


From the Patient's Perspective: Orthopedic Virtual Rounds

Journal of Patient Experience
Volume 8: 1-5
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/23743735211065269
journals.sagepub.com/home/jpx


Tonya Moyses, MSN, RN¹ , Erica Yates, MSN APRN, ACNS-BC, CRRN, Gero-BC¹, Virgilio Fajardo, MSN/MBA-HCM, RN, CMSRN¹, Jordan Glorioso-Wible, BSN, RN, CMSRN¹, Jonathan L Schaffer, MD, MBA¹, Lukas M Nystrom, MD¹, and Sandra L Siedlecki, PhD, RN, APRN-CNS, FAAN¹

Abstract

Interdisciplinary rounding on hospital inpatients is an integral part of providing high-quality, safe patient care. As orthopedic groups have grown and geographic coverage increased, surgeons are challenged to make in-person rounds on their patients every day given time constraints and physical distances. Virtual technology is being used in multiple healthcare settings to provide patients with the opportunity to connect with health care professionals when in-person options are not available. The purpose of this study was to explore the patient experience of virtual inpatient rounding. Using digital communication technology, virtual rounds were conducted by having the surgeon connect via their mobile device or laptop to the nursing unit's communication tablet. Twenty-seven patient interviews were digitally recorded and qualitatively analyzed. Results demonstrated that virtual rounds provided a positive patient experience for many. Most patients felt that virtual rounds were a good alternative when in-person rounds are not possible. Dissatisfaction was related to feeling "rushed" by the surgeon. This feedback can be used to better prepare patients and providers for virtual rounds and to enhance virtual technologies.

Keywords

communication, health information technology, interprofessional communication, patient expectations, patient feedback, patient perspectives/narratives, team rounding, team communication

Introduction

Interdisciplinary rounds consist of 2 or more disciplines consulting together with the patient and/or family to determine the plan of care and to discuss the discharge plan (1). In particular, interdisciplinary nurse-physician led rounding is a key component to ensuring the delivery of safe, high-quality care and enhancing the patient experience (2,3). According to Burns (4), including both nurses and physicians in daily rounds improves communication and patient perceptions of care. Henkin et al (5) found that although evidence supports the impact of perceived nurse-physician communication and teamwork impacts patients' satisfaction and their perceptions of the quality of their care, evidence of this teamwork is often suboptimal. However, nurse-physician rounds are often difficult in surgical specialties due to logistical issues. For example, in many health care systems surgeons may travel to multiple sites on different days, making it difficult to round with nursing on post-operative patients. According to

the literature, distance health technologies, such as virtual visits, may minimize geographic barriers and provide a new forum in which to conduct interdisciplinary rounding (6). Thus, we decided to trial a virtual rounding platform in our orthopedic department.

Plan of Care visits using virtual rounding include the use of video conferencing software to enhance communication between the surgeon, nurses, and the patient. Virtual rounding thus becomes an extension of the care environment, benefiting caregivers by improving communication to ensure that the physician, nurse, and the patient are informed about the patient's plan of care when physical distance or

¹ Cleveland Clinic, Cleveland, OH, USA

Corresponding Author:

Tonya Moyses, Cleveland Clinic, 9500 Euclid Avenue, H70-46, Cleveland, OH, 44195, USA.
Email: moyset@ccf.org



other constraints would otherwise make face-to-face interaction impossible (7). It also gives the care team an opportunity to address any patient issues or concerns with the surgeon. In spite of the fact that virtual technology is being used for physician office and emergency room visits, few studies have been reported that look at the patient experience with these technologies.

Stelson et al (8) evaluated the perspectives of family members and health care providers on family participation in rounds in an ICU and the role of telemedicine, Ostervang et al (9) studied providers perceptions of the use of technology to involve relatives during rounds while Petersson et al (10) explored patient's experiences of the benefit of involving the family members in virtual rounds. Only Kau et al (7) explored the patients' experience as it relates to virtual rounding. Kau et al (7) in a small qualitative study, with only 10 patients, found that the majority of the patients liked the format (9 out of 10), but only 6 out of the 10 patients felt that it actually enhanced their care. In addition, while the patients indicated satisfaction with the video quality used for the rounds, they were less pleased with the audio quality. Since there is so little evidence in the literature to direct virtual rounding practices this study was planned to address this gap and further optimize our programs and patient care.

Purpose

The purpose of this qualitative study was to explore patients' perceptions of their virtual rounding experience, and to identify variables that enhanced the experience and areas where the nurse or physician could improve the patients' experience.

Methods

Study Design and Data Collection

Design: A phenomenology design was used to explore the patients' experiences with virtual rounding (11).

Sample and Setting

This patient cohort consisted of a convenience sample ($N=27$) of English speaking, adult inpatients (>18 years of age) admitted to the orthopedic nursing unit at a large urban hospital. All patients were admitted following a major orthopedic procedure and participated in virtual postoperative rounds with their surgeon and nurse.

Recruitment

The principal investigator identified potential patients for the study by reviewing the inpatient census daily. A trained research interviewer approached patients who participated in virtual rounds, explained the study and asked them if they would be interested in participating. If the patient

agreed to participate they were provided with an information sheet that explained what was involved with participating in the study. The information sheet was read to the patient to ensure understanding of the study and the patient was encouraged to ask questions about their participation. If patients verbally agreed to participate in the study, the interview and recording commenced. Thirty patients were invited to participate, and 3 declined participation.

Virtual Rounds

Virtual rounds consisted of a digital communications video platform that connected the surgeon (at a remote location) with the nurse and patient at the patient's bedside. The application was on a 9" by 7" tablet that was mounted on a height adjustable stand with wheels. The time of the rounds was pre-arranged between the surgeon and nurse. At the appropriate time, the nurse brought the audio video technology to the patients' room, made the required connections and adjusted the height of the equipment to be at the patients' eye level. To protect patient privacy, only secure and approved technology was utilized for this exchange. During rounds, patients were able to ask questions, nurses provided valuable information, surgeons and LIPs answered questions and together the team discussed a plan of care.

Data Collection

Interviews

Data collection began in July of 2018 and ended in April of 2019. All interviews were conducted in private on the day of discharge by a trained interviewer who used a standard script and the same 3 questions (Table 1). The interviews were digitally recorded, downloaded, and stored in an encrypted and password protected file.

Protection of Human Subjects

The Institutional Review Board reviewed and approved this study as minimal risk and exempt from further oversight. No Protected Health Information or any other information that would identify the patient were collected or recorded.

Table 1. Questions for Interview.

Can you describe your experience with virtual rounds?
You see many healthcare professionals throughout the day regarding your current plan of care. Could you talk to me about your understanding of your plan of care after virtual rounds?
Is there anything else you think the researchers should know about the virtual rounding experience?

Data Analysis

The team met prior to the study in order to identify any pre-conceived opinions or notions regarding virtual rounding. This allowed the researchers to approach the topic in an unbiased manner. Interviews were analyzed using constant comparative methods. To enhance validity, multiple investigators reviewed all interviews (investigator triangulation) (11). The researchers listened to interviews individually, and then together as a group. Using the constant comparative method, new data was reviewed and then compared with data codes and themes identified in previous interviews. Data collection and study recruitment continued until no new information was obtained from 3 consecutive interviews (data saturation).

Findings

Twenty-seven patients participated in the study, 18 female and 9 male, ranging in age from 40 to 82 ($m = 64$; $SD = 11.26$). The average age of male participants was 58 and female was 67.

Novel and Innovative

Patients thought the idea was novel and that the technology provided them with face-to-face interaction that would not have been possible otherwise.

Kurt said, "it's a great idea, doctors are so busy today and this is a way that if the doctor gets tied up he can come back later and use this virtual care device to get into contact and he can even look at parts on the body."

Others spoke to the ability to speak with their surgeon as a pleasant and easy experience.

Helen commented that, "it was relatively easy, it was pleasurable in seeing the doctor and it was like sitting in the office talking to him, no discomfort or dis-ease in doing the interview, I could hear him and see him (and him me) clearly so there was no miscommunication."

The novelty and ease of use was summed up by Roxanne who said:

"I think people need to have an open mind because this is where a lot of things are going and you can still get good medical care, some people think that a doctor cannot diagnose or help them if they don't see them, it was convenient."

Although some patients felt they had little experience with technology themselves, they found it to be a useful way to communicate with their surgeon.

Jane stated, "I'm not big in computers, but did not affect rounds, it was interesting because I got a lot out of it and

he answered my questions, doctor is right there talking to you and I saw him."

While the majority of our patients reported positive experiences associated with the technology used for a virtual visit, 1 patient had a less than satisfactory experience because of technology.

Mason commented, "*The doctor seemed to have trouble hearing me.*"

Personal and Useful

Comments about the personal experience were mostly positive and centered on the ability to talk with their surgeon about their surgery and recovery expectations. Comments from patients included appreciation of the effort providers made to communicate directly with them.

As Dave put it, "I know that my doctor is very busy and I've been dealing with her residents, but it was nice to have a conversation with her and get her opinion and ask questions."

Suzanne commented that it was "nice to see him (surgeon) after the surgery, very personal, not a doctor that thought you were a number, personal attention."

Finally, Carter compared his virtual experience to a previous surgical experience and summed it up by saying that this time "everything went great with surgery, I got to tell them, it gave me a sense of closure that I didn't have with my open heart surgery."

Although for most patients the virtual rounds provided a positive experience, 2 patients felt like they were an imposition and that the doctor appeared in a hurry or rushed.

Fran stated, "it was ok, I was able to ask questions, but to be honest I didn't want to talk too much I felt he was busy." and George mentioned, "the one impression that I did have was that you were eating up the doctor's precious time, so said goodbye earlier and didn't ask..."

Perception of Appropriateness

Finally when asked to provide ideas for improvement, patients provided some helpful responses. Interestingly, 2 patients felt that virtual rounds would not be accepted by older patients despite the fact that they were both over the age of 60.

Barbara stated, "Some people wouldn't be comfortable with that kind of face to face, older people are sometimes not comfortable with it being a computer...resistance to updated technology."

Peggy shared, "It might not be so good for older people, as people get older they are not into technology as much so

you might not be into the virtual thing so much so you could just pick which patients to do this with.”

Several patients felt that virtual rounds were not as appropriate for people who are critically ill.

Jenny mentioned, “It depends on person’s issue that they are being seen for, for me it was ok because it was a routine thing, but for someone who is less technology based or their condition is more serious or precarious they should have face to face, it has to be individualized.”

Elaine stated, “I’m not sick, but more critically ill people need in-person visit, or be sure family is present to speak for them.”

Surprisingly there were no ideas about improving the technology itself, but several patients wished that they had more preparation before the actual virtual rounds experience.

Fran shared, “I was not sure what it entailed, may have helped if I had a generic form explaining rounds, didn’t feel prepared” (7).

Discussion

Twenty-five out of 27 patients in this sample enjoyed or appreciated the virtual rounding experience and felt that it provided them with personal attention from their surgeon. However, negative comments provided ideas for how to enhance the experience, as at least 1 person experienced some technological issues and 2 patients felt that they were taking up too much of the doctor’s time and that he or she was rushed. This study provided some new insights into the usefulness and perceptions of virtual rounding by patients.

As only 4 virtual rounding studies (7–10) were identified in the literature and only the study by Kau and others examined the patient experience of virtual rounding (7), our study helps to address a gap in the literature related to patient perceptions of the virtual rounding experience. In contrast to Kau and others, who reported findings from a sample of only 10 patients to a short 6-item survey, we used a qualitative approach and interviews to better understand the virtual rounding experience from the patient’s point of view. Kau and others (7) found that patients generally liked the virtual rounding experience but 40% ($n = 4$) complained about technology issues (sound and video), whereas we only had 1 patient identify any technical issues, and this was an audio quality issue. Our study also found through our interviews that patients felt rounding was a viable alternative to in-person physician rounds. We also discovered that at least 2 patients felt “rushed” during the rounding experience and felt the doctor seemed to be “in a hurry.” Optimizing connectivity to ensure adequate communication quality is a clear necessity.

Strengths and Limitations

The primary strength of this study was that it looked at virtual rounding as a patient experience thus helping to understand the patients’ perceptions. This allowed the findings to emerge naturally so that we were able to identify the patients’ perceptions. Such perceptions could contribute to the development of new theories. The major limitation in this study was the use of a single site and small convenience sample. Thus, any attempt to generalize beyond this sample should be done with caution.

Study Rigor

Researchers considered the credibility, dependability, and transferability of each patient’s interview. Multiple reviewers were used to analyze each interview to avoid bias and achieve consensus. To ensure dependability of this study, the same interview script was utilized with all patients.

Conclusion

Virtual rounding is an acceptable way to manage rounding from a distance, but is not likely to replace face-to-face rounding when feasible. While the quality of the connectivity and technology must constantly be evaluated and upgraded, the most important issue was how the doctor was perceived by the patient. Patient perceptions may be improved if they are prepared about the use of virtual rounding technology before it is employed in their care. Furthermore, when providing training, all providers (doctors and nurses) need to make a concerted effort to not appear rushed. This can detract from the patient experience and result in patients being reluctant to ask questions. In an evolving healthcare landscape, virtual rounding has the potential to improve quality of care and the patient experience.

Ethical Approval

Ethical approval to report this case was obtained from the Cleveland Clinic Institutional Review Board (18-739).

Previous Presentations

This work was presented at the Cleveland Clinic 15th Annual Clinical Nursing Research Conference in 2019.

Statement of Human and Animal Rights

All procedures in this study were conducted in accordance with the Cleveland Clinic Institutional Review Board’s (18-739) approved protocols.

Statement of Informed Consent

Verbal informed consent was obtained from the patient(s) for their anonymized information to be published in this article.


Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Tonya Moyse  <https://orcid.org/0000-0001-8974-4126>

References

1. Mercedes A, Fairman P, Hogan L, Thomas R, Slyer JT. Effectiveness of structured multidisciplinary rounding in acute care units on length of stay and satisfaction of patients and staff: a quantitative systematic review. *JBIM Evid Syn.* 2016 Jul 1;14(7):131-68. .2.
2. GUIDE H. How-to Guide: Multidisciplinary Rounds. Retrieved from: <http://www.ihl.org/resources/Pages/Tools/HowtoGuideMultidisciplinaryRounds.aspx>
3. Martin JS, Ummenhofer W, Manser T, Spirig R. Interprofessional collaboration among nurses and physicians: making a difference in patient outcome. *Swiss Med Wkly.* 2010 Sep 1;140. (3536).
4. Burns K. Nurse-physician rounds: a collaborative approach to improving communication, efficiencies, and perception of care. *Medsurg Nurs.* 2011 Jul 1;20(4):194.
5. Henkin S, Chon TY, Christopherson ML, Halvorsen AJ, Worden LM, Ratelle JT. Improving nurse-physician teamwork through interprofessional bedside rounding. *J Multidiscip Healthc.* 2016;9:201.
6. Schaffer JL, Rasmussen PA, Faiman MR. The emergence of distance health technologies. *J Arthroplasty.* 2018 Aug 1;33(8):2345-51.
7. Kau EL, Baranda DT, Hain P, Bolton LB, Chen T, Fuchs GJ, et al. Video rounding system: a pilot study in patient care. *J Endourol.* 2008 Jun 1;22(6):1179-82.
8. Stelson EA, Carr BG, Golden KE, Martin N, Richmond TS, Delgado MK, et al. Perceptions of family participation in intensive care unit rounds and telemedicine: a qualitative assessment. *Am J Crit Care.* 2016 Sep;25(5):440-7.
9. Østervang C, Vestergaard LV, Dieperink KB, Danbjørg DB. Patient rounds with video-consulted relatives: qualitative study on possibilities and barriers from the perspective of healthcare providers. *J Med Internet Res.* 2019;21(3):e12584.
10. Petersson NB, Jørgensen AL, Danbjørg DB, Dieperink KB. Video-consulted rounds with caregivers: the experience of patients with cancer. *Eur J Oncol Nurs.* 2020 Jun 1;46:101763.
11. Patton MQ. *Qualitative evaluation and research methods: integrating theory and practice.* Sage Publications. 2014.