

Nurses' Use of iPads in Home Care—What Does It Mean to Patients?

A Qualitative Study

Dorte Lindstrøm Vilstrup, MHS, Esben Elholm Madsen, MSSc, Christl Fandt Hansen, MA, Gitte Wind, PhD

Although the use of technology is growing, little is known about how patients perceive technology in the form of tools used by health professionals. The prevailing view in the literature is that technology is cold, compared with the warm hands of nurses, but research regarding nurses' use of technology such as tablets is scarce. Even scarcer is research on how patients perceive the use of technological tools. This study examines patients' perspectives on the use of iPads by home care nurses. Semistructured interviews were conducted with seven participants who were receiving home care in Denmark, aged 62 to 90 years, with different backgrounds and experiences with technology. Participants viewed nurses' use of iPads as an everyday occurrence, reflecting societal growth in the use of technology, and some perceived it as a sign of professionalism with the potential to enhance care. Their perceptions varied somewhat according to their baseline knowledge and experience with the technology. Although nurses may view technology as cold, the findings suggest that patients have a slightly warmer view of it. More patient-centered research into the use of technology in healthcare is needed.

KEY WORDS: Home care nursing, iPad, Patient perspective, Tablets, Technology

Technology use in many forms is expanding rapidly in healthcare. Most research in the field is focused on telehealth,¹ and there has been minimal focus on technology tools used by health professionals, such as tablets.

Tablets are increasingly becoming a part of the daily work of nurses and other health professionals. They have the potential to save time, minimize adverse events, increase access to needed information, ensure timely and

accurate documentation, and be used as an entry key to the homes of elderly patients.

Some nurses link the presence of machinery and equipment to the dehumanization of their mission to care for patients.² Barnard and Sandelowski³ describe nurses as claiming professional ownership of the space between technology and the patient. Pols and Moser² describe a view that places “cold technology” and “warm hands” in opposition, with a related assumption of tension between a “paradigm of relation” and a “paradigm of control.”³ Research regarding the impact of technology on nurses and their daily work is limited,⁴ despite the fact that the use and influence of technology are increasing. Technology may have the potential to offer more creative and innovative ways to connect with patients and relatives; we have barely scratched the surface of using technology such as tablets in communication and information management.⁵

A literature review revealed scant evidence related to nurses' use of tablets from the perspective of patients. Multiple databases were searched, including CINAHL, PubMed, SocINDEX, Scopus, Joanna Briggs Institute, ProQuest, and PsycINFO. Words used in different combinations in Boolean AND/OR searches included nurse-patient relationship, professional-patient relations, patients' perspective, technology, iPad, iPad use, tablets, PDA, home care nursing, nurse, communication, relation, attitudes to computers, handheld computers, or portable computers. There were no limits on year of publication and study quality or type. Even though the search strategy was very broad, it located only a few studies, none of which addressed the research question at hand.

The aim of this study was to explore the perspectives of older care recipients on the use of iPads by home care nurses.

METHODS

We used a qualitative approach based on semistructured interviews. Data were collected between December 2014 and February 2015 by four researchers—three nurses and one occupational therapist—from the Metropolitan University College in Copenhagen. Interviews were conducted in the homes of participants living in a greater municipality of the Capital Region of Denmark, where nurses participated in a development project involving the mandatory use of iPads

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Corresponding author: Dorte Lindstrøm Vilstrup, MHS, Metropolitan University College, Tagensvej, 86 2200 Copenhagen, Denmark (dlv@phmetropol.dk).

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(Apple Computer, Cupertino, CA) as a tool in their daily work.⁶ The municipality employed 30 nurses, all of whom were involved in the project. They used iPads for multiple purposes, such as documenting, taking pictures, and ordering and dealing with medicines, as entry keys for the homes they visited, looking up and retrieving information, and the like. We did not assess the demographics of the nurses, nor do we know exactly how many different nurses were involved in the care of the patients we interviewed.

Participants

Inclusion criteria for interview participants were receiving home care nursing, no cognitive deficits, able to communicate, and at least 18 years old. The home care service affiliated with the municipal department of health and prevention recruited patients who met these criteria. After patients expressed interest in participating, the head home care nurse provided their contact information to the research team. A member of the research team then contacted potential participants by phone and provided details about the project. Seven of nine potential participants consented to participate in interviews. They included three women and four men between 60 and 92 years of age. All were retired; three lived alone, and four lived with a spouse.

Semistructured interviews were conducted in participants' homes. Researchers first asked participants about their own skills and experiences with using iPads. The participants were then asked about home care nurses' use of iPads. Questions pertained to their thoughts about how nurses used the tablet, nurses' skills at using the technology, variations in the ways different nurses used the iPad, and whether the use of an iPad had an impact on the nurse-patient relationship or influenced care in any way. Finally, participants had the opportunity to elaborate on other thoughts on the subject that might have occurred to them during the interview (Table 1).

Data Analysis

Interviews were digitally recorded and transcribed verbatim by the researcher conducting the interview and read thoroughly by the interviewer and another researcher. The organizing phase and interpretive process were conducted collaboratively by the research group by using Crabtree and Miller's template method.⁷ Data were entered into NVivo (QSR NVivo 10; QSR International, Doncaster, Victoria, Australia) using a code manual created on the basis of preexisting knowledge and group discussions, with codes being constantly revised throughout the analytic process. Codes were grouped into key areas from which themes emerged.

Ethics

The Danish Data Protection Agency and the Regional Ethics Committee on Biomedical Research (2015570011) granted approval for the study. All participants received

Table 1. Interview Guide for the Semistructured Interviews With Patients Receiving Home Care Nursing

Main Topic	Questions
Previous experiences with technology	Do you use an iPad/tablet, smartphone, or PC?
	If so, what do you use it for?
	If not, do you know anyone who does?
Home care nurse and iPad	When did you last have a visit from the home care nurse?
	Is it the same nurse every time?
	Why do you receive home care nursing?
	Did you notice whether the home care nurses used an iPad?
	If so, do you know what she used the iPad for?
Experiences regarding the presence of the iPad	What do you experience when the home care nurse uses the iPad?
	What happens? Examples? (eg, does it create a sense of safety? Does it solve problems?)
	Do you use it together? If so, for what?
	What are your feelings toward the home care nurses' use of iPad?
	Do you think the use affects your relationship with the home care nurse?
	Do you learn from it?
	Do you think the home care nurses are good at using the iPad?
Perspective	Do you have suggestions for the home care nurses' future use of the iPad?
	Do you have any other thoughts/considerations you would like to share?

All interviews began with information about the project, questions regarding patient characteristics, and formalities.

verbal and written information about the study and provided written informed consent. Pseudonyms are used throughout to protect patient confidentiality.

RESULTS

Three themes emerged from the empirical data: (1) an unremarkable event, (2) a symbol of professionalism, and (3) learning potential.

An Unremarkable Event

When participants were asked about home care nurses' use of iPads, most had little to say because they perceived the use of an iPad as unremarkable. They never talked about it in negative terms, and most participants concluded that the nurses' use of iPads was to be expected, given the increasing societal use of technology.

Harry explained, “It seems modern and very popular these days.” Participants also referred to the fact that “everybody uses it.” Oliver described societal use of technology by saying, “Everybody does it. All young people do it. Even the little kids... I have seen them use one at the age of 3. One can be quite impressed by the way they can use the iPad, and I ask them for advice.”

Even though they perceived the use of iPads as unremarkable, study participants had different backgrounds in terms of knowledge and understanding of iPads, which might have affected how they perceived the technology when home care nurses used it. Participants fell into three categories: super users, those with basic user skills, and those who were familiar with iPads but had not used one (Table 2).

Harry, a super user, referred to using successive iPad versions: “I had the two, the three, and now this is the four.” Furthermore, he explained that he used the iPad to control the volume on his TV and speakers everywhere in the house.

Sophia explained her more basic use this way: “We use it (the iPad) to go online and do our grocery shopping... Now, for example, while my husband is away, I ordered items from nemlig.com (an online convenience store), and I’ve had them (the groceries) delivered once, and it was perfect! The quality and price were good.” Anne was familiar with iPads but had never used one: “I don’t have one, and I told my son the other day, that if I hadn’t seen you use one, I wouldn’t know what we were talking about.” Anne had an old mobile phone, which she used only when she was out of town or hospitalized.

Participants’ perceptions of the use of iPads by nurses did not appear to depend on their baseline knowledge and experience. They all regarded the nurses’ use of iPads as a natural reflection of the societal growth of technology use.

A Symbol of Professionalism

iPads represented professionalism to participants who observed home care nurses using them. Sophia said, “Well, I just think it looks modern and professional. When she (the home care nurse) writes, it goes directly into the system.” She subsequently elaborated, “I think it’s pretty professional. It seems as if things are under control, I must admit that. I believe that it is better than writing Post-it’s and such... It feels reassuring.”

However, participants had very different experiences of how and when iPads were used by home care nurses, according to the extent to which nurses used iPads in view of the participants. Some participants experienced the nurses as regularly using the tablets. As Sophia stated, “Those who have them (iPads) use them diligently... and tell me what they have written, so there’s nothing wrong there. It’s really good! I think.” She also stated, “I pay attention to how much they use it. Whether it is used all the time, or whether it is used only when they have to.”

Other participants described home care nurses as using iPads less regularly and only for a shorter period. Harry explained, “It (the nurses’ use) is only a little, and it is usually when she is finished (with the treatment). Sometimes she only writes something on paper, and other times she writes it (on the iPad). It is very different among the nurses.” Still other participants described nurses as rarely using iPads. Anne said, “They (the home care nurses) use the iPad only when they have to take pictures, so once every 3 weeks.”

Participants had different baseline knowledge and experience related to iPads and also experienced home care nurses’ use of the tablet differently; these findings may be related. The objective of Table 2 is to portray any relationships visually.

Harry and Oliver were super users and perceived home care nurses as using the iPad less often and for shorter periods, so did John, Sophia, and Jack, who were categorized as basic users. However, Lily and Anne did not use a tablet themselves, and they perceived the nurses as rarely using one. This may indicate that the amount of attention that participants paid to the home care nurse’s use of this technology depended on their own experience with it.

Learning Potential

Participants perceived a potential for patient and nurse to learn with and from each other when an iPad is used in a care setting. Oliver described the home care nurse as learning something about the potential to optimize treatment and that they learned from one another by using the iPad. He explained how they used pictures on the iPad together: “Yes, I think so; she (the home care nurse) does. Also with how she puts on the bandage, no, I say it’s not so good, you do it like that; that bothers me. God, I never thought of it that way, so

Table 2. Relationship of Patient Baseline Experiences to Their Perceptions of How Home Care Nurses Used the iPad

	Patients’ Baseline Experience With iPads		
	Super User	Basic User	Familiar With iPads But Not a User
Patients’ perceptions of the extent to which nurses use the iPad	The home care nurse uses the iPad a lot	John, Sophia	
	The home care nurse uses the iPad to some extent	Harry, Oliver	Lily
	The home care nurse rarely uses the iPad		Anne

we learn from each other; we do.” Jack said that the nurse took pictures of his wound, with the purpose of sending them to the hospital. Sophia said, “The nurse writes (on the iPad), and when she is finished, she reads it to me... what she has written... and we decide whether we agree or not.”

Sophia also described letting the nurse document using the iPad as a matter of trust; however, she preferred collaborating with the nurse to experiences with home care nurses who used an iPad only in their cars after visits. Participants generally verbalized feelings of trust and safety about their care in connection with the use of iPads. They were more or less aware of the potential of iPads to improve care, and some said that home care nurses should use iPads more because they had the potential to optimize documentation, communication, and learning.

DISCUSSION

Our study focused on patients’ perspectives on the use of iPads by home care nurses. The results add to the sparse body of knowledge in the field. A major finding is that participants did not have any negative feelings toward nurses’ use of iPads. This is consistent with the only study we identified that is comparable in any way.⁸ Using semistructured interviews among 14 patients, Lee⁸ examined nurses’ use of PDAs in a hospital setting and found that the use of PDAs did not affect the patient-nurse relationship. However, the study was conducted in Taiwan, and differences in culture and the healthcare structure limit its comparability to our findings. Nevertheless, we include it here because it addresses the patient perspective on the use of technology using methods similar to ours and is the sole study we located in this area.

Lee⁸ also questioned the view within the nursing profession that technology is the cold opposite to warm hands.⁸ This perspective may arise from the profession and not the patients being cared for. This is obviously arguable, but it illuminates what researchers in the field of social and technology science have been arguing for years: one cannot separate technology and human beings. Technology is not deterministic, and according to Ihde,⁹ it is not merely an approach to the world; it creates a representation of the world. From this perspective, the patient-centered method used in this study is appropriate for assessing any impact of technology on relationships between health professionals and patients. Assuming that technology cannot be separated from the human perspective, other methods, such as field studies, would be desirable. It was very difficult for participants to articulate what the technology actually did when a nurse used an iPad during care. This may also be due to the fact that they generally were not directly involved in the use of the iPads.

Including more participants would have been desirable, but this did not occur despite several recruitment efforts. Two patients withdrew verbal consent to participate before

the interview because they did not feel they could contribute. It might also be the case that patients felt compromised when asked to talk about the practices of the home care nurses they depended on.

However, data from the seven participants did show redundancy, suggesting that saturation was reached. None of the participants expressed feelings, opinions, or perceptions that were not, to some degree, confirmed by others. The credibility of the study is supported by the fact that the research group developed the interview guide and principles for collecting data together and applied purposive sampling.¹⁰ The rigor of the study has been strict, as regards its dependability. In addition, we invited peer scrutiny, discussing the purpose, methods, and results several times in the research group and by the heads of the faculty.¹⁰ The involvement of multiple researchers in data collection and analysis of data limited confirmation bias.¹¹ It would have been desirable to include more information about the characteristics of the home care nurses, including their technological competencies, and how many different home care nurses each participant had. However, this study focused only on the perspectives of patients, who did not articulate any issues related to the home care nurses’ competencies.

A major benefit of this study is that it contributes to knowledge in a field we know very little about,¹² creating a new perspective and possibly inspiring further research to contribute to nursing knowledge about how technology functions when people need care. Future patient-centered research on technology in the space between nurses and patients will help nurses contribute to shaping the care system.¹³

CONCLUSION

Patients perceived technology, in the form of iPads, as a positive element in their home care, rather than as something that compromised their relationships with nurses. The perspective of the patients, who were either positive or indifferent toward the use of iPads, is in contrast to that reported in studies of nurses’ perspectives; this technology may therefore be seen as lukewarm, rather than cold. Future research should encompass the perspectives of both health professionals and patients on the use of technology, which can potentially lead to insights about how iPads can be used to improve shared learning in healthcare. There is a need for more research in the field, and this study offers clues as to its direction and method.

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