Non-face-to-face consultations and communications in primary care: the role and perspective of general practice managers in Scotland

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ABSTRACT

Background: Practice managers play an important role in the organisation and delivery of primary care, including uptake and implementation of technologies. Little is currently known about practice managers’ attitudes to the use of information and communication technologies, such as email or text messaging, to communicate or consult with patients.

Objectives: To investigate practice managers’ attitudes to non-face-to-face consultation/communication technologies in the routine delivery of primary care and their role in the introduction and normalisation of these technologies.

Methods: We carried out a mixed-methods study in Scotland, UK. We invited all practice managers in Scotland to take part in a postal questionnaire survey. A maximum variation sample of 20 survey respondents participated subsequently in in-depth qualitative interviews.

Results: Practice managers supported the use of new technologies for routine tasks to manage workload and maximise convenience for patients, but a range of contextual factors such as practice list size, practice deprivation area and geographical location affected whether managers would pursue the introduction of these technologies in the immediate future. The most common objections were medico-legal concerns and lack of perceived patient demand.

Conclusion: Practice managers are likely to play a central role in the introduction of new consultation/communication technologies within general practice. They hold varying views on the appropriateness of these technologies, influenced by a complex mix of contextual characteristics. Managers from areas in which the ethos of the practice prioritises personalised care in service delivery are less enthusiastic about the adoption of remote consultation/communication technologies.

Keywords: email, general practice, practice management, telecommunications

What this paper adds:
- In the UK, general practice managers play a key role in the coordination and delivery of primary medical care, but to date have not been consulted about their views on ICT-mediated consultations and communications with patients.
- Practice managers are likely to play a critical role in the normalisation of ICT-mediated patient contact and should be provided with clear medico-legal guidelines and information technology support.
- Practice managers resist the imposition of new patient consultation/communication technologies without acknowledgement of individual practice circumstances and needs.
Introduction

Communication and consultation with primary care patients using technologies such as email, text messaging or video-consulting may become the norm in the future.1–5 In the UK, general practice managers may play an important role in the normalisation of ICT-mediated consultations/communications within primary care, as their remit in the organisation and delivery of care typically covers areas such as ‘quality management, communication, finance and information management’.6 Practice managers coordinate practice activity and mediate between the various professional and staff groups, and may coordinate the uptake and implementation of new technologies.6,7 They have also been shown to be influential in the development of practice policies,8 particularly in relation to issues of patient access.9,10

Whilst practice managers in Scotland have been surveyed in relation to general information technology (IT) use11 and access to NHSnet,12 and practice managers in England have been included in a qualitative study of primary care staff attitudes to eHealth in general,13 to our knowledge no previous UK studies have systematically surveyed or collected in-depth qualitative data from practice managers about their views on the use of non-face-to-face consultation/communication technologies in their practices. This mixed-methods study therefore aimed to explore practice managers’ views on routine information and communication technology-mediated patient contact in the context of the local situation within which they work, and their potential role in the introduction and normalisation of non-face-to-face consultation/communication technologies within their practices.

Methods

We carried out a postal questionnaire survey of all practice managers in Scotland (1026 practices; response rate 58.4%, n=600) to gather information about practice managers’ perspectives and attitudes to ICT-mediated consultations and communications with patients. The survey also collected general information on respondents’ practice IT infrastructure.

We used Chi squared tests for trend to determine statistically significant associations between survey responses and individual characteristics, such as respondent age, or practice demographics, such as practice list size, geographical location (using the Scottish Executive’s eightfold rural–urban classification) and practice-area deprivation (using the Scottish Index of Multiple Deprivation quintile scores).

We asked all survey respondents whether they were willing to take part in a subsequent face-to-face qualitative interview. We carried out 20 in-depth semi-structured interviews with a maximum variation sample of those practice managers agreeing to participate. We selected male and female interviewees from all age groups and from a range of practice list sizes, geographical locations and practice area deprivation indices. Interviewees had reported differing use of technologies in their practices and differing levels of willingness to consider using various new patient consultation/communication technologies.

During the interviews, we explored further with participants how favourably they viewed non-face-to-face consultation/communication technologies; which barriers and facilitators to use of non-face-to-face technologies they considered most important and why; how local characteristics of the practice influenced their experiences of, and attitudes towards, non-face-to-face consultation/communication technologies; how their roles and responsibilities influenced the general practice team’s uptake and use of new technologies; and the processes through which they perceived new modes of consulting/communicating with patients might be incorporated into routine primary care. Key results from the survey data were presented as a prompt for discussion in addition to reflection on the interviewee’s own survey responses. Interviews lasted approximately one hour, were audio-recorded with the participant’s consent and transcribed verbatim.

Qualitative analysis of interview transcripts, using the constant comparative approach to identify themes within participants’ accounts, proceeded alongside data collection and was facilitated by the use of NVIVO software. LH carried out initial analysis, whilst KF carried out subsequent qualitative inter-rater checking on a sample (30%) of interview transcripts to ensure rigour in data interpretation and coding; any differences were resolved by discussion.

West Glasgow Ethics Committee 2 granted ethical approval for the study.

Results

All statistical associations reported below are significant at the level of $P<0.001$.

How favourably do practice managers view non-face-to-face consultation/communication technologies?

Of practice manager survey respondents, 96.8% ($n=581$) said they would support use of the telephone
to communicate or consult with patients in their practice if time were allocated to do so, and 71.5% \((n=429)\) would support the use of email. However, only 32.5% \((n=195)\) and 33.3% \((n=200)\) would support the use of text messaging and tele-consulting, respectively. Table 1 shows survey respondents’ ratings of the appropriateness of various technologies for a range of practice tasks; overall, the telephone is viewed as the most appropriate technology, followed by email, text messaging and tele-consulting.

There was significant trend towards practice managers from the older age groups (51 and above) viewing text messaging less favourably than their younger contemporaries; for example, older practice managers were more likely to report that text messaging was not appropriate for sending appointment reminders or relaying normal test results.

Interviewees tended to support the use of new technologies such as email (or online systems) and text messaging for routine practice administrative tasks where they could ease workload. However, contextual factors – such as anticipated patient uptake or relevance of the technology to the practice area – mitigated whether or not they would proactively pursue these initiatives in the immediate future. Many felt that as these technologies became more prevalent in society as a whole general practice would also incorporate them.

### Which barriers and facilitators to use of non-face-to-face technologies are considered most important by practice managers, and why?

As shown in Table 2, only a small minority (0.8–3.3%) of practice managers endorsed any objections/barriers to the routine use of the telephone in their practice. In comparison, practice managers had more concerns about the use of the newer information and com-

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**Table 1** Percentage of practice manager survey respondents considering ICTs appropriate for various tasks

<table>
<thead>
<tr>
<th></th>
<th>Patient-initiated tasks</th>
<th>Practice-initiated tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Booking appointments</td>
<td>Ordering repeat prescriptions</td>
</tr>
<tr>
<td>Telephone</td>
<td>98.0</td>
<td>78.0</td>
</tr>
<tr>
<td>Email</td>
<td>26.3</td>
<td>58.0</td>
</tr>
<tr>
<td>SMS</td>
<td>6.3</td>
<td>9.0</td>
</tr>
<tr>
<td>Tele-consulting</td>
<td>5.2</td>
<td>3.3</td>
</tr>
</tbody>
</table>

**Table 2** Percentage of practice manager survey respondents agreeing with a range of objections/barriers to the routine use of non-face-to-face communication/consultation technologies in their practices

<table>
<thead>
<tr>
<th></th>
<th>Lack of skills/training</th>
<th>Technology unreliable</th>
<th>Limited range of tasks possible</th>
<th>Increases inequality of access</th>
<th>Lack of patient demand</th>
<th>Not needed for practice population</th>
<th>Workload concerns</th>
<th>Medico-legal concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>2.0</td>
<td>1.2</td>
<td>2.5</td>
<td>1.0</td>
<td>0.8</td>
<td>0.7</td>
<td>1.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Email</td>
<td>11.0</td>
<td>14.7</td>
<td>15.7</td>
<td>27.3</td>
<td>34.2</td>
<td>19.2</td>
<td>18.3</td>
<td>40.8</td>
</tr>
<tr>
<td>SMS</td>
<td>16.0</td>
<td>25.3</td>
<td>32.8</td>
<td>24.8</td>
<td>40.8</td>
<td>27.2</td>
<td>24.3</td>
<td>48.2</td>
</tr>
<tr>
<td>Tele-consulting</td>
<td>34.3</td>
<td>27.8</td>
<td>18.5</td>
<td>29.3</td>
<td>44.2</td>
<td>37.5</td>
<td>17.8</td>
<td>24.0</td>
</tr>
</tbody>
</table>
Communication technologies such as email, text messaging and tele-consulting. Medico-legal concerns were the most significant barrier to the use of email and text messaging:

‘Our prime concern is confidentiality, and that’s something that is drummed into everybody, patient confidentiality is the most important thing ... It’s always been an emphasis but I think with new technology you then keep having to be more aware of it. Now, if you do get an email, now how do you know it’s from that person?’

(PM2)

Perceived lack of patient demand was also a major objection to the use of all three technologies:

‘The only thing that I think potentially could forestall us going ahead with any sort of technologies in the future would be patient demand.’

(PM6)

How do local characteristics of the practice affect practice managers’ experiences of, and attitudes towards, non-face-to-face consultation/communication technologies?

**Practice list size**

Survey data showed that the bigger the practice list size, the more likely it was to have a website and an IT manager, be fully paper light, have nurse telephone triage and have dedicated clinical time for telephone consulting. Practice managers from bigger practices reported fewer objections to a range of non-face-to-face technologies – for example, they were significantly less likely to think that email, text messaging or tele-consulting were unnecessary for the practice population, or that there was a lack of patient demand for email or text messaging (see Figure 1).

Interviewees explained this relationship between increasing list sizes and more positive attitudes towards information and communication technologies (ICTs) as being due to the greater pressure of work in large practices, which use of ICTs could ameliorate, or the lack of perceived compatibility between remote consultation/communication technologies and the more intimate, personal service offered in smaller practices.

**Practice area deprivation**

Practices in more deprived areas used email less frequently to communicate or consult with patients, and were less likely to have a practice website than practices based in more affluent areas. Practice managers from more deprived practices were more likely to object to email use due to a lack of patient demand and the possibility of email leading to a widening of inequality of access for patients (see Figure 2).

Interviewees felt this was due to the perceived lack of computer ownership and email literacy amongst more deprived patients, although some interviewees disagreed with this assumption and considered that computer access was not restricted in lower socio-economic groups.

![Figure 1 Practice managers' objections/barriers to the use of non-face-to-face technologies: associations with practice list size](image-url)
Geographical location of practice

Survey data showed that practice managers in more remote and rural locations were more likely to consider that the use of email, text messaging and teleconsulting was unnecessary for their practice populations. They were also less likely to have nurse telephone triage in their practices (see Figure 3).

Interviewees based in smaller-sized practices in rural areas tended towards a more traditional model of primary care provision in which face-to-face professional–patient interaction was preferred. However, interviewees often acknowledged the relevance of teleconsulting in particular to rural, as opposed to urban, areas.

Figure 2 Practice managers’ objections to use of email to communicate/consult with patients: associations with practice area deprivation

Figure 3 Practice managers’ objections/barriers to the routine use of non-face-to-face technologies: associations with practice location
How do practice managers’ roles and responsibilities influence the general practice team’s uptake and use of new technologies?

Practice managers interviewed acknowledged that decisions about practice ICT were generally made by the GP partners. However, the majority were primarily responsible for ICT within their practices and felt they would play a primary role in researching new consultation/communication technologies, introducing them to the practice team and negotiating any resistance to their implementation.

’The decision ultimately lies with the partners. I mean I think they would rely on myself to present the facts as it were, so if there was evidence to say that there was a demand for email services of one or another type, I would come to the partners and say, it looks like this is the way people are going, what do you think?’ (PM16)

Practice managers also spoke of their role in supporting and encouraging the practice team (clinical and administrative) in the introduction of new IT systems, and playing a central role in training staff and managing change in the practice systems.

’It’s like any change from one system or any upgrade to another, there’s always worry and a small amount of resistance, I suppose. It is my job to drive that forward. It’s my job to try and persuade them that the extra workload is doable and is worth doing ... As I said before, we have a real mix of you know, really keen and enthusiastic people and those that actually quite like it the way it is thanks very much, so it will be my job to keep on bringing these people from the rear.’ (PM4)

Health boards were often seen as sources of IT training and support for clinical software systems, but few practice managers were aware of particular expertise at their health board in new non-face-to-face consultation/communication technologies:

’I wanted to set up a website – I did get quite far down the line with my previous practice at that – so I know one of the IT managers quite well and I phoned him and he gave me some advice and that sort of thing, but it was like “there’s some advice, on you go...”. I suppose you could say with IT you could be kind of isolated if you want to change things or develop things. We have lots of training for the software that we use, it’s available free of charge, that’s quite good. But if you wanted to do something that’s a bit quirky or different, I don’t think there’s anything.’ (PM12)

What are the processes through which practice managers perceive new modes of consulting/communicating with patients that might be incorporated into routine primary care?

Practice managers stressed that any implementation of new technologies would need to be carried out in accordance with clear external guidance, which they perceived would ensure quality and safety.

’I think what happens with new technology ... (is that) people are starting up processes but not necessarily thinking of the correct quality and guidelines for them. And that really needs to start being looked at ... and we have to make sure that if people are using these technologies they are using them to appropriate standards and actually making sure that the safety and the quality issues are being taken into account, and there is actually a minimum standard that we should all be meeting.’ (PM2)

In addition, many practice managers stressed the importance of robust IT systems and reliable IT support during and after any proposed incorporation of new consultation/communication technologies:

’I would like to see the IT people being a wee bit more proactive when it comes to looking at introducing new systems for practices to encourage their patients to be able to book appointments online or prescribing or doing SMS text messaging.’ (PM8)

Informal general practice support networks and peers were also seen as key in facilitating the introduction of new technologies:

’I actually went to a practice that I knew had got email repeat prescriptions and said, “Right, okay, what’s your protocol? How do you do it? What have you said to your patients?” And basically got chapter and verse from them.’ (PM18)

Other practice managers stressed the importance of wider consultation with practice teams prior to any top-down introduction of new consultation/communication technologies:

’I would maybe like to feed back that a consultative approach is used when you are implementing these things; being told ‘you have to do this’ is a guaranteed way I think of putting people’s hackles up and presenting yourself with piles of opposition before you even start ... It’s a bit touchy feely but I think that’s the kind of approach you would have to take with these new technologies ... And make it a carrot rather than a stick. We will fund this for you if you want it. Just make them want it.’ (PM16)
In addition, some practice managers felt that patient consultation and involvement prior to the implementation of new communication technologies in primary care was imperative:

‘I think they really need to consider the patient needs as well as our needs. They have to look at the whole bigger picture, just not to dive in and just introduce things without looking at every possible aspect... . You have patient focus groups, just to find out if they would be interested. Just involve them. I think, you know, as I said before, involve everybody then okay, you’re going to get people who are going to object to various bits and pieces, but if you can sell it well enough to them, then they’ll embrace it. So it’s involvement, it’s a very, very important thing.’ (PM14)

Discussion

Principal findings

Practice managers are likely to play a key role in any proposed service redesign to introduce non-face-to-face consultation/communication technologies in primary care. They hold varying views on the appropriateness of these technologies for consultation/communication with patients, influenced by a complex mix of contextual and practice characteristics such as locality, practice size, practice team ICT capacity and the nature of the practice population. Where the ethos of the practice prioritises personalised care in service delivery managers are less enthusiastic about the adoption of remote consultation/communication technologies. This study showed that current implementation of ICTs in general practice across Scotland is piecemeal, with managers perceiving no strategic vision driving these initiatives from a health board or national NHS level; however, managers resist the imposition of these technologies without acknowledgement of individual practice circumstances and needs.

Implications of the findings

Practice managers, as representatives of their practice teams, should be consulted prior to and during the introduction of any new technologies. Clear medico-legal and IT support should be made available to support the implementation of new systems of patient contact.

Comparison with the literature

Our recommendations above are consonant with previous findings on primary care staff attitudes to the adoption and implementation of e-health in general. In addition, continuing professional development for practice managers has been recommended, and in this case could ensure that managers felt supported, engaged and confident in the introduction of new patient consultation and communication technologies within their practices.

Limitations of the method

This study’s sampling frame was all general practice managers in Scotland, and our responses (58.4%, n=600) included representation from all socio-demographic and geographical areas of the country. A higher response rate would have yielded more convincingly representative findings of the national picture in Scotland. However, whilst we collected quantitative data from this national sample, we then examined these findings further using in-depth qualitative work with a maximum variation sample of practice managers across Scotland, therefore ensuring the survey findings were interpreted by, and represented the perspectives of, managers with a wide range of personal and practice-level characteristics. Another potential limitation of our method was that participants were drawn only from Scotland; however, we argue that our key findings on factors influencing the normalisation of ICT-mediated patient consultation and communication are applicable beyond the Scottish context both to the rest of the UK and internationally, given the similarities between general practice in Scotland and the rest of the UK, and between the UK systems and comparable systems of primary care and associated policy overseas.

Call for further research

Future research should examine patients’ attitudes to non-face-to-face modes of consulting with their primary care health practitioners or of communicating with their general practice. Our research to date indicates that central concerns for primary care professionals are patient demand for, and response to, new consultation modalities, and an evidence base assessing patient attitudes is essential to inform the development and introduction of these technologies. It is also vital to develop a robust evidence base to indicate when use of ICTs is appropriate, helpful and clinically effective.
Conclusions

Practice managers are likely to play a critical role in influencing whether the use of ICT-mediated consultations/communications becomes normalised within general practice. Whilst this study has yielded results from the Scottish context only, it is likely that the underlying principles are applicable to comparable primary care systems internationally. Primary care policymakers should work closely with practice managers prior to and during any routine implementation of ICT-mediated patient contact to ensure that local practice characteristics are acknowledged and that clear medico-legal guidance and IT support is provided to all general practice staff.

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CONFLICTS OF INTEREST

None.

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