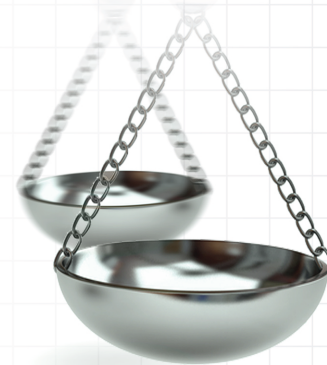




Attitudes of older people/seniors to completion of electronic patient-reported outcome measures and use of mobile applications in clinical trials: results of a qualitative research study

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Aim: We undertook qualitative research to understand more about older people and their interactions with technology, specifically to evidence the question “*can older people (seniors) manage electronic patient-reported outcomes solutions in clinical trials?*”. **Methods:** We undertook qualitative research interviews with older people and investigated the findings. **Results:** 7 of the 10 participants had a smartphone and 3 out of 10 had a feature phone (a mobile phone with buttons and no touchscreen). There was a shift from smartphone use by the younger participants to feature phone use by the oldest participants. **Conclusion:** The younger group of older individuals had similar experiences and attitudes toward touchscreen devices as the rest of the population. While the older participants expressed some reluctance toward unfamiliar technology, all participants were using technology and accepting of it.

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The clinical trial industry is increasingly adopting technology to improve the efficiency and quality of trials, including electronic clinical outcome assessments and more specifically, electronic patient-reported outcome assessments (ePRO). The electronic clinical outcome assessments market is predicted to grow significantly [1] as the benefits of completeness of data, timeliness, accuracy and attributability are realized and regulators strengthen their recommendations with respect to electronic data collection.

While older people have successfully used ePRO applications in clinical studies [2,3], for some clinical trial practitioners there remains uncertainty regarding the suitability of the approach in this cohort. Typical questions raised by clinical trial sponsors and study teams involved in trials with older people include general concerns related to mobile technology experience and confidence and specific concerns related to physical challenges such as deteriorating eyesight. The concern raised most often is perceived lack of familiarity and proficiency with mobile technology (data on file, Signant Health).

An ‘older person’ is generally thought to be a person ‘who has reached a certain age’. This age varies among cultures and countries but is often associated with the age of normal retirement. In the Western world, this is around the age of 65. The WHO, however, refers to people over the age of 60 in reference to aging populations [4]. From 2000 to 2050, the world’s population aged 60 and over will more than double with absolute numbers of 900 million in 2015 to 2100 million in 2050 [5].

The use of mobile devices by older people will become an important topic as within the next decades as their number will considerably increase. We undertook qualitative research to help us understand more about older people and their interactions with mobile technology. The aims of the study were to qualitatively investigate the experiences and attitudes older people have toward mobile technology (smart phones, feature phones, tablets) in

Table 1. Participant demographics (N=10) and potential complicating factors.

Participant	Age	Sex	Sight complications	Hearing complications	Dexterity complications	Other, relevant
1	63	F	Glasses, reading and long distance	No	No, but sometimes right arm gets tired following a break	No
2	65	M	Glasses, reading and long distance	No	No	No
3	65	M	Glasses, reading	No	No	No
4	70	F	Glasses, all the time	No	No	No
5	70	M	Glasses, reading	No	No	No
6	71	F	Glasses, short sight	Some lower tones difficult	No	No
7	75	F	Glasses, reading	Some difficulty	No	Type II diabetic
8	81	M	ARMD in one eye, means he has no vision down the center of one eye and cannot see in 3D, but it does not really affect his ability to read or see. Glasses.	No	No	Type II diabetic
9	83	F	Glasses, all the time	Some difficulty	No	No
10	83	F	Only has one eye, sometimes eyes get tired or blurry at the end of the day or after doing intense reading. Glasses.	No	No	No

ARMD: Age-related macular degeneration; F: Female; M: Male.

general; and use the qualitative data to generate advice on ePRO usage in clinical trials useful for older clinical trials participants and conductors of clinical trials alike.

Methods

An interview guide was prepared with detailed questions designed to explore the following three high level questions:

- “What, if any, reluctance is there to using electronic and touchscreen media?”
- “Can remote clinical consultations be undertaken effectively? Remote consultations include telephone or video consultations where the patient and clinician do not physically meet in the same place.”
- “What formal aspects of a learning experience tend to make a learning process difficult or easy?”

Participants were recruited from Bovingdon Evergreens (Hemel Hempstead, UK), a community and social group for older people based in the UK. The research project was described to members during a group meeting and volunteers were invited to be interviewed about their experience with and attitudes toward mobile devices. The study aimed to recruit ten participants over the age of 60 of both sexes. Participants were not required to have a medical condition in order to participate. The sample was supplemented with additional participants recruited via personal networks. Interviews were conducted using a semi-structured interview script by an experienced qualitative interviewer and each lasted between 30 min and 1 h.

The participants were interviewed either face-to-face or over the telephone and notes were taken, all by the same interviewer. Interviews were not audio recorded. In addition to assessing the research objectives, participants were also asked about their eyesight, hearing and dexterity to put their answers into context and to assess how much of a challenge these problems can be. Participants were not specifically asked whether they suffered from any medical conditions but these were noted if disclosed.

Interview note findings were coded for synthesis in Word and then the findings grouped into themes in Excel. Key quotations representing participant views were extracted from the interview notes. The coding, synthesis and extraction was completed by the same researcher who completed the interviews.

Results

Ten volunteers (six female, four male) aged 65–83 years (mean: 72.6 years) participated in qualitative interviews (Table 1). All participants lived in the UK and English was their first language.

Table 2. Participant mobile device use (N=10).

Participant	Age	Internet connection where you live?	Mobile device used	Frequency of use	Purpose	Ease of charging	Ease of use of touchscreen	Ease of seeing and reading
1	63	Yes	Smartphone, tablet	Multiple times per day	Keeping in touch with friends and family	Easy	Easy	Easy
2	65	Yes	Smartphone	Daily	As above	Easy	Okay, sometimes hits wrong buttons	Easy
3	65	Yes	Smartphone, tablet	Multiple time per day	As above and searching and shopping online	Easy	Easy	Easy
4	70	Yes	Smartphone, tablet	Daily	Keeping in touch with friends and family, playing games	Easy	Okay, sometimes hits wrong buttons as they can be so small	Okay, will enlarge text if it is too small
5	70	Yes	Smartphone, tablet	Daily	Emails and looking up information, browsing and research, no social networking	Easy	Not that easy	Easy enough
6	71	Yes	Smartphone and stylus	Daily		Easy	Sometimes can be tricky	Easy
7	75	Yes	Feature phone, tablet	Every other day	Keeping in touch with friends and family	Easy	Not that easy	Easy enough
8	81	Yes	Smartphone, tablet	Daily		Easy	Easy	Easy
9	83	Yes	Feature phone	Daily	Keeping in touch with friends and family	Easy	Easy	Easy
10	83	Yes	Feature phone, tablet	Daily	for emailing (but not social media)	Sometimes forgets to charge it	Easy	Sometimes hard with tired eyes toward end of the day

All of the participants reported some physical limitations. Deteriorating eye sight was the most common challenge, reported by all participants. However, they all had their sight corrected with glasses and many knew how to manipulate their mobile devices to increase the size of the text.

“If the text is small, I enlarge it especially when my eyes get tired and blurry. The enlarging function is useful.”

Age 70.

Three of the participants reported some hearing difficulties with the low tones of sound being the most difficult to hear. None of the sample reported significant dexterity challenges, although one participant identified that their arm can become tired since recovering from a previous fracture. Other physical challenges reported by these older people included the loss of one eye, age-related macular degeneration affecting the sight in one eye and Type 2 diabetes.

Current mobile technology use

The participants were asked what type of mobile devices they had at home, what they used them for, how frequently they used them and whether they had any difficulties with charging them up, seeing the screens or using the touchscreen. Findings are summarized in Table 2. All participants had a mobile phone. Seven of the ten participants had a smartphone and 3/10 had a feature phone (a mobile phone with buttons and no touchscreen that does not connect to the internet). The three feature phone users accounted for three out of four of the oldest participants (ages 75 and over). In addition, seven participants reported also having a tablet computer, including all but one of the four oldest participants. Some participants stated that they found tablet devices easier to use and easier to read from than mobile phones because of their larger size. All of the participants had an internet connection at home to access internet technology.

The younger participants (under 75) reported using their smartphones to research information, play games and do online shopping, in addition to keeping in touch with family and friends. Touchscreen devices were used by 9/10 of participants.

Two participants reported using their mobile phone multiple times per day, seven used it daily and one participant (age 75) used it every other day.

All participants gave examples of activities that could be done on a mobile phone and therefore demonstrated good awareness of mobile technology and appreciated its usefulness regardless of how much they were using it. Words such as 'browsing' were used regularly.

"I use an iPad to read and send emails and do online shopping. I use internet sites like YouTube to look at songs and song layouts for the guitar." (Age 65).

"I want to be able to use technology to send emails to people that I don't see so often and keep in touch with them twice a year." (Age 75).

Three participants (age 81, 70 and 63) volunteered that they use a large touchscreen device to register on arrival for appointments at the doctor's surgery or for hospital appointments. Two participants (age 81 and 70) also reported that they ordered their prescriptions online.

"I do always order my prescriptions over the internet, which works well. You just register to the site and it's all done, really easy and much better than messing about with the surgery." (Age 81).

No participants reported problems with charging devices, although one participant (age 83) stated that they sometimes forget and cannot always find the charging cable.

"Do you have any devices that need to be kept charged?"

"No problems. I have a system. The charger is always plugged in in the same place and I charge it every night, overnight." (Age 70).

Positive attitudes were expressed toward technology that they were already using and in one case (age 81) there was positive enthusiasm; others were more pragmatic.

"Do you enjoy using touch-screen devices?"

"Yes, it keeps me sane." (Age 81).

"Do you enjoy using touch-screen devices?"

"I neither enjoy it or don't enjoy it. I just do it. They are a helpful tool for accessing so much extra knowledge, the knowledge and the access is the enjoyable bit." (Age 65).

Eight out of ten participants said that they found their mobile devices easy to interact with in terms of reading and seeing. One participant said they found it 'okay' and would enlarge the text if it was too small. One said that they sometimes found it hard to read and see toward the end of the day if their eyes were tired.

Preference for simplicity & familiarity

A preference for simplicity was expressed by the participants, with a slight reluctance toward new or unfamiliar technology.

"Simplicity is key." (Age 75).

One participant used a tablet every day and owned a mobile feature phone which she rarely used. She stated that she did not really want a mobile phone but when visiting her daughter, it is useful to update her once she has changed trains.

"I can't really get on with it. I want an idiot proof phone with no rigmarole, you just press the buttons and speak to someone." (Age 83).

Another participant identified that her son can become frustrated with her use of mobile technology saying:

"You don't even press the buttons to see what happens." (Age 75).

If I or a colleague wanted to ask you more questions like this would that be OK? How could we contact you?

"Yes. I would do user testing but I wouldn't be very good at it and I would feel overly worried about doing the wrong thing and looking stupid." (Age 70).

In summary, there was a perception among participants that they might not be able to manage a new piece of technology. However, 9/10 gave specific examples of a new technology that they had learned to use. The remaining participant said that he learned to use new technology all the time but did not give a specific example.

Table 3. Learning experiences and training material preferences.

Participant	Age	When was the last time you had to learn how to use a new piece of electronic equipment?	How did you learn how to use it?	Which of these do you think would be the most effective way of learning how to use something: a printed leaflet, a video to watch on the internet, an audio recording that you dial into on the phone?	How do you think you learn and remember new things best: from the TV, from speaking to people, from reading about them?
1	63	Taking temperature readings on a fridge at work (in a hospital)	Someone showed her what to do then she repeated it	Video with a leaflet to back it up. Audio can be too fast and it is harder to go back to.	Not TV, more from speaking to people, their words and expressions and how they relate to you. Then reading
2	65	All the time. Not very good with learning how to use most electronic things	His wife usually shows him how to use things	Would prefer to be shown by a real person 1:1, but failing that, a video on the internet would be fine.	Talking to people
3	65	Amazon Firestick for the TV	Followed the instructions on the screen	All of them. Hearing, but also seeing the written stuff	Leaflet, you can refer back to it easily, like anything visual but not really audio so much. Of course, it depends on the quality of the writing
4	70	Tablet	Learned to use it herself as she went along	A mixture. Anything too long gets boring and you switch off	Video, because it is visual and audio
5	70	Smart phone	Son showed him how to use it. If it is not obvious, he will write a crib sheet and keep it in a file	Reading as you can go back to it	Video on YouTube
6	71	Mobile phone	Learned by doing. Just pressing the buttons and following the instructions. Finds it easiest if shown by someone or watching a video and copying, not by reading.	By seeing them, speaking to people and being shown. A live demonstration or video	Leaflet. The information should be short; read something then do it. Gets bored easily watching screens and is not comfortable sitting and concentrating for long periods of time. Would switch off after 20–30 min
7	75	Catch up TV	Son taught her and asked her questions, it was quite interactive, she had to do it herself with his guidance	All three. Takes things in that interest her.	Video
8	81	Virtual reality headset	Plugged it in and followed the instructions	TV and speaking to people and verbal online searches	Video on YouTube
9	83	Washing machine	Read the leaflet that come with it	Reading	Leaflet, because it has pictures
10	83	Laptop	Tried to do a course but it was cancelled. Daughter said she should practice and learn by doing but she gave up and uses a tablet now instead	Reading	A recording on the phone. A leaflet can be overwhelming

One participant expressed enthusiasm at the idea of being asked to use a new electronic medical device:

If your doctor were to suggest you use an electronic medical device as part of some treatment you were getting, how do you think that would make you feel? Excited or nervous? "I wouldn't be nervous, I would just get on with it. I love a gadget I do." (Age 81).

Learning preferences & training materials

When asked to recall something that the participants had learnt the previous day. Most recalled an experience or something that had given them a sense of achievement, for example, they had researched something online to answer a question that they had, had learnt how to do something new or solved a problem that they had.

We explored how participants like to learn and remember new things best: comparing video/TV, written materials, recorded audio materials or speaking to people. Video was the preferred option of 6/10 of the participants for receiving learning/training backed up by simple written instructions such as a leaflet (Table 3). Three of the ten participants preferred a leaflet and one preferred a recorded message.

“How do you think you learn and remember new things best: from the TV, from speaking to people, from reading about them. . . ?”

“From the TV and speaking to people and if I want to know more I Google it. Specifically, I like to talk to Google ‘Google, can you tell me. . . ?’” (Age 81).

“Which of these do you think would be most effective as a way of learning how to use something: a printed leaflet, a video to watch on the internet, an audio recording that you dial into on the telephone?”

“I like to have a leaflet. Leaflets are easy to refer back to, I like anything visual but not really audio so much. Of course, it depends on the quality of the writing.” (Age 65).

“When was the last time you had to learn how to use a new piece of electrical or electronic equipment (e.g., washing machine, TV, telephone)? How did you learn how to use it (e.g., read instructions, my daughter helped me)?”

“I bought a virtual reality headset, a cheap one that plugs into your phone. That’s all you had to do, just plug it in, it was easy, but I didn’t get on with it, it made me feel sick, so I gave it to my grandson because he was interested. Also, I bought an android box to connect to the TV to access and watch more programs. You get free Sky (TV). It was very simple to use, just connected it to the TV via the HDMI”. (Age 81).

“Do you read magazines? How much of the written words do you read? How many of the picture captions do you look at? Do you go for all the pictures first, then look at writing afterward?”

“I often skim read information, for example if something pops up on the tablet I just read a bit or delete it and then something happens, and I think ‘oh dear, I’ve done something wrong there.’” (Age 70).

“When was the last time you had to learn how to use a new piece of electrical or electronic equipment (e.g., washing machine, TV, telephone)? How did you learn how to use it (e.g., read instructions, my daughter helped me)?”

Catch up TV.

“My son taught me and asked me questions like, ‘Can you see the box at the top?’ It was quite interactive, I had to do it myself with his guidance.” (Age 75).

This participant further reported that learning to use a tablet device was more difficult.

Authority

We asked the participants how they would feel about using a new electronic medical device if asked to do so by a doctor in order to understand their attitudes and acceptance toward new technology in a healthcare setting. When asked how they would feel about being given a new device to use by their doctor, all of the participants expressed reluctant acceptance, but they all said that they would do so if requested by a doctor. In fact, 8/10 of the participants had been given an electronic medical device to use by the doctor (blood pressure monitors for 7/10 participants and/or blood glucose meters for 2/10 participants; Table 4). Only one participant reported any difficulties in using a device provided by their doctor.

“If your doctor were to suggest you use an electronic medical device as part of some treatment you were getting, how do you think that would make you feel? Excited or nervous?”

“Not very good at stuff like that, would probably think, oh, that’s a bit of a bother, oh gosh it’s another thing to do but if it was all automatic then it might be easier in some ways.” (Age 75).

Recorded voice messages

The participants were asked if they had experienced using interacting with recorded voice messages, for example, those requiring user-response to questions or options by pressing numbers on a telephone keypad. This question elicited a strong response. The feedback was negative, with all of the participants not enjoying the process and experiencing frustration. However, all participants expressed a degree of resignation and acceptance, that they are a necessary part of everyday life.

Remote appointments

Most participants had experienced remote appointments with doctors and were very positive about them, especially for ongoing issues, simple prescriptions or to obtain advice for someone that they were caring for. Remote (or virtual) appointments can be achieved via telephone or video calling without the patient having to visit the surgery or clinic in person. Remote appointments were cited to have benefits including not being reliant on using buses or

Table 4. Experience of and feelings about being given an electronic device by doctor.

Participant	Age	Has a doctor ever given you an electronic device to use?	What was the device?	Did you have any problems	If your doctor were to suggest you use an electronic device as part of some treatment, how would you feel?
1	63	No	–	–	"Fine."
2	65	Yes	Blood pressure monitor	No	"Would have no problem."
3	65	Yes	Blood pressure monitor	No	"Neither. Would just get on with it. Just a part of life."
4	70	Yes	Blood pressure monitor	No	"Don't really know. Would worry about getting it wrong or doing something she shouldn't."
5	70	Yes	Blood pressure monitor	No	"Fine."
6	71	Yes	Blood pressure monitor	No	"Would be nervous at first but would just get on with it and get used to it if the doctor wanted it."
7	75	Yes	Blood glucose meter	Yes	"Would probably think, oh, that's a bit of a bother, oh gosh it's another thing to do but if it was all automatic then it might be easier in some ways."
8	81	Yes	Blood pressure monitor, blood glucose meter	No	"Wouldn't be nervous, would just get on with it. Loves a gadget."
9	83	Yes	Blood pressure monitor	No	"Would accept it and use it as trusts the doctor."
10	83	No	–	–	"Would probably say okay, might feel a bit apprehensive about it at first but would just get on with it."

obtaining transportation from friends and family or having to go out in bad weather which could be unpleasant or result in a fall or illness. Most also expressed an opinion that although remote appointments were very useful, there were some situations in which it would be better to see a doctor face to face, for example in complex or very personal cases or where an examination might be required.

Discussion

The younger group of older individuals had similar experiences and attitudes toward touchscreen devices as the rest of the population. This group tended to have a positive attitude toward technology. They were familiar with smartphones and the fact that they already use them daily for a variety of purposes is likely to make them accept them for use in a clinical trial. The possible trend from smartphone use by the younger participants to feature phone use by the oldest participants might reflect an acceptance of new technology by the younger group and the oldest group sticking with what they know. This tendency might become increasingly relevant as the population ages and people live longer. Anderson *et al.* [5] also reported lower smartphone ownership among the most elderly groups, with ownership rates among US adults of around 59 and 49% in 65–69 year olds and 70–74 year olds, respectively, with rates dropping for ages 75 and older.

Based on the finding that 7/10 of participants were already using tablet devices and were familiar with them and how they worked, tablets could be considered as the preferred mode of delivery of ePRO for this population. In fact, Byrom *et al.* observed in a study of 155 subjects using 'bring your own device' for ePRO assessment that a higher proportion of subjects aged over 60 years (60–69 years) presented with a tablet-sized device compared with younger age cohorts (38 vs 10 and 9% for 60–69, 41–60 and 19–40 years, respectively) [6]. In addition, Subramanyam *et al.* [7] identified that older users may find holding small devices difficult, the font too small to read on screen and smaller keys and navigation controls difficult to operate. According to 2017 and 2019 Ofcom reports on adults' media use and attitudes, older people are embracing smart and social technology [8,9].

Another metric of technology acceptability in older people is to study whether they adhere to the data completion scheduled requested. An analysis of 196 clinical trials using a smartphone or tablet device to collect ePRO data conducted by CRF Health (now Signant Health) indicated that older trial participants are among the most compliant with mobile device use for completing ePRO instruments and diaries (data on file, CRF Health, London, UK). Overall pooled ePRO completion compliance was 84.1% but was highest in older users (88.0%) and carers of infants (93.2%).

A preference for simplicity was expressed, with a slight reluctance toward new or unfamiliar technology. There was a perception among those studied in our sample that they may not be able to manage a new piece of technology. Mitzner *et al.* [10] identified three major dislikes of technology by older people: inconvenience (e.g., unwanted calls, connection costs, cognitive load in mobile device operation, inconvenience to carry the device on their person, etc.), complexity of features design (e.g., camera use and photo gallery management on mobile phones, numbers of options and settings) and security and reliability (e.g., lack of trust with the use of personal data). Other studies identify performance anxiety as a barrier to technology use among older users [11].

Based on this concern that older people can lack confidence with technology, sponsors and sites should consider the importance of and format of training for older users. Familiarization with the technology and materials is hugely important to reduce the potential of technology anxiety/confidence issues impacting the use of a mobile application by older people within a clinical trial. This was underlined by a usability study we undertook. While some of the participants found a specific task challenging initially, the second time they came to it, it was easy for them. This performance anxiety can be mitigated by careful and effective training, including hands-on use of the device. In particular, developing a training solution that enables hands-on practice of common activities and enabling these to be performed/practiced more than once in the presence of the study site personnel is recommended to ensure that an older user will have sufficient confidence and know-how to use the tool at home in an unsupervised setting. The ability to proactively monitor ePRO completion rates for each trial participant will enable early detection of participants who may require additional training assistance with getting started once away from the study site. Real-time compliance reports and automated alerts to study sites and monitors can facilitate this proactive approach. In addition, sponsors might consider the benefits of 'bring your own device' to run study apps in clinical studies involving older people. The existing acceptance, ability and familiarity with their personal device could be enough to overcome the main perceived barrier to ePRO in this group. Typically, users will self-select a device that has good usability to meet their individual requirements.

When answering questions relating to training and learning, all interviewees talked about their desire to learn being related to having an interest in things. When asked to recall something that the participants had learnt on the previous day, most recalled an experience or something that had given them a sense of achievement. In other research, Conci *et al.* [12] found that once the initial resistance to learning a new technology was overcome, older users found 'enjoying the experience' of using the mobile phone motivating. Their study also identified that older users experienced 'heightened self-esteem' when they could perform certain tasks and useful activities by themselves such as paying bills, shopping or navigating around for information. This questions the possibility that low-level gamification may be able to enable an association with this sense of achievement or self-esteem through successful usage of the mobile technology. For example, providing a motivational 'well done' message after completion of a scheduled patient reported outcome measure (PROM) or indicating how many assessments have been successfully completed in the previous week when using a daily diary.

In our study, all users said they would be prepared to use a new technology if requested by their physician. We believe that overcoming the performance anxiety associated with learning a new technology through effective training is one important factor, but also understanding the importance of the data to the clinical research conducted by their physician may provide an additional motivational factor. Providing value to the older user through the data, such as understanding the enhanced monitoring associated with remote data capture and provision of lay person summaries may also be motivational factors.

Our study has identified the importance of training, especially in this cohort. The usability study identified that increased confidence and reduced concern in using a smartphone app results from practicing use. Lam and Chung [13] also showed that providing instruction to older adults on how to use a mobile computer device can reduce negative feelings toward its use along with barriers such as the lack of technical and software skills. In our study, a preference for learning interactively, videos and leaflets was expressed. We also recommend that training for older people enables the ability to practice and repeat to gain confidence.

Conclusion

Evidence, information and statistics on the use of smartphone and mobile technology are readily available. This research has, in addition, provided useful and interesting qualitative insights to older people's experiences and attitudes toward mobile technology in the context of mobile technology use in clinical trials, in particular for collection of ePRO data. This research has limitations which mean that the findings and conclusions cannot necessarily be generalized across all older populations. This study included only a very small number of participants,

all of whom were white British, middle class and had English as their first language. It would be of value to extend this research to study a larger and more diverse population. The participants in this study gave responses based on their experiences and attitudes toward mobile technology, medical devices and electronic equipment in their everyday lives. They were not involved in a clinical trial. It is possible that the participant responses would be different if they were in a trial. However, we feel that these insights are generally transferrable to the clinical trial setting.

Summary points

- Clinical trial sponsors sometimes raise concerns about using electronic clinical outcome assessments in older populations. However, our studies found that these older users were familiar with mobile technology and were using it regularly in their day-to-day lives.
- There is a key element that runs through all the themes and that is the importance of training. Appropriate training on the device and at the clinical trial sites is needed to overcome uncertainty and lack of familiarity with new technology and to support and guide older people sufficiently. The challenge is not the ability of older users but more related to overcoming potential performance anxiety and appreciating that this may manifest itself in a lack of confidence to learn by trial and error. Ensuring training is engaging, enables practice on the device and is backed up by a simple, written reference is recommended.
- In addition to training, attention should always be paid (no matter what the age group) to the importance of clear commands, options and explanations to avoid any confusion or frustration. Terminology that is used generally in clinical trials and that is specific to a trial should be clearly explained at the beginning.

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