

# MEDICAL PODCASTS IN ENGLISH FOR NON-NATIVE SPEAKERS

## Mobile technology for health

### Introduction

Hello and welcome back to our series of medical podcasts in English for non-native speakers. This comes to you courtesy of the Catalan Institute of Medical Education and Leadership or IFMiL. My name is Alice Byram, and I am a GP who trained in Barcelona. I have also worked as a Specialty Doctor in Emergency Medicine in the NHS in the UK. Today we will be looking at mobile technology in health in the first of a series of podcasts about the new digital technologies in health.

### Definition and distribution.

Our first job is to define what we are talking about when we look at mobile technology for health. Alongside smartphone or tablet apps which many of us use personally and professionally, mobile technology for health also encompasses the algorithms which can be used to make medical decisions.

Digital health and medical apps can be native or web based. Native apps are stored on the phone along with all the information necessary. This means that, after the initial download, you don't need an internet connection to be able to use them. When you are working in a hospital with slow or no wifi, this makes the difference between being able to use the app or not. These native apps use the operating system or internal computer of the smartphone. The main operating systems are iOS for apple, android and windows. A different app needs to be designed for each operating system. This makes native apps more expensive to develop and to keep up to date. The alternative is a web-based app where the phone acts only as a portal or door to the online web content. Web-based are cheaper to develop but also require a constant internet connection. Hybrid apps are a combination of web-based and native apps. They can access the hardware of the phone or tablet but still need an internet connection.

Most apps are in English, although they are increasingly available in other languages. Some apps, such as Universal Doctor Speaker are specifically aimed at overcoming language barriers between patients and doctors. Medical translation apps offer an extensive vocabulary of medical terms and history taking questions in many languages with more of a clinical guarantee than google.

Health apps are principally aimed at patients with almost 54% being this group. A further 22,5% are aimed at health professionals and the final 21% are aimed at a combined use between patients and health care professionals. That such a high percentage of health apps are for patients may be a result of the fact that 65% deal with nutrition, wellness and exercise. Recently there has been an increase in "mixed" apps which are aimed at

both patients and health care professionals. These are often aimed at disease management in chronic patients.

## Regulations

As health professionals, we are very aware that we deal with sensitive patient data. As it seems that anyone can create and upload an app, we can wonder what sort of regulations and security mobile health technology is subject to.

First of all, we need to identify the sensitive data used in the app which will need to be treated in a special way. This data then needs to be stored encrypted with authorised methods of authentication and encryption. If you want to find out about the difference between pseudoanonymisation and anonymisation, you can listen to podcast number 4 dealing with this topic. Other techniques to store data safely include using biometric access and digital certificates. Cybersafety against external attacks also needs to be taken into account.

Although this is a fast-moving area, there are regulations both on a national and international level. In Spain, it is the LOPD or Ley Organica de Protección de Datos. At a European level, it is the GDPR. Both of these cover technical aspects and the rights of the users. Podcast number 3 in this series introduces the concept of the GDPR from a clinicians' point of view.

In the USA, it is the FDA which regulates medical devices. Medical devices include, but are not limited to, machines, implants, instruments and reagents. These machines and tools come under this regulation if they are recognised in the official National formulary. The FDA also classes as medical devices anything intended to diagnose, cure or treat disease in man or other animals.

There are also organisations, including patient organisations and medical colleges, who classify and evaluate health apps. These organisations use a variety of criteria which include usability, security, and content quality. In Spain, [AppSaludable](#) in Andalusia and [AppSalut](#) in Catalonia are overseen by the public administration. New app developers can submit their app to the register to see if they pass their criteria. But there is still a long way to go in making sure that health apps comply with regulations, and are then also actually useful. This is where clinician feedback is essential, and the beauty of a mobile app is that you can contact the developer directly with any thoughts you may have. These improvements can be incorporated into the next automatic update.

## Examples of apps:

### For physicians.

Doctors of all specialities were early adapters of medical apps. They were leaning into Einstein's concept of not needing to know it all, just where to find it. Some of the most popular medical apps include [Epocrates](#) which offers a clinical decision aid as well as drug information. There is a pill identification option. If your patient says that they take the small yellow pills, epocrates can help you identify the mystery pill.

My personal favourites include a [paediatric emergency medicine](#) one from Guy's and St Thomas hospital, which gives you drug doses and expected physiological parameters in children which are hard to remember when you are in the middle of an emergency.

### For patients.

Patient apps include exercise apps such as the [NHS couch to 5k](#) app to get people running. People with diabetes or trying to eat better can benefit from the [Carbs&Cals App](#) with carbohydrate and calorie counters. And more locally, a ["Virtual Nurse" app](#) from the COMB or Official College of Physicians of Barcelona offers help and advice for both patients and health care professionals on how to live a healthier life.

## COVID-19 apps.

The current coronavirus pandemic has led to a new spotlight on health apps. At the same time that this pandemic has led to a surge in unverified information being shared, it seems that Apple is [only accepting apps from verified health organisations](#). In fact, Apple have taken matters into their own hands and developed their [own app](#) in partnership with the CDC, the White House and the Federal Emergency Management Agency (FEMA).

This pandemic has led to many non-respiratory and non-critical care physicians needing to learn how to use ventilators. Not only is it a question of knowing the theory, but often different ventilators also have different settings and buttons. The ventilators training alliance has created a [VTA app](#) which summarises all the information available from the various manufacturers in one place.

## Lecturer

Much of the content for this podcast has come from Dr Mireia Sans, who is a practising GP. She is director of the Comte Borrell GP centre. Outside of her clinical works she is also active in the Catalan Society of Digital Medicine and the College of Physicians in Barcelona, and even manages to fit in teaching at the International University of Catalonia.

You can sign up for Dr Sans's online course on mobile technology in Spanish at the [IFMiL](#) website where you found this podcast .

And you can follow Dr Mireia Sans on twitter [@MireiaSansC](#)

## Questions

1. Can you identify which apps on your phone are native apps?
2. Revise the GDPR compliance of any medical apps on your phone. Do they specifically say that they are compliant?
3. Identify one aspect to improve and try to contact the app developers to see if they can incorporate your suggestion to the next update.
4. Identify one new patient centred health app which you think could be of use for your patient population. Share with colleagues and patients. Check in two weeks later to get feedback as to whether it actually works.