’s ‘trigger’ at that crucial teachable moment when motivation is high – but the change management will only be successful if app developers and health experts have worked together to ensure the app systematically takes the user through all the steps to change and to incorporate a feedback mechanism for the healthcare provider to monitor progress. To date, this sort of collaboration appears to be the exception. Separate studies in Ohio and the UK revealed that more often than not, apps had little or no input from health experts during their development.

Regulation
Regulation is another area that needs to keep up with what is happening on the ground. As often happens in our fast moving world, governance of this demand-led technology has really only gained traction in the last couple of years. Some of the challenges for regulators are the sheer number of healthcare apps, the speed with which apps come and go from the market and the pace of technological advances.

United States: In the US, mobile medical apps (MMAs) are defined by the FDA as apps that are intended to “diagnose, cure, mitigate, treat, or prevent a disease or other condition; or affect the structure or any function of the human body.” The FDA published guidance on MMAs in September 2013, but this guidance was the subject of some debate at Congress because some legislators do not believe software can or should be classed as a medical device. Also, the guidance did not include the area of clinical decision making software. This will be addressed separately by Congress, and the FDA is currently undergoing a consultation process with stakeholders.

Europe: In Europe, the EU’s Medical Devices Directive was introduced in 1993 to harmonise laws relating to medical devices within the European Union. Devices that comply with the Directive must have a CE mark applied. CE (Conformité Européenne), is a key mark of a product’s compliance with relevant EU legislation. As of October 2013, there are only 3 medical apps in Europe that have a CE mark (one of which was developed by an Irish software company). Software was added to the EU definition of medical devices in 2007 and apps that perform specific interpretive or diagnostic functions are likely to be classified as medical devices and therefore subject to the same regulatory requirements as physical devices.

Here in Ireland, medical devices are classified by the Health Prod-
Apps that have an interpretive or diagnostic function are termed “software as a medical device” for regulation purposes and are subject to the current laws governing regulation.

- Avoid apps that ask for unnecessary or excessive personal information.
- Download apps from reputable app stores, such as iTunes or Google PlayStore.
- Check how many times that app has been downloaded. Several thousand or more usually indicates an app that works and is liked by other users.

Practice Nurses are ideally placed to assist and encourage patients who are motivated and engaged in their own health. Even if your practice is not quite in the digital age yet, if you keep an open mind to the benefits of mobile technology while watching out for the pitfalls, you won't be 'left behind' when your patients move with the times. While we all await the rollout of e-Health you could even be the one healthcare professional who empowers them now, today.

Sources:
1. International Data Corporation www.idc.com
4. “What’s missing from many health apps — medical expertise” – www.amednews.com