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GP Answering Machines: A Barrier to Accessing Doctor-On-Call

S. Smith, L. Carragher

NetwellCASALA, Dundalk Institute of Technology, Dundalk, Co Louth, Ireland.

Abstract

Aim
GP out-of-hours services are an important part of primary care provision supporting people to live independently at home for longer. Older people mainly call their GP surgery for the out-of-hours service phone number, when needing a doctor at night. This study examines the impact of GP answering machine messages on older persons seeking to access GP out-of-hours.

Methods
A content analysis approach was used to examine audio recordings of all outgoing answering machine messages from GP practices (n=33) in two counties in Ireland.

Results
Both technical and interpretive issues were identified with outgoing answering machine recordings. Messages contained elements linked with information processing challenges including; low volume (82%, n=27); excessively fast delivery (51.5%, n=17); mixed instructions (21%, n=7); and multiple phone numbers (61%, n=20).

Conclusion
GP answering machines present a barrier for people requiring out-of-hours primary care. The information processing ability of older people, often in urgent need when seeking a doctor out-of-hours, may be compromised due to stress, as well as illness or age-related physical challenges. Answering machine messages, providing care directions, should be created to maximise the potential for all patients to acquire the necessary details for accessing primary care outside office hours.

Introduction

The UN Principles for Older Persons include the right to be able to reside at home[1]. This aspiration is echoed in the Irish National Positive Ageing Strategy[2] and underpins a commitment to independence, dignity and care in service delivery as well as goals to remove barriers and enable people to live in their own homes as long as possible. If people are to remain living in their communities into older age, availability of medical care at night is essential. The HSE Service Delivery Specification is that that GPs will provide an 'easily accessible urgent general practitioner out-of-hours service'[3].

GP out-of-hours (GPOOH) services, referred to locally as 'Doc-on-Call' (DOC), play a crucial role in supporting people to live independently at home for longer and are an important part of primary care provision.

Currently the only alternative to emergency care services, DOC can only be effective if people are both able and willing to use it. A recent study found that, for older people, needing to see a doctor outside office hours requires the ability to overcome multiple barriers[4]. Even accessing regularly scheduled health care is already difficult for some older people in Ireland, particularly in rural communities[5-8]. It is accepted that older people are reluctant to seek medical help unless in real need and their symptoms are severe[9,10] but being ill at night can be accompanied with more anxiety and stress than experiencing similar symptoms during the day.

In developing a set of principles for provision of age-friendly primary health care, the World Health Organisation (WHO) emphasised it is critical for primary care providers to understand the specific needs and challenges of older people if services are to be both adaptive and accessible[11]. Improving accessibility means that more thoughtful design of products, services and public engagement contexts is required, which takes into account common age-associated changes in sensory function, mobility, memory, attention and cognitive function, to meet the needs of all service users[12]. One of the main ways people find out how to contact a doctor out-of-hours is to call their local GP's surgery to hear the instructions and phone number provided in the outgoing phone recording. Older people report anxiety about needing to make several calls to their GP's surgery to successfully acquire the information necessary to contact DOC[4]. Previous research has drawn attention to the importance of how such messages are conveyed[12-14].

Ageing is associated with reduced information processing capacity and reduced ability to understand speech, particularly in challenging or distracting situations, such as severe illness[13,15]. Coordination abilities can be challenged, as older people may move more deliberately and, where conditions such as arthritis or tremor are present, there may be difficulty executing precise actions required for tasks such as dialling a phone or writing[12]. For effective content transmission, there are key elements required when sending a message. Comprehension, processing and recall are maximised where: a reasonable pace of speech is maintained with minimal background noise; fewer discrete pieces of information are presented; a predictable linguistic structure is present; and pauses are included at logical grammatical boundaries[12-14]. In situations requiring multi-tasking, common age-related cognitive and sensory decline (including hearing loss) can affect perceptual and cognitive performance and recall. In the context of a late-night illness, anxiety may become overwhelming for an older person resulting in an increased perceptual burden on processing resources[16]. This paper examines current outgoing GP office answering machine messages and their potential impact on accessibility of DOC for community dwelling older people.

Methods

To test the usability of GP surgery phone announcements, all GP surgeries (n=33) in two rural counties in Ireland were called on a Sunday night. Outgoing answering machine messages were recorded for analysis. Recorded messages were transcribed verbatim. Both the audio recordings and transcriptions were uploaded to Nvivo 12 software for analysis. Messages were evaluated for technical elements including; volume, pace (words-per-minute), background noise in the message, number of discrete information elements contained in the message and the number of times the DOC contact number was provided. Message length and volume were automatically captured in Nvivo (Figure 1). Words-per-minute were calculated manually, based on message length.

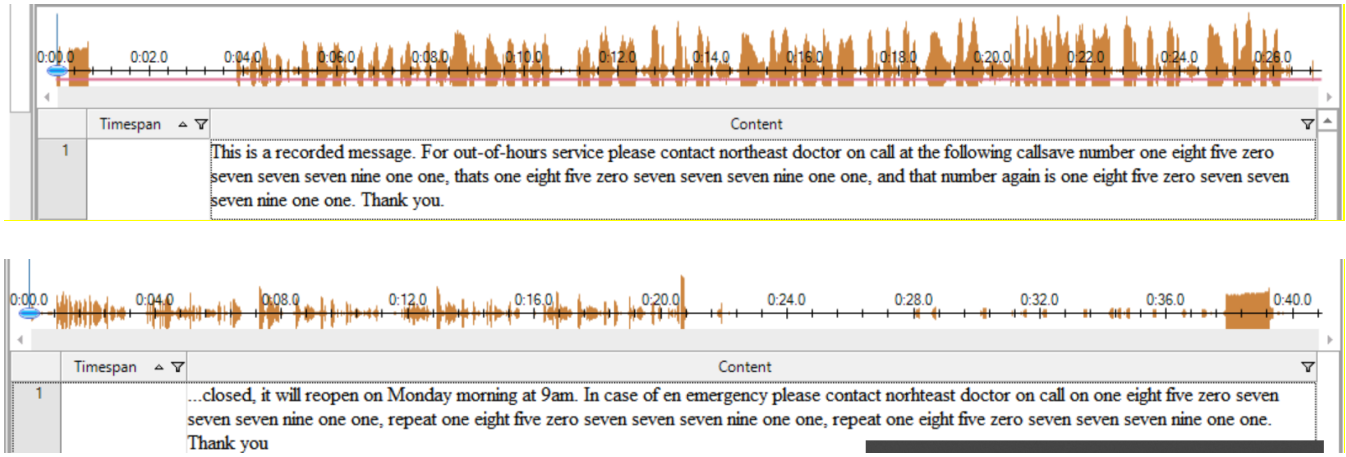
Interpretive elements were also evaluated including: presence of the correct explanation of the purpose of DOC (urgency level), clarity of naming DOC clearly as 'Doctor/Doc on Call' (the term most recognised for the GPOOH service) or alternatively as 'urgent GP out-of-hours' (the technically accurate term of the service) and linguistic structure when providing the DOC phone number (avoidance of 'double' or 'treble' when calling out the number).

Results

Technical Message Elements

Difficulty hearing the message, due to low volume or interfering noise, was identified in twenty-seven (82%) of the messages. In seventeen (51%) cases, the pace at which the message was delivered was faster than normal conversational pace of speech of 120-150 words per minute (wpm), with nine (27%) messages at a pace of over 170 wpm. At this pace, considered too fast for the message to be comfortably heard and processed for understanding, difficulties can be expected for the listener to retrieve and write down the relevant number for DOC. Furthermore, noise interference, either in the background of the recorded message or device-related noise, was often present in messages, adding to the factors to be overcome for auditory processing by the caller.

Figure 1. Answering machine message volume and content.



Interpretive Message Elements

In six (18%) cases, the phone number for DOC was given only once while twenty-one (64%) of the messages provided the number twice. The DOC number was repeated three times in six (18%) messages. However, in twenty cases (61%) multiple instructions, including additional phone numbers and surgery opening hours, were given within the message. Furthermore, more than half (N=18, 55%) of the messages listed at least two different phone numbers, to cover other circumstances such as lunch times or variations in surgery opening hours.

A third of the messages guided people to call DOC in case of an *emergency* and a third used the term *urgent* when directing callers to DOC and a third of the messages did not define any urgency level specifically required to call DOC. However, seven (21%) messages included both the terms *urgent* and *emergency*, as instructions for calling DOC or when to call other numbers listed (such as the GP's mobile number), with no indication of which level of urgency should warrant a call to DOC.

The phone number for DOC was provided in all cases but the service was referred to in a variety of ways across messages, including as 'Northeast Doc', 'NEDOC', 'doc on call', 'the northeast doctor' or 'our out-of-hours surgery'. The manner in which the number was given varied from practice to practice, with terms used which require interpretation and cognitive processing, such as 'treble seven' and 'double one', as well as in different formats such as 'eighteen fifty' compared to 'one eight five oh' when phone numbers were called out on the message recordings.

Table 1. Message Elements of outgoing GP practice out-of-hours messages.

Message Feature	Accessible	Poor Accessibility
Message volume	High volume = 6 (18%) Med volume = 11 (33%)	Low volume = 16 (48%) Background noise = 11 (33%)
Pace of message in words per minute (wpm)	wpm < 120 = 5 (15%)	wpm > 120-149 = 12 (36%) wpm> 150-170 = 8 (24%) wpm> 170 = 8 (24%)
Number of times the DOC number provided	Three or more = 6 (18%) Twice = 21 (64%)	Once = 6 (18%)
Urgency guidance for* calling *DOC	'Call for *emergencies'* = 7 (21%) 'Call for *urgent* care' = 10 (30%)	Multiple definitions of urgency used = 7 (21%) No urgency guidance = 5 (15%)

Discussion

People may call their GP surgery for guidance on what to do if they need a doctor while the surgery is closed. Ability of the caller to hear and decipher the information provided is fundamental to the accessibility of outgoing answering machine recorded messages. The researcher making the calls, was not ill or in distress when making the calls and had unimpaired hearing, vison, and writing coordination abilities, yet found it was necessary to listen to most of the messages more than once to collect the relevant information imparted in the messages. The message pace, volume, background noise and complexity of the message content all contributed to the inaccessibility of the information sought, the DOC number. If at least one repeat call to the surgery is required, a 'call-busy' signal may occur where the message has not completed prior to hang-up or full disconnection made from the previous call. In such cases, the GP surgery number would need to be dialled repeatedly and messages listened to multiple times to acquire the necessary details for accessing DOC. Given the context of urgent illness and caller stress, it may be understandable why a single call for an ambulance or going directly to the hospital Emergency Department (ED), may offer a simpler and more accessible alternative for people if ill out-of-hours[4].

Older people, already hesitant to call a doctor out-of-hours, lest they be perceived as misusing services by presenting with unjustifiable symptoms or conditions[4], require clear guidance about which service to use and when. The language used in the outgoing messages reflects how GPs instruct their patients to use DOC. A lack of clarity and consistency was found in how the purpose of the out-of-hours service was communicated in the messages, leaving patients to decide if, when and how to use DOC. This represents an additional information processing challenge for people looking to their GP for guidance on appropriate services, at a time of extreme distress. Uniformity is, therefore, required when defining the purpose of DOC (urgent) versus ED (emergency) as well as consistency in conveying this definition to patients as part of regular practice communications.

A range of factors are relevant for patient satisfaction with DOC and Smits et al.[17] suggest that more attention should be paid to the elements required to satisfy specific groups, such as older people. The issues of accessibility and adaptability remain central when considering DOC use by older people in Ireland[4]. The nature of GP surgery answering machine messages represent one specific barrier to accessing the necessary information to use DOC, physical or literacy challenges notwithstanding. However, as identified in this study, by attending to the format and content of outgoing GP surgery answering machine messages, GPs can take a practical step to remove one of the barriers facing people who may need to access a GP out-of-hours and who turn to their primary GP for direction on how to do so. A limitation of the study is the focus on older people; however, the learnings are applicable to all GP practice patients. Slowing the pace of the message, ensuring only essential information is provided and presenting this information in a simple and accessible manner could make all the difference to any panicked caller late at night. Furthermore, considering current advances in technology, using different recorded messages for different occasions, such as day-time closures, may reduce the complexity of messages and increase their accessibility for all callers. Further examination of out-of-hours primary care provision is required to evaluate the responsiveness of this essential service in adapting to the changing demographic of Irish communities and to ensure services are accessible to all.

Declaration of Conflicts of Interest:

The authors declare there is no conflict of interest.

Corresponding Author:
Suzanne Smith MSc
NetwellCASALA,
Dundalk Institute of Technology,
Dundalk,
Co Louth,
Ireland.
Email: suzanne.smith@dkit.ie
www.netwellcasala.org

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