Connecting With Clinicians: Developing the 5-Min Digital Download to Advance Interpretive Description in Health-Care Research

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Abstract
The recruitment of health-care practitioners and their subsequent engagement in data collection is often a difficult and time-consuming task for research teams, especially in acute care settings. Yet clinical challenges require the experience and expertise of these clinical practitioners for the derivation of successful solutions. Innovative qualitative research techniques are emerging in an effort to involve diverse populations in research. To promote the participation of acute care clinicians in the design of a digital pediatric patient and family portal, a 5-Minute Digital Download (5MDD) tool was used. This article details the development of the 5MDD application, the results of the tool deployment in recruiting pediatric health-care practitioners, and the effectiveness of the method in supporting interpretive description research. With the encouraging results and an increasing need for acute care practitioner voices to be present in clinical digital health research, future direction and use of the 5MDD should be considered.

Keywords
interpretive description, qualitative evaluation, focus groups, methods in qualitative inquiry, conversation analysis

Introduction
Participant recruitment and resultant data collection are longstanding issues for qualitative researchers. This can be particularly evident when recruiting health-care practitioners for research (Flynn, Albrecht, & Scott, 2018; Hysong et al., 2013). In acute care health settings, recruitment efforts are often complicated by an unprecedented workload related to increasing patient acuity and other practice demands in these settings. With these challenges, traditional qualitative approaches such as extended semistructured interviews or focus groups become difficult to arrange and successfully populate (Broyles, Rodriguez, Price, Bayliss, & Sevick, 2011; Hysong et al., 2013), and yet for many clinical questions, the experience and expertise of clinical practitioners is essential in seeking solutions. The voices of these practitioners are especially needed in the development and implementation of digital health solutions (Tang, Lim, Mansfield, McLachlan, & Quan, 2018).

In order to promote the participation of health-care clinicians in the design of a pediatric patient and family portal for acute care use, a new approach to qualitative data collection was undertaken. Building on previous work done with video diary data collection (Jefferies, 2015; Noer, 2014) and customizable mobile applications (Do & Yamagata-Lynch, 2017), a 5-Minute Digital Download (5MDD) application was developed to maximize the interdisciplinary involvement of pediatric practitioners in a qualitative study situated in an acute care tertiary hospital.

Background
This work is part of an ongoing effort to involve diverse populations in research using innovative qualitative research techniques. Smartphones, tablets, and other mobile technologies are increasingly being used as data collection tools for both qualitative and quantitative studies (De Vecchi, Kenny, 1 College of Nursing, University of Saskatchewan, Saskatoon, Saskatchewan, Canada
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Dickson-Swift, & Kidd, 2017; Dimond, Fiesler, DiSalvo, Pelc, & Bruckman, 2012; Do & Yamagata-Lynch, 2017; Hort, 2017; Noer, 2014). De Vecchi, Kenny, Dickson-Swift, and Kidd (2017) used tablets to allow participants to create digital stories on mental health research as an innovative way to capture perspectives from both consumers and practitioners of these services. Researchers are also beginning to take the initiative in solving challenges related to data collection by designing their own mobile applications to support elicitation (Do & Yamagata-Lynch, 2017).

The ubiquitous presence of digital devices in many settings has created new opportunities to capture data but also caused researchers to reexamine elicitation processes. It is becoming more common for technology to be provided, or for participants to use applications downloaded on their own phones, to record audio or video spontaneously without the need of the researcher being present (Hort, 2017; Noer, 2014). This is a significant departure from traditional qualitative interview techniques whereby data collection is at a predetermined time and place, most typically conducted one-on-one (Brinkmann, 2018). It also raises questions about the data itself, as researchers grapple with the quality of these types of independent responses, in contrast to those that result from a session facilitated by a skilled interviewer (Roulston, 2010). The inherent nature of qualitative research to support rich explorations of participant views and experiences cannot be sacrificed in the pursuit of convenience and expediency that new technologies may afford. These innovations create questions related to rigor that must be addressed by skilled qualitative researchers (Morse, 2018; Palys & Atchison, 2012).

The choice of an innovative elicitation method must ultimately address research questions and serve the overarching methodology driving the study. In this case, the 5MDD tool was developed as a means to elicit essential data from pediatric health-care practitioners in the first phase of a multiyear study to design a shared portal for a new children’s hospital. Involving practitioners who work in acute care settings in research efforts, qualitative or otherwise, is often a difficult and time-consuming task. Increasing workplace demands driven by patient acuity, staffing, and other contextual factors have made participant recruitment increasingly difficult (Broyles et al., 2011; Hysong et al., 2013; Raymond, Profetto-McGrath, Myrick, & Strean, 2018). Researchers have reported that being present on the clinical unit and establishing a rapport with frontline staff contribute to successful recruitment of practitioners as participants (Flynn et al., 2018; Hysong et al., 2013). The recruitment of these practitioners is critically important in digital health research. The costs and disruption associated with the development and implementation of digital applications in health care have resulted in renewed efforts to maximize patient and practitioner adoption of new solutions. User-centered design and collaborative approaches are essential to these efforts to transition technology to practice (Tang et al., 2018).

Patient portals are one recent example of the integration of innovative technology to advance the quality of hospital care. The use of portals in pediatric inpatient settings is still very novel. Typically, these portals provide patients and/or their family caregivers with access to key health information during a hospitalization (Kelly, Hoonakker, & Dean, 2017; Runaas et al., 2017). In this study, a collaborative user-centered design approach is being applied to engage both pediatric practitioners and family members in the development of a portal.

The first phase of this study employed a qualitative interpretive description (ID) methodology guided by the following research question (Thorne, Kirkham, & MacDonald-Emes, 1997): What elements do family caregivers and practitioners identify as essential for inclusion in a plan of care portal? The purpose of this article is to describe the development and use of the 5MDD application as an innovative elicitation tool to support qualitative data collection in this initial study phase. The effectiveness of the technique in supporting an ID is also examined.

**Developing the 5MDD**

One of the primary drivers in the development of the 5MDD was the desire to create a technological solution for the improved collection and management of data in busy clinical settings. The tool was meant to entice not only research participants but also the clinical managers or gatekeepers of these settings to support and engage in a qualitative research process. The 5MDD was seen as a means to overcome existing constraints with more traditional modalities of data collection, which can act as a filter on participant numbers. This filtering occurs when willing individuals feel unable to resolve one or more of the constraints and so self-select out of participation in the data collection. The 5MDD was specifically designed to address two of the most common of these constraints: a need to prearrange participant and researcher availability and burdensome interview durations.

The design of the 5MDD application allowed health-care practitioner participants to engage in a data collection session hosted within their place of practice, as their own schedules permitted. No prior coordination with members of the research team was required, nor did practitioners have to attend the data collection sessions at a particular time. By limiting the scope and duration of the data collection conducted through the application, the deployment of the 5MDD was well received not only by practitioners but also by unit managers controlling access to these clinical settings. Ultimately, the download application proved to be an accessible and low-impact mechanism for effectively collecting participant responses in this acute care setting.

Prior to the full development of the initial version of the 5MDD application, the research team sought to understand whether the concept behind the proposed technological solution would be successful in practice. To that end, a series of pilot sessions were conducted to trial key features of the application. One of the priorities in the pilot was the crafting of the five questions that would comprise the download. Working from a semistructured interview guide devised for the more
traditional interview sessions included in the research design, the study team selected a focused question set to address key aspects of portal design and integration in the pediatric setting. A few minor adjustments were made to the phrasing of the questions after the first data collection session to support more fulsome responses from participants during the download, such as adding prompts to include examples. Prior to viewing Question 3, the participant was provided with a low-fidelity simulation of a patient portal demonstrating potential features and a mock-up user interface. The final question set for the download is included in Table 1.

During the pilot sessions, each question was delivered in printed format, rather than on-screen, and iPods were used to complete the recording; however, the core principle of digitally capturing answers to a small number of questions was present. The low-tech trial of the 5MDD concept was successful during the pilot sessions, as evidenced by participation levels, and the ongoing endorsement of unit managers. This work supported the decision to proceed with the programming of the 5MDD application.

To fully realize the intended benefits of the 5MDD, it was important not to introduce additional barriers to user participation in data collection in the application design. If, for example, the application or supporting hardware devices were difficult for participants to orient to, then usability could become yet another potential constraint on the data gathering process. In order to minimize the probability of this occurrence, the research team decided to use a platform that would likely be familiar to many participants.

The 5MDD application was developed to run on the Apple mobile operating system, with iPad tablets as the primary intended hardware platform. These devices are relatively low cost and common enough that many users have some existing familiarity, if not with the tablets, then with the similar smartphone design. The usability of the 5MDD was further enhanced by employing a simple interface, with minimal options and controls (see Figures 1 and 2). This design allowed users to focus on each question as it is asked and provided meaningful data in a short period of time. At this time, the application is designed for use on study tablets only. There was no cost to participants or to the clinical setting. Future use of the 5MDD application on personal devices could be considered; however, ensuring the secure and immediate transfer of data would need to be in place to facilitate this use.

The pilot sessions of the 5MDD exceeded expectations in terms of ease of collection and efficiencies in processing participant volunteers. The study team anticipated it would be challenging to recruit pediatric acute care practitioners in the workplace because of the demanding and unpredictable nature of their schedules. However, robust numbers of participants were successfully recruited using this approach. Members of the research team recorded the length of time it took participants to complete the download and compiled field notes that included details on common questions asked during the process, as well as what, if any, feedback was provided on completing the download upon exiting the session. In these reflections, members of the research team noted participants provided frequent positive verbal feedback as to the efficiency of the process, and several practitioners stated they had come to the session on the recommendation of a peer. The download sessions attracted a good diversity of pediatric practitioners during deployment.

A Day in the Deployment of the 5MDD

On every scheduled data collection day, members of the research team ensured they were present in the clinical setting for staff handover at morning shift change, with previous permission of the unit manager. This allowed a team member to remind practitioners about the study, promote the ease of participation, and personally extend an invitation to all those working in the setting that day. The download sessions were situated in accessible locations where staff could conveniently participate, often in a conference room on the inpatient unit involved in the data collection, and were well promoted in the week prior to the collection. Typically, more than one 5MDD station was set up in the room which enabled two participants at a time to engage in the interview downloads. The participants were spaced far enough from each other so as not to influence the recordings. There were no concerns expressed by the participants about co-recording in the same location noted in the research field notes, and researchers were instructed to ask participants about their level of comfort with this setup.

Upon arriving at the 5MDD, participants were asked to review the study consent form. Informed verbal consent was then obtained and recorded on the iPod devices, along with responses to a short series of demographic questions. A total of 49 practitioners participated in the 5MDD pilot sessions. Registered nurses (RNs) comprised the largest group (n = 31), and participants included one nurse practitioner, a unit manager, and two clinical nurse educators. Physicians were also well represented (n = 6) with pediatric residents and attendings contributing. A variety of other pediatric specialty practitioners also took the opportunity to attend one of the sessions, and the complete listing of all participants is included in Table 2. The experience of these interdisciplinary practitioners in pediatric care ranged from less than 1 to more than 30 years.

Table 1. Five-Minute Digital Download Questions for Practitioners.

| Q1 | What are the benefits of using technology for providing patient care in pediatrics? (Provide an example) |
| Q2 | What are the challenges of using technology for providing patient care in pediatrics? (Provide an example) |
| Q3 | What are your thoughts about patients and families being able to use a portal to access information during an admission? |
| Q4 | If family members had a portal to access information during their child’s hospital stay, what features would you recommend be included? |
| Q5 | Is there anything else you want to tell us about the use of technology or patient portals in providing care for patients and families in pediatrics? |
The 5MDD collection appeared to create a positive atmosphere, with many participants arriving before a scheduled break. This timing was not surprising given the food incentives offered to all study participants, and the research team ensured that their own staffing would be adequate to smoothly facilitate these unit break times. Given this preparation, there was
During these initial trials, members of the research team purposefully remained with participants as they completed their answers. This was done for two reasons, first to allow researchers an opportunity to observe the process itself and second to be able to provide supports or further interview prompts if needed during the download. Partnered participation, and resultant influence on data quality, is one of the elements of the 5MDD that is being carefully examined as the use of this application is advanced. It is these kinds of considerations that must be undertaken to determine whether this elicitation method will be useful as a tool in this ID or other similar studies.

With the planned ongoing use of the 5MDD, further formal evaluation is being considered and may include a touch-screen tablet survey to provide additional data specifically regarding this elicitation method. The usefulness of the 5MDD as not only a data collection method but as a means to introduce a clinical research topic in an acute care setting and act as a recruitment tool is under further review by the research team.

Discussion

Trying to capitalize on breaks in the workday to engage acute care clinicians in focus groups, or lengthy semistructured interviews, is no longer feasible in many institutions. Faced with the challenge of recruiting pediatric practitioners in this study, a new approach was used to support more efficient qualitative data collection still capable of yielding meaningful results. The result was the deployment of the 5MDD, a technology-facilitated, intensely focused, semistructured interview. Upon an initial review of the 5MDD transcripts, the research team had determined the practitioners were able to provide responses with enough detail and description to support many of the user-centered objectives typically employed in collaborative technology design. The study team also wanted to examine how the elicitation method supported the planned ID.

ID was designed as a pragmatic means to overcome some of the limitations of established qualitative methods and traditions (Thorne et al., 1997). In particular, the method was purposefully proposed as a way for researchers to address specific issues within the context of their discipline and, perhaps most importantly, to deliver meaningful and relevant applied solutions to those problems (Thorne, 2016). Owing to the pragmatic and applied focus of the method, it is perhaps not surprising

| Characteristic              | n  | %  |
|----------------------------|----|----|
| **Years in practice**      |    |    |
| ≤10                        | 33 | 67 |
| 11–20                      | 11 | 23 |
| 21–30                      | 1  | 2  |
| ≥31                        | 4  | 8  |
| **Years in pediatrics**    |    |    |
| ≤10                        | 34 | 70 |
| 11–20                      | 12 | 24 |
| 21–30                      | 2  | 4  |
| ≥31                        | 1  | 2  |
| **Age (years)**            |    |    |
| 20–30                      | 20 | 41 |
| 31–40                      | 16 | 33 |
| 41–50                      | 9  | 18 |
| 51–60                      | 3  | 6  |
| ≥61                        | 1  | 2  |
| **Gender**                 |    |    |
| Female                     | 44 | 90 |
| Male                       | 5  | 10 |
| **Occupation of practitioner** |  |    |
| Attending physician        | 3  | 6  |
| Continuing care associate  | 1  | 2  |
| Pharmacist                 | 1  | 2  |
| Registered nurse           | 31 | 64 |
| Resident physician         | 3  | 6  |
| Respiratory therapist      | 5  | 10 |
| Speech language pathologist| 1  | 2  |
| Social worker              | 1  | 2  |
| Unit support personnel     | 3  | 6  |

Note. n = 49.

minimal delay between participants enrolling and subsequently completing the 5MDD. This efficiency was appreciated by the unit managers, who noted, in personal communication with the research team, that staff productivity had not appeared to be hampered by the research.

The study team recorded the time it took each participant to move through the download process and completed field notes regarding commonly asked questions or comments made during data collection, including when participants were exiting the experience, with a particular interest in their demeanor or parting comments. These observations led to small refinements during the collections, for example, the addition of the prompts to provide examples for the first two download questions, as previously noted. During these initial trials, members of the research team simply reprinted the question sheets during the data collection day to facilitate needed changes such as these quickly. The addition of the prompts, in this case, seemed to improve the flow of the download responses. Other minor adjustments included printing additional consent forms for waiting participants to review and ensuring enough team members to support the download stations, so that someone could be available to both welcome and conclude the experience with each participant.

Participant download times ranged from 3 to 9 min with the mean time consistent with the method’s nomenclature at 5 min and 27 s. A review of session field notes revealed consistent positive verbal feedback provided to the research team as participants completed the download and left their session. In particular, many participants commented on the ease of the process and expressed surprise that it really did only take 5 min. Others noted, they would be sending colleagues along to the session, and there were expressions of gratitude for the opportunity to share thoughts on use of technology in the care environment. This positivity also seemed to create a willingness for participants to sign up for future data collection opportunities including both longer interview sessions and focus groups.

Table 2. Demographic Table of Practitioners.

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that even from its earliest iterations, exploring alternative means of data collection was supported, when appropriate (Thorne et al., 1997). The originators of ID believed that “the judicious application of a range of data sources can add considerable strength to the usual data sources of interviews and observations for the purposes of generating practice knowledge for nursing” (Thorne et al., 1997, p. 174). In subsequent years, the permission inherent in ID to overcome some previously imposed traditional qualitative boundaries has resulted in numerous applied solutions and significant contributions to nursing knowledge. Thorne (2016) has continued to publish on ID and encourages the use of innovative techniques so long as an alignment is maintained between the approach, research question, and “disciplinary knowledge objectives” (p. 149).

This alignment was a primary focus during the overall research design of this study, which includes multiple phases over several years. The use of the 5MDD is one of several planned methods of data collection being utilized in the initial study phase. The decision to begin with the 5MDD was purposeful. The proposal of the use of this efficient data collection method facilitated our presence on the acute care units and created opportunities for recruitment to other planned data events. In all, this study phase will employ the 5MDD sessions, longer more traditional semistructured interviews with RN participants, focus groups comprised of practitioners and family members, and possibly the use of what Thorne (2016) has termed the thoughtful practitioner in a review of the emerging description. The thoughtful practitioner or clinician is an expert in the phenomenon under study who finds the presented interpretation plausible and can comment on the new insights included within the description (Thorne, 2016).

The full data collection process for Phase 1 of this study is still being completed. As recommended in ID, analysis of the data is an ongoing process that occurs simultaneously throughout the data collection process and will move into final stages once data collection is concluded (Thorne, 2016). The planned use of this suite of data collection methods provided assurances to the study team to support the introduction of the novel 5MDD application. The researchers established a planned triangulation of known data collection tools in the study design creating an opportunity for an innovative elicitation method to be piloted. The use of varied data sources is a standard approach to avoid the “epistemological traps” (Thorne, 2016, p. 94) that can result with a reliance on one source alone.

Each of these methods is meant to contribute to elements that Thorne (2016) has identified as ways to enhance quality in data collection. Noting that the process is so much more than just questions and answers, Thorne (2016) has encouraged researchers to “build rapport . . . to elicit depth of detail and clarification of threads within the account, and to foster elaboration, clarification, and even correction of . . . initial understandings and interpretations” (p. 140).

In this study, the 5MDD has been useful in aiding the research team to establish a positive presence in the acute care pediatric setting in question. Positive reactions from practitioner participants and ongoing communication with unit administrators have supported this research to continue with their significant responses in signing up to receive information about participating in other data collection sessions. These additional sessions consisting of longer interviews and focus groups will support the further exploration and clarification of detail obtained in the 5MDD, and the use of the thoughtful practitioner, as the interpretation unfolds, will provide another opportunity to direct or reframe initial understandings. For this work, interdisciplinary thoughtful or expert practitioners in both nursing and computer science will be sought as a means to not only check emerging interpretations but to bridge disciplinary knowledge and unify priorities in the design of plan of care patient portal.

The expanded use of the 5MDD is under consideration. There is potential for the use of the application to significantly increase the number of study participants if independent download stations are established in secure locations in the acute care setting. This extension would be similar to the work of Hort (2017) who has also explored the use of technology to increase the number of participants in qualitative research while still maintaining meaningful results. Hort (2017) had participants who use applications on electronic devices to record, capture, and log their writing process. The researcher was not present during the process, and yet she found the method did provide rich accounts of writing (Hort, 2017). For now, the 5MDD will continue to be used with the support of the research team members, but a comparison of partnered and independent download collections is planned in the ongoing development of this application.

Further exploration of the use of the 5MDD as a means to access and establish rapport on an acute care unit, and ultimately to recruit participants, is also warranted. The use of the application has seemed to demonstrate a valuing of practitioners’ time and the demands of the setting. Respecting these needs and finding a way to minimize disruption are among the successful strategies employed by other researchers looking to recruit health-care practitioners (Flynn et al., 2018; Hysong et al., 2013). In the case of this study, many of the practitioners who had participated in a 5MDD went on to join more involved data collection sessions conducted outside of their work hours.

**Technical Specifications and Future Development**

Building on the promising results of the pilot work, a feature-complete first version 1 of the 5MDD was developed. The 5MDD v1 is a two-part application, encompassing an administrative interface that allows for the creation and management of question sets and the user-facing application for data collection. Of these two components, the majority of the development effort was invested in the end-user application.

When individuals interact with the 5MDD application, they are first offered an opportunity to affirm their consent via voice recording. Presuming that the participant consents, they are presented with any needed demographic prompts, and then each of the five research questions.
The participant simply reads each question and then presses the microphone icon to begin recording their response. Once all five questions have been answered, the participant indicates they are complete by pressing a finalization button. This returns the application to the starting screen, where it is ready to be used again by the next participant.

Administration of question sets is a necessary part of the overall 5MDD; without some administrative capacity, there would be no content to present to users. However, for v1 of the application, development work on the “back end” of the application was intentionally minimized, as users would never be confronted with that portion of the application, and so it would not affect their experience or engagement with the technology. However, a rudimentary interface to allow the research team to create and manage the question sets was created.

For sake of ease, the 5MDD application was configured to use Google Sheets, an online spreadsheet program, to construct the question sets. This simple solution allows researchers to use a single-sheet document to enter both demographic and research questions. The 5MDD application connects to the Google document and downloads the questions to be displayed on the screen. In order to ensure that participant privacy is maintained, the transfer of data is one way, with responses remaining securely on the device.

The 5MDD (v1) has purposefully limited functionality but is full-featured enough to act as a stand-alone data collection tool. This version does not require the active participation of a research team member or supplementary printed materials during the collection. Therefore, v1 will allow the research team to carry out the planned comparison between supervised and independent practitioner downloads.

While more advanced functionality has been planned, it has not yet been implemented. Once 5MDD (v1) has been sufficiently tested and refined, further capabilities can be introduced. This iterative approach to development ensures that the research team is able to trial each release and verify its effectiveness. From a development perspective, this will increase the opportunity for defects or problematic interface features to be identified and corrected. It will also allow the application designers to refine and enhance features that are well received.

The first of these planned “advanced” features is the auto-transcription of participant responses in real time. While this functionality will not affect the participant experience, it may greatly reduce the workload on research teams in analyzing 5MDD outputs. In order to establish the validity of this feature, a comprehensive comparison will be conducted between the voice-to-text auto-transcription and downloads processed using traditional transcription services.

Enhancements and improvements to the user experience of the application will be derived from user input, following principles consistent with user-centered design. Consenting participants may be observed using the application and asked to report on their experiences engaging with the 5MDD. This feedback will inform the development team about where further refinements may be required.

Conclusion

As technology becomes ever more present in our lives, the use of these tools in supporting innovative elicitation methods continues to expand. Faced with significant challenges in recruiting acute care pediatric practitioners, members of this study team worked to develop the 5MDD as a data collection solution. The successful recruitment and data collection from a number of interdisciplinary pediatric practitioners during the 5MDD pilot sessions provided the opportunity to develop a fully functional 5MDD application.

This tool not only seemed to address noted potential barriers to practitioner participation in qualitative research, such as scheduling interviews and length of time required, but also yielded additional benefits for this particular study. Likely, the single most significant of these was the efficiency and flexibility of the 5MDD. Promoting this to unit managers was seen as a positive response to the needs of the acute care area and facilitated access to the setting, when concerns about hosting focus groups or longer interview sessions were initially expressed. There were additional benefits related to establishing a connection with future users of the planned technology being developed in this research. When the 5MDD application is deployed on tablet devices, research participants will have the experience of using the same technology that will eventually support the patient portal to share their thoughts on how that portal should function. In informatics research and development, the ability to familiarize health-care practitioners with devices through positive interactions is inherently beneficial in both development and eventual deployment.

In terms of providing quality data to support the planned ID in this study phase, the 5MDD has proven to be a valuable asset. By ensuring the download questions provided a focused opportunity for practitioners to share their thoughts on priorities in portal development, a critical foundation of user data was established to begin to address the primary research question for this study phase. This included information on portal features as well as important insights on practitioner experiences and feelings regarding the use of technology in their practice settings. Further, the 5MDD facilitated the introduction of the research topic into the setting and created opportunities to engage practitioners in other data collection sessions. While it is unlikely the 5MDD would be employed as the only elicitation method in a study design, there is much to explore about its value as a joint tool.

The next step for the 5MDD is to evaluate the fully operational v1 application through ongoing participant use. This will include an examination of data quality between partnered and independent download sessions. In addition, as work progresses on version 2, there is the potential to improve the turnaround time from interview to transcription through an auto-transcription voice to text feature. Further opportunities
for the organization and management of the recorded data are also being explored.

By embracing the principles of user-centered design, the 5MDD allowed a range of interdisciplinary practitioners to share their thoughts and expertise on the development of a new technology for their practice area. With the ever-increasing digital demands on health-care practitioners, having an effective and efficient way to recruit participants and collect end-user data is becoming more critical. For this interdisciplinary study team, comprising both nursing and computer science perspectives, the 5MDD does not only represent an opportunity to reach potential users of future technology, it is a demonstration of the innovation that results when nontraditional collaborations are pursued and realized.

Authors’ Note
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