Why we must keep up with tech-savvy patients

It is imperative that we embrace technology to improve communication and enhance patient satisfaction, write Roisin O’Loughlin and Laragh Stevens

Technology is rapidly evolving and significantly impacts the way healthcare is delivered to patients. It can be used positively to improve communication and accessibility. However, the use of technology is often limited to the skills of the patient and healthcare professionals and can therefore act as a barrier to healthcare provision.

Literature review

Data regarding patients’ views on the use of technology in primary care is limited and data surrounding the use of individual modes of technology in primary care is interesting. There is positive evidence to support the use of text message reminders for vaccination schedules.\textsuperscript{1,2,3} Research suggests that both patients and GPs have concerns regarding the use of text messaging and email for the purpose of consultation, citing limitations such as lack of personal contact and data protection, but acknowledging that there is potential for their use in the provision of healthcare.\textsuperscript{4,5,6} These studies are limited however, and do not explore the views of patients in Ireland.

There is a lack of evidence with regard to exploring the current levels of technology use among patient cohorts. The only existing research in an Irish context examined the information accessed by patients on the internet prior to attending their GP. The findings suggested that patients are using the internet to access health information prior to attending their GP and that they may be trusting information from resources that are not evidence-based.\textsuperscript{7}

Text messages can also be utilised as a tool to remind patients of upcoming appointments. Several studies have demonstrated positive results in terms of attendance rates when this method of communication was applied to their practice.\textsuperscript{8,9,10} Overall, it appears GPs are conditionally willing to use new consultation media if clinically appropriate and if medico-legal and technical support is available.\textsuperscript{11,12} Poor levels of technology skills as perceived by the GP in some groups were also cited as a barrier to service provision.\textsuperscript{13}

Why did we choose this project?

We live in a digital era and whether we like it or not both patients and healthcare professionals will have little choice but to become more tech-savvy. The rapid development of the internet and other technology modes can be used positively and appropriately in our everyday working lives in primary care and can greatly optimise patient care, yet research around this area from an Irish perspective is greatly lacking.

Aims

The main aim of this study was to explore the attitudes of patients in the Kerry area towards the use of various modes of technology in the provision of healthcare in a primary care setting. Our secondary aims included:

- To categorise which modes of technology are currently being used by our patients
- To measure patients’ current level of use of these modes of technology
- To analyse patient opinions regarding technology in relation to their demographics and current level of technology use.

Methodology

A literature review was carried out using PubMed. The search terms utilised were ‘technology’, ‘general practice’, ‘attitudes’ and ‘healthcare’.

This was a mixed qualitative/quantitative study utilising a non-validated questionnaire as no pre-existing validated questionnaire relevant to our study was available. This questionnaire was piloted at two multi-doctor general practice surgeries; one urban and one rural.

Ethical approval was granted by the Clinical Research Ethics Committee of the Cork Teaching Hospitals, University College Cork, in November 2015.

Patients attending both practices during a set period were invited by administrative and medical staff to participate in the study on a voluntary basis.

The population study included all patients over the age of 18 who attended both practices. All patients under the age of 18, patients with dementia and severe learning disabilities were excluded from our study. A timeline of three weeks was allocated for data collection in February 2016.

The questionnaire was designed with the help of a statistician, Laura O’Connell. The final questionnaire consisted of four main themes – demographics, technology use,
online services and mobile phone use. There were 33 questions in total, ranging from questions on a Likert-type scale to open-ended opinion questions.

An initial pilot focus group of 10 patients representative of the study group was carried out in both practices. Feedback was given and the questionnaire was adjusted in line with recommendations from the pilot group. The questionnaire for one of the multi-doctor practices was slightly modified as they already had a practice website and a Facebook page in existence.

The approximate overall total population of both practices was 10,000 patients. A sample size of 300 patients was chosen. This random figure was allocated due to the qualitative nature of the study and we felt this number of patients would be adequately reflective.

Data from the returned questionnaires was coded and entered into Excel and then transferred to the software programme SPSS for analysis. Data was stored on password-protected laptops by the researchers.

Demographics

There were a total of 300 responses, 65% of which were completed by female patients and 65% of respondents were medical card holders. In total 93% of patients surveyed were Irish. Over 75% of patients surveyed had completed the Leaving Certificate exam.

Technology use (see Table 1)

- In total, 75% of respondents used technology on a daily basis
- A greater age was associated with a lower use of technology (p = 0.00)
- Females have a significantly higher mean score regarding frequency of technology use (p = 0.01)
- The greater the educational level, the more likely respondents were to use technology
- A total of 16% of patients reported consulting a website prior to their attendance at the surgery at the time of the survey. The most frequently cited websites were Mayo Clinic, Web MD, NHS, HSE and Google search results
- In total, 31% reported consulting the internet regarding their health in the past
- One-sixth of patients reported that they would not share any information they found on the internet with their GP during a consultation
- We also analysed our dataset to ascertain if there was a correlation between gender and consulting a website prior to presentation. In total 16% (n = 47) of respondents had consulted a website prior to GP presentation, 11% (n = 34) were female and 4% (n = 13) were male. A chi-squared test showed no significant difference but clinically it would seem like more females check a website
- There was a significant age difference in those who had consulted a website (M = 42.13, SD = 15.33 years) and those who had not (M = 48.47, SD = 17.59 years); t (296) = 2.31, p = 0.02
- Those with a greater use of technology were more likely to consult a website prior to consultation (p = 0.00)
- Urban dwellers were also more likely to use technology in relation to healthcare (p = 0.04).

A subgroup analysis was carried out at the urban practice, which had a practice website and Facebook page in existence. There were 150 patients in this subgroup analysis. Of these, 59% were aware that the practice had a website; and 30% of this group had visited the website in the previous year. Patients reported an online prescription service as the most useful service available.

Qualitative data analysed in relation to additional services patients would find helpful included information regarding current epidemics, updated staff information and links to external useful resources. A total of 21% of patients in this group were aware that the practice had a Facebook page.

A subgroup analysis at the rural practice studied, which has neither a practice website nor a Facebook page, revealed that 67% of patients would find a practice website useful and 52% of respondents would like a practice Facebook page.

Neither practice currently has a mobile phone app service. Of the 300 patients surveyed over 60% reported that they would like their practice to offer this service.

Online services

Regardless of their technology use, patients were requested to give their opinion on whether they would like the practice to offer specific services as demonstrated in Table 2. Patients were in agreement that most of the online services mentioned would be very useful at their medical practice. Online consultations, however, was an area that
thoughts on the role of technology in general practice. This questionnaire where patients were asked for their final
• patient concerns
• Mobile applications
• • (see Table 3)
Mobile phone use
• Agreeable that this would be a useful resource.
patients differed in opinion, with only 45% of patients agreeable that this would be a useful resource.
Mobile phone use (see Table 3)
• Appointment reminders, links to useful health information and practice notifications were the most popular services that patients wanted from a text messaging viewpoint
• However, almost a third of patients did not agree with provision of a text messaging service of blood results and investigations.
Mobile applications
• One-third of patients reported using a mobile phone app to help with an aspect of their health
• The most frequently used health application categories were diet/weight loss, exercise, pregnancy/fertility and menstrual cycle. Analysis of the qualitative data highlighted a number of commonly used applications including Slimming World, MyFitnessPal, Period Tracker and What to Expect.
Patient concerns
• In total 23% of respondents reported having concerns about the use of text messaging for the communication of results, 12% (n = 35) were female and 7% (n = 26) were male. There was no association found comparing gender, age and frequency of technology use and concerns around text messaging
• Analysis of the qualitative data found a number of recurring themes. Patients cited a number of reasons for concern, namely confidentiality, lack of skills or familiarity with text messages, that abnormal results should be given in person, difficulty interpreting the results and the preference for face-to-face consultation.
Below are a sample selection of some of the responses:
• “Abnormal results can be seen by other people who might use your phone or see it on the locked screen”
• “I don’t use computers”
• “Bad news should be given in person”
• “Medicine by nature has to be face-to-face, you can’t do confession on the internet!”
There was an open comments section at the end of the questionnaire where patients were asked for their final thoughts on the role of technology in general practice. This generated a large amount of qualitative data. Below is a selection of some of the responses. The overall impression was very positive; patients felt that technology helped bridge the gap in communicating with their GP. They were in favour of using technology to save time as long as it was done in a sensitive and confidential manner.
• “Technology is the way forward, if we don’t follow it we will be left behind”
• “Technology is time-saving”
• “It hugely improves communication and access to information in a direct, efficient and simple manner.”

Learning points
As far as we know this study is the first of its kind to be conducted in an Irish setting and we felt it was a very informative research project. Not only did it give us a great insight into patient attitudes around technology, it also informed us of current technology practices of our patients which can be applied in a general practice setting. It is imperative that primary care embraces technology to improve communication and efficiency in our day-to-day working lives and to improve overall patient satisfaction.
How has this study changed our practice?
The findings of this study may help inform practice policy at both a local and national level. We are also hopeful that this study will generate some discussion around patient preference and the use of technology in healthcare and stimulate further research in the area.
Suggested further research would be expanding the research to other practice locations or exploring the views of patients after they have trialled each of the various modes of technology. There is also scope for exploring the perceptions of staff providing these services, as research in this area is limited in Ireland.

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References

Table 3: Mobile phone use

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