

What are the attitudes of F1 doctors in Prince Philip Hospital towards their use of the iDoc app?

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Abstract

Access to information by all medical staff has undergone drastic change over the past 10 years. Paper-based information sources are no longer seen as the most useful and important. These days people want access to information when and where they need it, rather than going to a library to look information up later in their day. This is where smartphones and more specifically smartphone apps are now coming into their own.

Key words: cell phones; mobile applications.

Background

Access to information by medical staff has undergone drastic change over the past 10 years. Paper-based information sources are no longer seen as the most useful and important. These days people want access to information when and where they need it, rather than going to a library later in their day. This is where apps for smartphones are now coming into their own.

What is the iDoc?

The iDoc is an app which is downloaded onto an F1s' mobile phone. It contains five or six medical textbooks including the BNF (British National Formulary) and the Oxford Handbook of Clinical Medicine. It aims to give trainee doctors access to medical information via their smartphone to make the transition from medical students to trainee doctors easier and less dangerous (1). The iDoc app is meant as a "just-in-time" resource for junior doctors when they cannot use more traditional methods of accessing information (2).

The iDoc project started in 2009 and the app is the third project phase. The pilot phase consisted of F1s being given a HTC phone loaded with a memory card containing 17 medical textbooks. This was not well accepted as it meant carrying two phones – leading to difficulties including the cost of insurance and problems with set-up (1, 2).

From September to December 2011 the iDoc project moved on to supplying the app only for iPhones, as at the time this was the only compatible platform. During this phase the trainees could access approximately 11 books chosen for their popularity, and it was noted that the iPhone version of the app worked much faster and was easier to use than the previous HTC phones (2).

In the current phase of the project both Android and iPhones can use the app, with only BlackBerry phones unable to do so (2). During 2012 F1 doctors were offered a 12 month licence key to access the iDoc app which now contains roughly six books that were considered most useful during the previous phases (1).

Project structure

This study looked at the qualitative reasons why F1 doctors use the iDoc app, where they use it, and whether they consider it a useful tool within their medical life. This information was gathered through the use of one-to-one interviews with F1 doctors who had downloaded and also used the iDoc app at least once. In total five interviews were conducted as this was the largest amount possible due to time constraints. The interviews were conducted with a selection of male and female participants from different specialties throughout the hospital. The interviews were transcribed verbatim and the

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resulting information gathered was then analysed using thematic content analysis.

Convenience/efficiency/speed

Many of the respondents felt that the primary way that having no access to the iDoc would affect them was inconvenience - having to use a paper copy of the books or find a colleague to ask a question that they could easily have looked up on their smartphones. Lack of access would make them work more slowly and make their job a little harder.

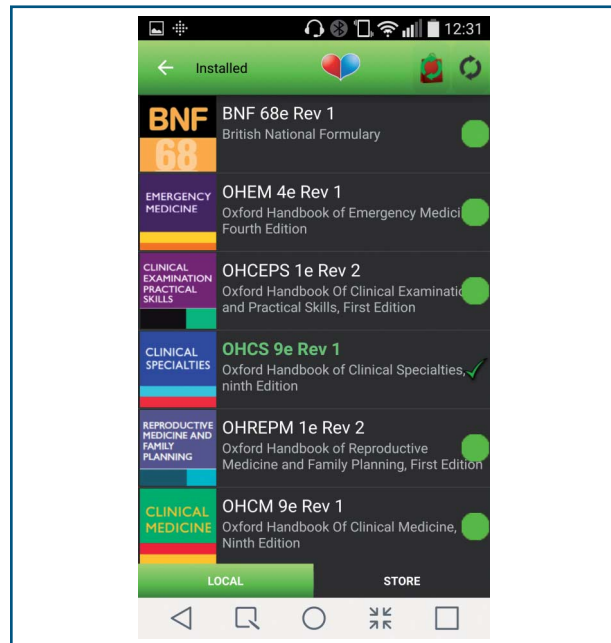
The iDoc app was considered most useful when prescribing medicines. Because the iDoc was in their mobile phone it was much easier to access than trying to find a paper version of the BNF. Use of the iDoc app for access to drug information falls neatly into the convenience/speed aspect as this is mostly information that is needed quickly with little depth. Use of the index to quickly find information within the text books also falls within this category. Convenience is a big issue with regard to preference for the iDoc (3).

It has been shown in previous studies into the iDoc that doctors tended mostly to use the BNF and the Oxford Handbook of Clinical Medicine (4). This bias holds true for the doctors interviewed in this study, reasons given being that they need help remembering drug calculations, or to be reminded of any interactions. Use of the Oxford Handbook of Clinical Medicine would appear to be because it is a very generic book. These are the two main books that new doctors carry with them in paper format, so it is unsurprising that they were the ones they rely on within the iDoc app.

Most interviewees said that they used the iDoc app when they were on call more than on the ward as this was when they would most often be left alone or with little support. This was when time was most critical and when they would be presented with new patients who had conditions they may not be familiar with.

One of the most discussed aspects of using a smartphone within any context, and especially in a medical context, is the benefit of having quick and convenient access to information. Many of the respondents gave the impression that when they are without the iDoc they work at a slower speed because they have to use other methods to gain access to information. Use of the iDoc app was felt

to increase efficiency. Convenience covers both the time and place in which the doctors can access information (3). Accessing information where and when it is most useful to them and their patient is especially important in the medical profession as it is a 24/7 service.



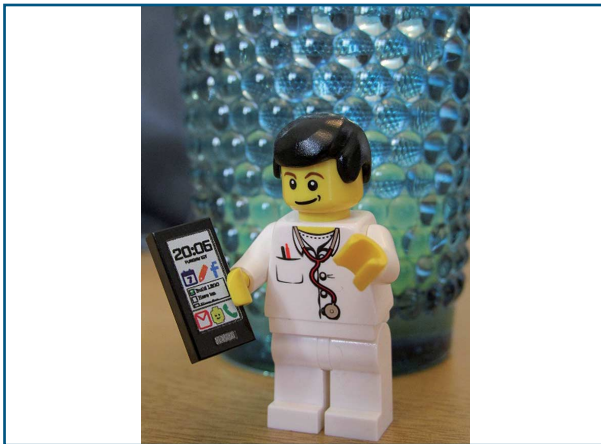
Other people and smartphones

Most of the doctors did not think that other colleagues were a barrier to them using the iDoc, as they felt that everyone has a mobile phone these days so it is not unusual to see people using them. Also people were aware of the iDoc or other medical apps so they knew that the doctors were using their smartphones in a clinical rather than a recreational way. Generally they felt that other doctors reacted favourably to their use of the iDoc or smartphone in the clinical setting.

Almost all the doctors interviewed for this study had never used the iDoc in front of a patient. Reasons given included not feeling that it instils confidence (much like bringing out a book to look up things in front of a patient) and also that it may look as if they are playing games etc. on their phone rather than accessing medical information (5). Within the literature most research is concerned with how patients react, or are perceived to react, when doctors use smartphones during treatment (4). Clinicians worry that patients might assume that they were reading texts, and would think them rude.

This was not evidenced as none of the doctors reported a negative reaction from a patient when using a smartphone, it just seemed to be an assumption that the doctors made. If doctors and patients both felt happy with the use of smartphones it might improve patient treatment as doctors would gain access to up-to-date information.

It was also mentioned that the doctors preferred not to bother their seniors with questions that may then embarrass the F1 doctor with a perceived lack of knowledge. This is interesting as it may mean they practice better medicine and learn more because they are not embarrassed to look things up on their phone. This was not really backed up within the literature review as other research suggests that junior doctors still feel that colleagues are the best and quickest source of knowledge when they are on the ward (3). If a junior asks a senior for help with information they are able to give that information along with some context, whereas an app just gives the information (3).



Comparison to other resources

Some of the doctors discussed how using the iDoc compared to using other resources, such as books. It was mentioned that it is much easier to carry around just the smartphone rather than a number of bulky books, as previous doctors had to. If for some reason the doctors are unable to access the iDoc they then have to rely on paper versions of books and asking colleagues for information that previously was at their fingertips. Some of the respondents no longer carry paper copies of the books in the iDoc, which puts them at a disadvantage when the iDoc does not work.

The iDoc app was often used outside work, to reinforce knowledge of things the doctors had seen during the day that they wished to learn more about. One participant mentioned using paper textbooks rather than the app when they were studying, only using the app to study when they were travelling or were not expecting to find time to study. This was reflected within the literature review (6). Paper versions enable easier note-making. Phone screen size also made it more difficult to study, rather than using a book. This was also mentioned in the literature search as a disadvantage to using a smartphone rather than a standard PC (7).

Confidence/reinforcing own knowledge

Interviewees mentioned that not having the iDoc app might make them less comfortable with their decisions, and possibly less efficient. This is something that has been discovered in other studies - although doctors feel it does not affect their confidence not to have access to an app, it does give them more confidence in their work when they do, especially when looking at something like drug calculations (8). Information overload is becoming an increasing pressure for medical staff. Is it better for new medics to have access to knowledge on their smartphones to ensure they are using the most up-to-date information without them having to constantly read medical research?

It was clear from the interviews that most of the doctors used the iDoc to reinforce their own knowledge and to learn about new drugs and diseases that they encountered. This also came out of the literature review, doctors with learning apps on their smartphones had their learning triggered through experiences they had during their clinical practice (9). As these new doctors are some of the first to be using smartphones within clinical practice it was seen that they are not yet completely reliant on the smartphone, they seemed to be equally at home using the other resources available to them. This is likely to change in the near future as people generally become more reliant on using their smartphones.

The doctors had a tendency to double check any knowledge they felt they already had, probably because they are in their first year of actual work within a clinical environment and aware of their own limitations. The iDoc is meant to help them in the

transition from medical student to fully-fledged doctor and it would appear that this is the way the doctors are using it. Having the iDoc allowed them to access rarely-used information for use alongside their own knowledge to ensure patients were treated safely and to the best of their ability (10).

Overall

Because this was a piece of qualitative research and only took in information about a very small section of F1 doctors in one hospital, there are only a few areas where all the respondents gave the same or similar answers. There were also a lot of very different answers from each of the doctors. This is beneficial because there are some areas that can be generally concluded but there are others that would need more research to see whether the background reasons for the different answers were actually similar, and whether if questioned again the respondents would all agree on some of the more different points.

This study did not seek out F1s who were not using the iDoc app, either because they have an unsupported device or no smartphone at all. Further research is needed into whether some doctors are being disadvantaged due to the assumption that they should be able to use a smartphone (1).

Overall each of the participants seemed enthusiastic about their use of the iDoc, there were some issues with its use but on the whole it was something they appreciated having free access to.

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