

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Exploring the role of the nurse manager in supporting point of care nurses' adoption of electronic health records: Protocol for a qualitative research study
AUTHORS	Strudwick, Gillian; Booth, Richard; Bjarnadottir, Ragnhildur; Collins, Sarah; Srivastava, Rani

VERSION 1 - REVIEW

REVIEWER	Calvin Or University of Hong Kong, Hong Kong, China
REVIEW RETURNED	19-Jun-2017

GENERAL COMMENTS	<p>The article presents a protocol of a qualitative study that aims to explore the role of nurse managers in point of care nurses' use of EHRs, and to identify strategies that may be effective in supporting clinical adoption.</p> <p>My specific comments are listed below.</p> <ol style="list-style-type: none">1. Introduction presents the popularity of EHRs, and the research gap for the present study.2. Research questions are presented.3. The authors describe that the study is drawn upon the Staggers and Parks Nurse-Computer Interaction (SPNCI) Framework. They also mention that "... interview guides were developed based on ..., the theoretical framework, ..." However, it appears that the interview guides do not cover the essential concepts of the framework. In the framework, it has concepts related to technology interface, technology characteristics, nursing context, information, task, etc. However, the interview guides have nothing to with technology interface or information, for example. So, it is hard for me to think about why the study or the interview guides are based on the SPNCI framework. If the concepts are missing for setting the guides, the authors could miss some important data. Please clarify.4. The inclusion criteria are described in "Sample" section.5. The authors have provided information about how they determine the number of participants to interview (i.e., based on data saturation approach).6. Will the experience in using the EHR of the participants be one of the inclusion criteria for participant selection? If not, the authors may consider it.7. In the section following Table 2, it is mentioned that "Participants will also be asked to provide ... years of experience using the EHR, and years of experience working as a mental health nurse." Shall these two variables be part of the inclusion criteria? Experience in using the technology and the relevant work experience of participants can affect how they perceive the support they need, the
-------------------------	---

	<p>roles, the effectiveness of the strategies, etc. Please clarify.</p> <p>8. I assume that gender of the nurse managers and point of care nurses does not matter that both nurse managers and point of care nurses of both genders are eligible to participate in the study?! Please clarify.</p> <p>9. Will the email invitations be sent to the potential participants' personal or work email accounts? Sending to the personal or work accounts may make a difference for response rate. Please clarify.</p> <p>10. Who will send the email invitations to the potential participants? If they are sent by the mental health organization, the potential participants may under a perception that they must/need to participate, or they may have a pressure that they need to participate, because the invitations are from their employer/organization. If the research team is going to send the invitations, will the team have access to the email addresses? Will the internal organizational documents and resources contain the email addresses? Please clarify.</p> <p>11. Any incentives for participation? Please clarify.</p> <p>12. Where will the interviews be conducted? In a quiet meeting room? Will it be an issue that the potential participants would worry that someone see them going into the meeting room to do the interviews? Please clarify.</p> <p>13. The authors have mentioned that ethical approval is obtained.</p> <p>14. The discussion is clear that it presents the importance and implications of the study.</p>
--	---

REVIEWER	Dr. Karen E. Furlong University of New Brunswick, Canada
REVIEW RETURNED	06-Jul-2017

GENERAL COMMENTS	<p>Thank you for the opportunity to review this manuscript. This is timely research with a clearly identified gap in the extant body of knowledge; little is known about the role of nurse leaders in the support of EHR integration. The study design is a “qualitative descriptive approach” using semi structured interviews as the primary data collection strategy – it may be helpful to provide a clearer link to Staggers’ framework within proposed interview guides. There is a tendency to focus on the effectiveness of use yet this framework explores information exchange variables. That being said, minor revisions to the types of interview questions may assist in learning more about nurse-computer interactions. The analysis section is also well written – researchers articulate their plan to move beyond “pre-determined codes” if their content analysis yields serendipitous findings - my only comment here is to clarify how consensus will be achieved when there is disagreement about the need for open coding.</p>
-------------------------	--

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Calvin Or

Institution and Country: University of Hong Kong, Hong Kong, China

Competing Interests: None declared

Comment: The article presents a protocol of a qualitative study that aims to explore the role of nurse managers in point of care nurses’ use of EHRs, and to identify strategies that may be effective in

supporting clinical adoption.

Response: This comment does not require any revisions within the manuscript.

Comment: Introduction presents the popularity of EHRs, and the research gap for the present study.

Response: This comment does not require any revisions within the manuscript.

Comment: Research questions are presented.

Response: This comment does not require any revisions within the manuscript.

Comment: The authors describe that the study is drawn upon the Staggers and Parks Nurse-Computer Interaction (SPNCI) Framework. They also mention that "... interview guides were developed based on ..., the theoretical framework, ..." However, it appears that the interview guides do not cover the essential concepts of the framework. In the framework, it has concepts related to technology interface, technology characteristics, nursing context, information, task, etc. However, the interview guides have nothing to with technology interface or information, for example. So, it is hard for me to think about why the study or the interview guides are based on the SPNCI framework. If the concepts are missing for setting the guides, the authors could miss some important data. Please clarify.

Response: The interview guides were developed so that participant responses could be mapped to the Staggers and Parks Nurse-Computer Interaction Framework. The questions were purposefully broad so that the questions were not leading, and so that participant responses could be mapped to the framework domains. Whittaker and colleagues (2009) used the same approach when completing a similar study of point of care medical-surgical nurses using the same framework. The authors have clarified this approach on page 10. Reference: Whittaker AA, Aufdenkamp M, Tinley S. Barriers and facilitators to electronic documentation in a rural hospital. *J Nurs Scholarsh.* 2009; 41(3):293-300.

Comment: The inclusion criteria are described in "Sample" section.

Response: This comment does not require any revisions within the manuscript.

Comment: The authors have provided information about how they determine the number of participants to interview (i.e., based on data saturation approach).

Response: This comment does not require any revisions within the manuscript.

Comment: Will the experience in using the EHR of the participants be one of the inclusion criteria for participant selection? If not, the authors may consider it.

Response: The study site has an electronic health record in situ that all point of care nurses are required to use in their practice. In addition, all nurse managers are required to support their staff in some way to utilize the technology. We have clarified this point within the revised manuscript on page 9.

Comment: In the section following Table 2, it is mentioned that "Participants will also be asked to provide ... years of experience using the EHR, and years of experience working as a mental health nurse." Shall these two variables be part of the inclusion criteria? Experience in using the technology and the relevant work experience of participants can affect how they perceive the support they need, the roles, the effectiveness of the strategies, etc. Please clarify.

Response: In this study we hope to include a diverse group of nurses with varying levels of experience both in their role as a nurse, the length of time they have used an EHR, and their mental health nursing experience. This was done as it is more representative of the care environments in which nurse manager's work. Thus, we have decided not to provide specific criteria to limit eligibility to a particular timeframe or range. However, we have included in the eligibility criteria that all nurses are required to be in their role for a minimum of one year, which would allow nurses to become familiar with their role and their use of the technology. A previous study has suggested that it can take up to

one year to become comfortable working in a new role for nurses (Casey, Fink, Krugman and Propst, 2004). We have made this clarification on page 8. We hope that this clarification addresses the peer reviewers comment. Reference: Casey K, Fink R, Krugman, M, Propst J. The graduate nurse experience. Journal of Nursing Administration. 2004; 34 (6): 303-311.

Comment: I assume that gender of the nurse managers and point of care nurses does not matter that both nurse managers and point of care nurses of both genders are eligible to participate in the study?! Please clarify.

Response: The gender of the nurse managers and point of care nurses does not matter in this study and both are eligible to participate. This point has been clarified on page 7 and 8.

Comment: Will the email invitations be sent to the potential participants' personal or work email accounts? Sending to the personal or work accounts may make a difference for response rate. Please clarify.

Response: Email invitations will be sent to potential participants on work email accounts. This point has been clarified on page 9.

Comment: Who will send the email invitations to the potential participants? If they are sent by the mental health organization, the potential participants may under a perception that they must/need to participate, or they may have a pressure that they need to participate, because the invitations are from their employer/organization. If the research team is going to send the invitations, will the team have access to the email addresses? Will the internal organizational documents and resources contain the email addresses? Please clarify.

Response: Email invitations will be sent to participants via one of the research team email accounts, and not by any person that any staff member (point of care nurse or manager) reports to. The research team has access to email addresses through internal organizational documents. Participants will be informed that participation is voluntary. This message will be reiterated in the consent form. Participants will also be informed that there will be not be any repercussions for not participating in the study. This study has obtained ethical approval by the organization in using these recruitment strategies.

These points have been clarified on page 9.

Comment: Any incentives for participation? Please clarify.

Response: Participants will not receive any incentives. This is clarified on page 13.

Comment: Where will the interviews be conducted? In a quiet meeting room? Will it be an issue that the potential participants would worry that someone see them going into the meeting room to do the interviews? Please clarify.

Response: Interviews will be conducted in quiet meeting rooms throughout the organization where this study will take place. Although it is unlikely that someone would know that a participant is going into a meeting room for this study, the meeting rooms will purposefully be booked in areas of the organization where the participant is not routinely working e.g. not on the clinical unit where the participant is working or responsible for. This is clarified on page 13.

Comment: The authors have mentioned that ethical approval is obtained.

Response: This comment does not require any revisions within the manuscript.

Comment: The discussion is clear that it presents the importance and implications of the study.

Response: This comment does not require any revisions within the manuscript.

Reviewer: 2

Reviewer Name: Dr. Karen E. Furlong

Institution and Country: University of New Brunswick, Canada
Competing Interests: None declared

Comment: Thank you for the opportunity to review this manuscript. This is timely research with a clearly identified gap in the extant body of knowledge; little is known about the role of nurse leaders in the support of EHR integration.

Response: Thank you for providing this feedback. This comment does not require any revisions within the manuscript.

Comment: The study design is a “qualitative descriptive approach” using semi structured interviews as the primary data collection strategy – it may be helpful to provide a clearer link to Stagers’ framework within proposed interview guides. There is a tendency to focus on the effectiveness of use yet this framework explores information exchange variables. That being said, minor revisions to the types of interview questions may assist in learning more about nurse-computer interactions.

Response: The interview guides were developed so that participant responses could be mapped to the Stagers and Parks Nurse-Computer Interaction Framework. The questions were purposefully broad so that the questions were not leading, and so that participant responses could be mapped to the framework domains. Whittaker and colleagues (2009) used the same approach when completing a similar study of point of care medical-surgical nurses using the same framework. The authors have clarified this approach on page 10. Reference: Whittaker AA, Aufdenkamp M, Tinley S. Barriers and facilitators to electronic documentation in a rural hospital. *J Nurs Scholarsh.* 2009;41(3):293-300.

Comment: The analysis section is also well written – researchers articulate their plan to move beyond “pre-determined codes” if their content analysis yields serendipitous findings - my only comment here is to clarify how consensus will be achieved when there is disagreement about the need for open coding.

Response: Thank you for this feedback. We have provided additional clarification in the manuscript, which describes how consensus will be achieved if there is disagreement about the need for open coding. This is outlined on page 14.

In summary, after the two researchers have independently coded content to the “pre-determined” codes, they will meet to discuss their findings with one another, including the need for open-coding. Any disagreements will be attempted to be resolved through discussion between these two researchers. However, if or when agreement cannot be reached, another member of the research team will be consulted.