Perceptions of EMR Documentation in the Home Setting

Catherine Hupf
University of Tennessee Health Science Center

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Perceptions of EMR Documentation in the Home Setting

Catherine Hupf, BSN

University of Tennessee Health Science Center

Master of Health Informatics and Information Management

Advisors: Dr. Rebecca Reynolds

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Abstract

The use of technology in healthcare is ever increasing in our hospitals, doctor’s offices, and clinics. Studies have been done to ascertain the perceptions of patients on the use of technology in the places that provide them care. This project was done for a population that does not always receive care where the clinician is. The care is in their home by clinicians who are using laptop computers and documenting in the EMR. Home care and hospice patients or their caregivers were asked to complete a survey with seven questions scored with a 5-point Likert scale to find that they feel positive that the computer contributes to better care and helps check for errors, the clinicians are listening, and does not affect their relationship with the clinician. The biggest concern of this population is the safety and security of their information.
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Chapter 1 – Introduction

Background

Utilization of the electronic medical record (EMR) has grown in almost every area of health care including home care and hospice. However, use of electronic health records in the home setting has had a slower adoption overall than inpatient facilities. The Center for Disease Control reports that in 2007 only 28% of home care and hospice agencies were using both electronic health records and other mobile technology, and 16% were only using electronic medical records (EMRs) (Bercovitz, Park-Lee, & Jamoom, 2013). Clinicians in home care and hospice traditionally have had to review paper charts, take notes, drive to patient homes, make their visits, document on paper, and return to the office to place documentation in the chart. Moreover, data collection for these patients was tedious and difficult. Now with the use of the EMR, nurses take laptops or other devices to the home, have the entire chart at their disposal for information, can do point of care charting at the bedside, and data collection has become as easy as the reporting system built within their documentation software. In one of the first research studies aimed at the EMR and home care, it was found the point of care documentation in an EMR “significantly improved the timeliness of clinical documentation and billing for reimbursement” (Sockolow, Bowles, Adelsberger, Chittams, & Liao, 2014, p. 454).

There are obvious benefits that an EMR can bring to a nurse out caring for patients in the community. However, other problems have emerged to take the place of those diminished. Laptops can be cumbersome depending on make and model. Some work faster than others. Some have longer battery life. Dropping a paper chart, while
bothersome, does not create as big a problem as dropping a laptop or tablet. Should a car be stolen, a few paper charts may be inside or every patient’s chart can be accessed if not encrypted appropriately. A recent study published in the Nursing Administration Quarterly found that while most nurses would not go back to paper charting, there is still dissatisfaction with EMR documentation related to poor training and workflow changes (Gephart, Carrington, & Finley, 2015, p. 345). Home settings are varied and the area where care is provided may be small with little furniture. Holding a laptop or device for documentation while standing can be challenging. Cleaning the device between visits may also be difficult. In an interview with an IT support staff for a home care agency, it was found that security is a real issue as tablets and laptops are valued and easily stolen and sold (B. Maners, personal communication, 09/27/2015). Lastly, many nurses are concerned with the physical barrier a computer creates during the visit. In a study by Beth Strauss, DNP, RN, AHCNS-BC, it was found “that patients strongly dislike when a nurse starting clicking and typing without explaining what she was doing” (Bresnick, 2013, para. 3).

Purpose of Study

The purpose of this study is to understand how patients and/or their caregivers truly feel about the computer use, and how positively or negatively they feel about computer use affecting their care, keeping their information safe, their relationship with the clinician, affecting errors/mistakes, affecting listening, and overall use in the home.
PERCEPTIONS OF EMR DOCUMENTATION IN THE HOME

Significance of Study

The advantages of EMR’s when providing care in a home setting are numerous including point of care documentation and quick access to patient and other medical information without the burden of large paper charts and drug manuals. Clinicians frequently ask if improvements in one area are at the expense of jeopardizing our clinician-patient relationship. Clinicians may perceive that patients do not like those using laptops in the home, and at times the environment may not conducive to laptop use. Understanding patient/caregiver perceptions can help in developing an approach to gain acceptance of the practice either by the clinicians or the patient/caregiver.

Conceptual Frame of Reference

This project is based on the work done focused on the effect of electronic documentation on the nurse-patient relationship and found a general acknowledgment that the nurse-patient relationship was still effective when using the EHR (Strauss, 2013). Whereas this research was more qualitative using interview and observation techniques, this project will be mostly qualitative to gain baseline information for guiding next steps. Also, this project survey is adapted from previous research studying experiences and attitudes of consumers in healthcare (Ancker, Silver, Miller, & Kaushal, 2013).
PERCEPTIONS OF EMR DOCUMENTATION IN THE HOME

Research Questions

This project will attempt to answer the following questions:

- What are the perceptions of patients/caregivers of clinicians using computers in their home?
- Are the overall perceptions positive or negative?
- Are age range or gender results different from the total?

Definition of Terms

Caregiver – the person responsible for the primary care of the patient in the home setting
Clinician – any licensed health professional
EHR – Electronic health record
EMR – Electronic medical record
Patient – any person who is receiving care by a clinician
Staff – any one of the employees that visit patients in the home from Methodist Alliance

Limitations

There are limitations associated with this project. The ability to generalize these results to the total population is a concern as all participants came from one agency in one geographic area, and completing the survey was voluntary. Bias may also be a concern if the participant has a good relationship with the clinician.
Chapter 2 – Review of Literature

A literature search was done in PubMed and CINAHL databases as well as Google on the advice of Brenda Green, Health Sciences Librarian. No articles were chosen that were published before 2010. Key words used in the search were: EHR, electronic health record, home health, hospice, home care, laptop utilization, nurse-patient relationship, perceptions EHR, home documentation, EHR attitudes, and EHR adoption. The search was competed replacing EHR with EMR. In all, 19 abstracts were read and found to be possibly relevant to the topic in some way. Of those 19, only 14 were available in full text. These were downloaded for review of relevance. After review, 7 articles were found to have some relevance in either perception of EHRs by providers or patients.

Of the articles chosen as relevant, four of these dealt with patient perceptions and three described provider perceptions in some way. The article found to correlate the most with the research topic deals with a study done in a hospital setting on patient perception of their relationship with their nurse while utilizing an EHR. Four themes were identified: Presence, Respect, Knowledge, and Safety/Trust (Strauss, 2013). Nurse attitude directly affected patient attitude both positively and negatively. The other studies aligned in their findings that patients perceive that computers increase the quality of care. They also found that the biggest concern of patients is privacy and security. In a phone survey study, researchers found that 66% of those surveyed felt the EHR improves the quality of care, and 50% felt privacy and security would be worse (Ancker, Silver, Miller, & Kaushal, 2013). Another survey study with a very large respondent size (one quarter of
American adults) measured the perceptions of confidence in security and privacy of medical records with the EMR. It was found that the higher the quality of care the patient received, the more confident they were with security and privacy of their medical information (Patel, Beckjord, Moser, Hughes, & Hesse, 2015). Another study was done on perceptions with ethnically diverse patients, specifically English, Spanish, and Cantonese speaking individuals that were patients in one specific clinic in San Francisco, CA. Although a smaller amount of patients felt the provider looked at them less or did not listen carefully, 81% of patients agreed that the computer helped the providers take better care of them (Ratanawongsa et al., 2013).

In contrast, perceptions of providers have also been studied. One study, which has some relevance, focused on objective observation of medical residents interacting in a controlled lab with patient actors using a paper chart and an EHR. The results found that the residents’ communication performance improved with use of the EHR (Taft, Lenert, Sakaguchi, Stoddard, & Milne, 2014). A second study is also considered relevant as it contains results of direct observation of 28 physicians in an outpatient care area. The study compared physicians’ perceptions of uncertainty in practice to their utilization of the EMR. Those with reduced uncertainty utilized the EMR more that those who were mixed or had absorbed uncertainty (Lanham et al., 2013).

There were no studies that directly related to perceptions of either clinicians or patients in the home care setting. However, the literature supports the fact that in multiple settings there are variants between how the nurse or physician views the EHR and how patients view them. Moving forward, further research should be done to evaluate the true perceptions on both sides so that nurses can use the information to develop appropriate
PERCEPTIONS OF EMR DOCUMENTATION IN THE HOME

processes for EHR documentation, and also to develop an approach that is sensitive to their patients’ concerns.
Research Design

This project is designed as exploratory as there have been no studies found on this particular population. The survey is designed to gain a basic understanding of the perceptions of those receiving in-home care and gain insight for later research. The survey has two questions to show the respondent meets inclusion criteria, two questions are demographic in nature to possibly separate into groups (age range and gender). The other seven questions are positively worded with answers based on a 5-point Likert scale. There was one open-ended question to gain extra insight if answered.

Population and Sample Design

The study will be limited to patients that are receiving care from two sister agencies: one home care and one hospice that serve patients in both urban and rural areas in a seven county area from two adjoining states. These agencies care for patients with varying diagnoses, ages, ethnicity, educational backgrounds, and socio-economic status. The total census between the two providers is approximately 400 patients. Home care and hospice nurses report that at least one third of these patients are incapacitated, confused, or are cared for in a nursing facility. Therefore the decision was to send out 200 surveys with the clinicians in hopes of receiving a 15% response rate. The sample only included patients or caregivers over the age of 21 that are competent to give consent. The leadership of both of the agencies gave their approval and support for this study in hopes of the ability to strengthen their position that supports point of care documentation in the home in the EMR.
Data Collection Procedures

The survey was composed of mostly closed ended statements followed by a Likert scale of 1-5 with 1 being “strongly disagree”. There was also a qualitative open-ended question to give the participants the ability to share their perceptions that were not addressed in the survey questions. Convenience sampling using volunteers was used. Clinicians were given the surveys in closed, blank envelopes. The clinicians were instructed to give the envelope to the patient if deemed competent and over the age of 21. They were also told that if the patient was not competent, that they were allowed to give the envelope to a competent caregiver. If neither were competent, they were to exclude them and not leave the envelope. The clinicians were coached to tell the patient/caregiver that their colleague is conducting a research project and should they want to participate, they could open the envelope after the clinician leaves the home.

Within the envelope was a cover letter describing the project and purpose. The letter also explained that the survey was voluntary, completion of the survey implied consent, and that the project and results would not affect the healthcare they are receiving (see Figure 1). The survey was also in the envelope as well as a addressed, stamped envelope in which to return the survey. “Confidential” was stamped on the return address corner of the envelope to prevent the participant from putting any identifying information. The surveys were distributed over a two-week period and another two weeks were allowed to receive responses through the mail.
PERCEPTIONS OF EMR DOCUMENTATION IN THE HOME SETTING PROJECT

Dear Participant,

I am inviting you to participate in a research study entitled: Perceptions of EMR Documentation in the Home Setting. I am currently enrolled in the Master of Health Informatics and Information Management program at University of Tennessee Health Science Center in Memphis, TN, and am in the process of completing my research project. The purpose of the research is to determine how patients and/or caregivers feel about their home care or hospice staff documenting in the medical records on their computers in the home during their visit.

The enclosed questionnaire has been designed to collect information on how patients or caregivers feel about the use of computers in the home.

Your completion of the survey is your implied consent (agreement) to participate. Participation is completely voluntary. You may decline altogether, or leave blank any questions you do not wish to answer. There are no risks to participate beyond those encountered in everyday life. Your responses will remain confidential and anonymous.

If you agree to participate in this project, please answer the questions on the questionnaire as best you can. It should take approximately 5 – 10 minutes to complete. Please return the questionnaire as soon as possible in the enclosed stamped envelope.

If you have any questions about this project, feel free to contact me.

Thank you for your assistance in this important project.

Sincerely,

Catherine Hupf
Master of Health Informatics and Information Management student
901-262-5309

Data Collection Instrument

The survey instrument utilized was focused on 7 questions that were positively worded that were based on a previous research project with scaled answers. The survey
PERCEPTIONS OF EMR DOCUMENTATION IN THE HOME

questions were manipulated to reflect the type of health care the patient was receiving and the type of health care worker was described just as “staff” as some patients can any one of health care worker providing their care (therapists, nurses, clinical social workers, counselors, or even clergy) (see Figure 2 and Figure 3).
Figure 2 – Survey Page 1

MHIM Research Project

Perceptions of EMR Documentation in the Home Setting

1. Have you or someone for whom you are caring received visits in the home by home care or hospice?
   - Yes
   - No (SKIP to QUESTION 9)

2. Did the staff ever use a computer during a visit in your home?
   - Yes
   - No

3. Use of computers during visits by staff contribute to better care.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

4. I trust that the information about me or the patient in the computer is safe.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

5. The computer does not affect my (or the patient's) relationship with the staff member.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

6. I like the idea of the staff using computers during their visits.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

7. I think the computer could be useful in checking for mistakes.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree
Data Analysis

After 200 surveys were sent out, 26 were returned which gave a 13% response rate, which was close to the projection of 15%. Two of the respondents did not answer all of the questions and were excluded lowering the response rate to 12%. Age and gender were used to separate these groups and compare to the whole sample. Cronbach’s Alpha was calculated using SPSS to test reliability (see Table 1). The ages and gender of the respondents reflect the ratios of the majority of the population receiving home services, female and over the age of 50 (see Table 2).
Table 1 – Reliability

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>.916</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 2 – Participants

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Under 24</th>
<th>25 - 49</th>
<th>50 - 65</th>
<th>over 65</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td>5</td>
<td>2</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>No answer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

The data was placed in a spreadsheet and free text comments were noted to allow for comparison of positive or negative responses. All 7 questions were calculated for a mean score composite for an overall rating. A mean score was also calculated individually for each respondent, for each gender, and for each age group.
Chapter 4 – Results

The answers to the questions were scored with the most positive answer, “Strongly Agree” being scored at 5 and with most negative answer, “Strongly Disagree”, scoring 1. There were two answers for gender: male and female. There were four answers for age group: under 25, 25 – 49, 50 – 65, over 65. A positive response is considered above a score of 3, with anything 3 or below interpreted as a negative response. All questions were recorded in a spreadsheet. One respondent did not give age or gender and was not counted in the age and gender comparisons.

When all scores were combined, the overall mean score was 4.33 that reflect an overall positive response. All of the individual questions scored means greater than 3 (see Table 3). The question that scored the lowest related to belief that their information is safe. The question scoring the highest overall related to the computer being helpful in checking for mistakes.

Although both were positive, the female group had a higher positive score than the males on every question (see Table 4). There was less of a difference in the scores separated by age. There were no respondents less than 24 and only one respondent in the 24 – 49 age group. Therefore, these two respondents were not used in the age comparison. The scores between the 50 – 65 and the over 65 groups were very close. However, the over 65 group was just a bit more positive than the 50 – 65 respondents.

The survey also contained a question asking for any other comments related to the use of computers in the home. Seven responses were received, although one of them was illegible (see Table 6). Two of the responses addressed security and safety issues as a concern, and four responses were supportive of computer use in the home.
Table 3 – Mean Score of Individual Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributes to better care</td>
<td>4.48</td>
</tr>
<tr>
<td>Trusts that information is safe</td>
<td>3.96</td>
</tr>
<tr>
<td>Does not affect relationship with other home healthcare providers</td>
<td>4.38</td>
</tr>
<tr>
<td>Likes the idea of the staff using the system</td>
<td>4.29</td>
</tr>
<tr>
<td>Useful in checking for mistakes</td>
<td>4.50</td>
</tr>
<tr>
<td>Staff are listening</td>
<td>4.33</td>
</tr>
<tr>
<td>Recommend continue to use</td>
<td>4.38</td>
</tr>
</tbody>
</table>

Table 4 – Comparison by Gender

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean - Male</th>
<th>Mean - Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributes to better care</td>
<td>4.14</td>
<td>4.59</td>
</tr>
<tr>
<td>Trusts that information is safe</td>
<td>3.43</td>
<td>4.18</td>
</tr>
<tr>
<td>Does not affect relationship with other home healthcare providers</td>
<td>4.14</td>
<td>4.47</td>
</tr>
<tr>
<td>Likes the idea of the staff using the system</td>
<td>4.00</td>
<td>4.41</td>
</tr>
<tr>
<td>Useful in checking for mistakes</td>
<td>4.29</td>
<td>4.59</td>
</tr>
<tr>
<td>Staff are listening</td>
<td>3.86</td>
<td>4.53</td>
</tr>
<tr>
<td>Recommend continue to use</td>
<td>4.00</td>
<td>4.53</td>
</tr>
</tbody>
</table>
Table 5 – Comparison by Age

<table>
<thead>
<tr>
<th>Perception</th>
<th>50-65 (N=12)</th>
<th>&gt;65 (N=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributes to better care</td>
<td>4.73</td>
<td>4.28</td>
</tr>
<tr>
<td>Trusts that information is safe</td>
<td>4.25</td>
<td>3.89</td>
</tr>
<tr>
<td>Does not affect relationship with the...</td>
<td>4.64</td>
<td>4.64</td>
</tr>
<tr>
<td>Likes the idea of the staff using...</td>
<td>4.45</td>
<td>4.45</td>
</tr>
<tr>
<td>Useful in checking for mistakes...</td>
<td>4.25</td>
<td>4.45</td>
</tr>
<tr>
<td>Staff are listening</td>
<td>4.45</td>
<td>4.45</td>
</tr>
<tr>
<td>Recommend continue to use computers...</td>
<td>4.20</td>
<td>4.28</td>
</tr>
</tbody>
</table>
### Table 6

<table>
<thead>
<tr>
<th>AGE</th>
<th>GENDER</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-65</td>
<td>male</td>
<td>unable to read</td>
</tr>
<tr>
<td>&gt;65</td>
<td>female</td>
<td>&quot;I wish more staff members had access to computers so they would feel more informed and knowledgeable about their clients and their job performances&quot;</td>
</tr>
<tr>
<td>50-65</td>
<td>female</td>
<td>&quot;Information about patient could get hacked. I think there is more pros than cons with using a computer&quot;</td>
</tr>
<tr>
<td>&gt;65</td>
<td>male</td>
<td>&quot;Makes perfect sense&quot;</td>
</tr>
<tr>
<td>50-65</td>
<td>male</td>
<td>&quot;The privacy and security of personal information needs to be seen as of critical importance.&quot;</td>
</tr>
</tbody>
</table>
| >65   | female | "Home care is such a blessing for the acute patient. Computer documentation on site leads to accuracy of patient care."
| >65   | female | "I think computers are very helpful in keeping information together" |
Chapter 5 – Conclusions and Recommendations

Summary of Findings

From the responses received, the overall and individual answers to the Likert scale questions about use of computers in the home were positive. The majority of the written comments were positive as well. Even though the question addressing safety of computers scored positive, it was found that it was the lowest scoring question in the survey. Two written responses were not as positive. Both of these had the same theme regarding computer safety and security. The comparison of responses between the age group of 50-65 and over 65 revealed that there is very little difference in the scores, but the age group of over 65 consistently scored a bit higher. There was a more significant difference in the comparison between the genders with the female respondents scoring higher than the male respondents.

Conclusions

Patients and their caregivers are recognizing the worth of using computers in the home. Their overall perceptions of this practice are positive in nature. There may be some greater acceptance among females than males. Safety and security are identified as a concern, but does not seem to affect their overall perception significantly.

Implications of Study

This study will demonstrate to clinicians that their patients may welcome the use of computers in the home. The concern that the patient-clinician relationship is damaged with the addition of a computer, or that the patient dislikes the technology should be less. Patients/caregivers see that the computer can contribute to better care and helps in checking for mistakes. They recognize that the clinicians are listening, even when they
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have their computer. The patient’s greatest concern may be over the safety, privacy, and security of their personal information. Knowing this will allow clinicians to address these concerns increasing their comfort with technology.

Recommendations

This study did not consider the education level, race of the patient/caregiver. Additional research should be done to see if these variables affect the results. Furthermore, this study did not consider the attitude of the clinicians providing the care on using the computer. Additional study should be done to see how positive or negative clinicians affect the patient/caregiver perception.
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