Can pharmacists promote self-care using digital technology?

TANIA CORK, DAVID SANZERI, RUTH CHAMBERS AND CHRIS CHAMBERS

Health professionals are increasingly making use of digital technology such as healthcare apps to improve patient outcomes. Here, the authors discuss the findings of their discovery project to investigate whether community pharmacists can successfully promote patient self-care using the Simple Florence text messaging system (Flo) and the Manage Your Health (MYH) app.

Lack of adherence to medication is common, frequently resulting in avoidable, unplanned hospital admissions.\(^1\) For example, young people with asthma may ignore the advice of health professionals on their use of inhalers and often miss follow-up review appointments.\(^2\) Likewise, older patients may fail to take their medication regularly, either because they do not realise its significance and forget or because they choose not to take it (intentional non-adherence), for example to avoid adverse effects.\(^3\) Many studies have tried to demonstrate strategies to improve adherence;\(^4\) however, the majority are complex and not very effective, despite the amount of effort and resources they consume. There is therefore no evidence yet that low adherence can be ‘cured’.

In recent years, the use of digital technology such as healthcare apps within the NHS has been increasing. NHS England’s Technology Enabled Care Services (TECS) programme supports and encourages the use of technologies such as telemedicine and self-care apps to improve health outcomes for patients with long-term conditions.\(^5\) In this discovery project, we deployed the Florence Simple Telehealth text messaging system (known as ‘Flo’) and the Manage Your Health (MYH) app within community pharmacies to try to address some of the issues seen in non-adherence, such as patients forgetting to take their medicines. The project formed one element of our local CCGs’ TECS strategy and followed on from a local rollout in general practice, as these technologies seemed appropriate for use in community pharmacies too.

Why community pharmacies?
The record of community pharmacies in both dispensing and being an access point for assistive technology is well...
established. Thus, community pharmacists can be seen to be in a key position to introduce patients to TECS triggered by prescribing and repeat medication dispensing.

The challenge to community pharmacists was how they might utilise TECS to add value to their delivery of services such as the New Medicine Service (NMS), Medicines Use Review (MUR) and Prescription Intervention Service to patients. The aim of the discovery project was to explore the acceptability to community pharmacists of using TECS in order to improve patients’ understanding of their condition and adherence to medicines. If successful, this may then be expected to help prevent disease relapses, crises and/or complications.

What is the Florence Simple Telehealth text messaging system?
Flo is a web-based service that uses automated SMS texts to remind patients to take their medication. Healthcare professionals such as GPs and community pharmacists obtain the patient’s mobile phone number, with their consent, and adjust the Flo settings to meet the individual patient’s needs. Flo then sends regular text messages to the patient to prompt them to monitor their condition and take their medicines. Flo can also relay advice relating to a person’s health condition or lifestyle habits. It is not a medical device as it is not diagnostic and is underpinned by an agreed care plan between the health professional initiating Flo and the patient.

Although not applied in this particular project, Flo can also be used to monitor a patient remotely through their responses, for example, using blood pressure readings or answers to automated questions, eg “How many times have you exercised for 20 minutes in the last seven days?” Flo was designed and evolved with input from patients and clinicians. There is good evidence for the benefits of Flo in enhancing patient empowerment in hypertension and other long-term conditions, as well as redressing adverse lifestyle habits.

The Flo system has been used as an interactive monitoring tool by some healthcare professionals such as GPs; however, in this particular project, the purpose was to understand whether this kind of technology could be used in community pharmacies – so only simple protocols that did not monitor patient interactions were selected. In addition, the Flo protocols used were specifically written for NMS and MUR services delivered by the pharmacist.

What is the Manage Your Health app?
The MYH app is a collection of freely available apps with one platform. It was developed through a collaboration of patients, national experts, local health professionals and health literacy experts, along with computing and graphics input from Keele University School of Pharmacy. Once the framework is downloaded, the patient selects which health condition(s) they would like information about. At present, asthma, COPD, type 2 diabetes, hypertension, atrial fibrillation and back pain are available. The app uses a variety of forms of communication to appeal to patients: written text, cartoons, animated whiteboards and avatar videos. It provides material that the patient can use to clarify advice and information that is likely to have been given verbally by a healthcare professional but that is easily forgotten. Videos of correct inhaler techniques have been of particular benefit in improving patients’ self-management of their respiratory conditions.

How did the project work?
Pharmacists were given a written invitation to participate in this discovery project, for which they received a small bursary provided that they enrolled 10 patients onto the Flo text messaging system or advised 15 patients to use the MYH app (for asthma, COPD or diabetes), or a mixture of the two. Of the 20 local community pharmacies invited to join this initiative, 17 agreed to take part, with five completing the project within the nine-month time frame.

Pharmacists were given face-to-face training on how to add patients to the Flo system and how to download and use the MYH app from either a CCG telehealth facilitator or the chief operating officer of the local pharmaceutical committee (LPC). Training took place in the pharmacy consultation room. Leaflets describing how to download the MYH app were provided for patients.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Neither agree nor disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>It will help my pharmacy to address an identified need</td>
<td>20%</td>
<td>33%</td>
<td>47%</td>
</tr>
<tr>
<td>It will reduce my workload at the pharmacy</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>My patients are keen to engage with this type of service</td>
<td>0%</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>It will help to deliver care to those patients who need it most</td>
<td>0%</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>It is part of my pharmacy’s role to deliver healthcare using TECS in this way</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>It will help improve patient outcomes</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>I have the skills to deliver healthcare using TECS in this way</td>
<td>0%</td>
<td>20%</td>
<td>80%</td>
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Table 1. Participating community pharmacists’ views on the use of the Florence Simple Telehealth text messaging system (Flo) and the Manage Your Health (MYH) app: baseline questionnaire (n=15)
Pharmacists had access to a variety of Flo protocols, such as reminders for patients (or their parents in the case of children) to use their inhalers or take medication, information for diabetic patients, and advice about side-effects of NSAIDs or diuretics. All Flo protocols had text message feedback questions for patients to give their views on the messaging process.

To evaluate the progress of the project, pharmacists recorded the numbers of patients who had been enrolled with Flo, as well as those who downloaded or pledged to download the MYH app. A baseline postal survey of pharmacists’ views (see Table 1) about the use of this technology was carried out in March 2016, with a follow-up post-project telephone survey in May 2017 (see Tables 2 and 3). Patients’ texted responses to feedback questions from Flo were also collated, and the number of MYH downloads registered by the app providers was recorded.

Outcomes
The 17 pharmacists who participated in the project had 88 interactions with patients, some of whom were interested in downloading the app as well as being registered on Flo. The MYH app was downloaded by pharmacists for patients in 11 cases, while a further 32 patients agreed to download it themselves.

The number of patients enrolled on Flo was 27, of whom five were children and 17 were over 59 years of age. The response rate to text message feedback questions was poor; however, of the 11 who did respond, 72% gave positive feedback regarding Flo’s help in reminding them to take tablets or use their inhalers.

This initiative was designed and delivered as a discovery project, so the main objective was to gain feedback from community pharmacists on their opinion on TECS and whether they were likely to adopt these technologies. Initially, there was a healthy degree of scepticism on behalf of community pharmacists as to the high demand TECS would make on their time. It was also expected that community pharmacists would then snowball the training to their support staff; but again, this would involve pharmacists’ time. However, the community pharmacists did recognise that TECS was an important and legitimate part of their pharmacy role. Furthermore, pharmacists agreed that the introduction of TECS into patient care was desirable and likely to improve their outcomes.

The opinions of the participating community pharmacists have been invaluable, enabling us to reflect on how we will need to undertake things differently in order to produce more widespread engagement.

Training
All pharmacies have private consultation rooms and these rooms were used to deliver the face-to-face training to pharmacists. However, community pharmacists are under increased pressure and demand, and even time set aside for what was expected to be a quiet training period was frequently interrupted by urgent requests for the pharmacist’s professional decision about prescriptions or over-the-counter medicines consultations. For this reason, it would have been better to conduct training outside normal working hours in order to gain pharmacists’ full attention.

Learning from the project for future widespread use
Everyday pressure was the main reason cited by community pharmacists as to why so few patients were enrolled. One comment in the post-project survey, which reflected a common theme, was: “The service is easy to sign up to but I just haven’t got the time... apologies for lack of participation, but [pharmacy] owners not prepared to commit to staffing required.”

It is hoped that TECS may, in the end, save time when patients become more self-reliant and understand their condition better. Therefore, the introduction of TECS requires more flexibility to be built into the day-to-day workings of the pharmacy. However, this involves commitment from the business owners or managers of community pharmacies, whose priorities may be different to those of staff who have face-to-face contact with patients. What is more, although this project only trained pharmacists, any member of staff could help the patient with basic technology such as apps and text messaging systems, so if all pharmacy staff were to be trained in the use of technology, it would enable better use of skill mix, resulting in a possible increase in patient engagement. However, it should be noted that the key services for which Flo and MYH app could be implemented are, at the moment, only delivered by the pharmacist and not the support staff.

Introducing patients to new options could be assisted by having preparatory literature or videos playing (in pharmacies where there are screens showing health information). Furthermore, pharmacies would benefit from having more access to mobile IT systems, such as tablets, to demonstrate apps to a patient.

As health professionals, pharmacists need to be sure that what they recommend fits with local and national guidelines. With the content of the MYH app being developed by NHS clinicians in line with NICE guidance, pharmacists could vouch for the reliability of the content. One pharmacist commented “Patients felt that the info on the app was reliable, rather than just looking on the internet.”

### Table 2. Participating community pharmacists’ views on the use of the Florence Simple Telehealth text messaging system (Flo) and the Manage Your Health (MYH) app: follow-up questionnaire (n=13)

<table>
<thead>
<tr>
<th>Question</th>
<th>Responses*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you feel confident about recommending the MYH app or Flo to patients?</td>
<td>Very – 46% Fairly – 54% No – 0%</td>
</tr>
<tr>
<td>For those who recommended the MYH app, was it easy to explain and enable patients to download?</td>
<td>Very – 31% Fairly – 8% No – 31%</td>
</tr>
<tr>
<td>For those who recommended Flo, was it easy to explain and use?</td>
<td>Very – 38% Fairly – 23% No – 8%</td>
</tr>
<tr>
<td>Did it reduce your, or your colleagues, workload?</td>
<td>Yes – 15% No – 46%</td>
</tr>
<tr>
<td>Were patients keen to engage?</td>
<td>Yes – 23% No – 38%</td>
</tr>
</tbody>
</table>

*Some questions not answered by all participants
The project showed that there was an extremely small number of patients who did not have a suitable phone in order to download the apps. A large proportion of patients were of an age group that is frequently thought to be of questionable technological literacy. However, age does not seem to be a major barrier to the acceptance of new ways of communicating.12 Pharmacists should ensure that all patients have an opportunity to access TECS when delivering MUR or NMS to these patients.

**Conclusion**

This discovery project highlights three key barriers for community pharmacists when implementing digital technology to deliver services such as MURs and NMS: training, workload and attitudes to age. Firstly, better time should be set aside for appropriate education and training for themselves, with the involvement of the whole pharmacy team. Education in the use of digital technology for community pharmacists at undergraduate, postgraduate or continuing education level is therefore an important consideration.

Secondly, rather than seeing TECS as a threat or burden on pharmacists’ time, it should be viewed as an opportunity to upskill all staff to meet the changing needs of patients – replicating for pharmacists the national focus on nurses as digital champions.11

Thirdly, the project suggested that community pharmacists’ attitudes towards the types of patients that would engage in TECS, for example on account of their age group, could be an important factor in whether they offer the service to some patients in their practice. However, this again could be due to the pharmacists’ own experience and confidence in using the TECS.

There is a desire on the part of community pharmacists and their staff to help patients. Moving patients towards greater use of digital technology for their health and wellbeing means that they are far more likely to “lead happier, more productive and satisfying lives if [they] are truly digital citizens who are confident and competent in those digital capabilities.”10

Finally, a quote from one of the pharmacists who participated: “Delivering healthcare technology is easier than pharmacists believe.”

**Table 3.** Reasons given by participating community pharmacists for not recommending the Florence Simple Telehealth text messaging system (Flo) or the Manage Your Health (MYH) app: follow-up questionnaire (n=13)

<table>
<thead>
<tr>
<th>Technology</th>
<th>Reasons for not recommending it*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flo</td>
<td>Didn’t have the time – 31%</td>
</tr>
<tr>
<td></td>
<td>Didn’t think it was relevant for the patient – 15%</td>
</tr>
<tr>
<td>MYH app</td>
<td>Didn’t have the time – 31%</td>
</tr>
<tr>
<td></td>
<td>Didn’t think it was relevant for the patient – 15%</td>
</tr>
<tr>
<td></td>
<td>Didn’t have enough support to deliver healthcare using technology this way – 46%</td>
</tr>
</tbody>
</table>

*Some questions not answered by all participants

**References**


**Declaration of interests**

The project was funded and supported by an informal partnership of the Long Term Conditions (LTC) Network of West Midlands Academic Health Science Network (WMAHSN), Stoke-on-Trent and North Staffordshire CCGs and the School of Pharmacy, Keele University.

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