Electronic Documentation and Patient Interaction

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Background/ Significance

Each year 3 million nurses will use an electronic medical record\textsuperscript{1}

Communication with electronic documentation:
- Creates task driven give-and-take interactions \textsuperscript{2,3}
- Omits a portion of information from the patient \textsuperscript{4}
- Creates distance from the patient \textsuperscript{2,5}

Little is known about nurse-patient communication that takes place during electronic documentation at the bedside \textsuperscript{6,7}
Purpose

To explore the culture of the nurse-patient interaction associated with electronic documentation at the bedside

Culture is behavior, knowledge, and beliefs

Theoretical Framework

Theory of the Dynamic Nurse-Patient Relationship

Need for Help

Patient's behavior: Need for help
Need for Improvement

Nurse's Reaction: Perception, Thought, Feeling

Nurse's Action:

Automatic: Carried out without validation and discussion

Patient's need not improved or resolved

Patient's need resolved or improved

Deliberative: Validated and discussed with patient

Patient's need resolved or improved

Patient's need not improved or resolved
Methods

Design:
Micro-ethnography – focus on a specific event, language, and behaviors within a culture

Setting:
- Healthcare facility in New England
- Cardiac monitoring units (3)
- Private rooms
- Bedside electronic documentation in all rooms
**Inclusion/Exclusion Criteria for Nurses**

**Inclusion:**
- Registered Nurses
- Volunteer – including observation, interview, & audiotape
- Engaged in electronic bedside documentation
- Assigned to work on selected units

**Exclusion:**
- Non-nursing personnel, friends, family, or students
- Not engaged in electronic documentation
- Not typically assigned to units
- My former student nurses with < five years of nursing practice
Inclusion/Exclusion Criteria for Patients

**Inclusion:**
- Communicate in English
- 18 years old or older
- Willing to be observed
- Willing to be audio recorded
- Assigned to participating nurse

**Exclusion:**
- Unable to provide consent for any reason
- Requires a translator
Data Collection

Passive Participant Observation
- Observation, no engagement

Semi-structured Interview
- Recorded
- Interview guide
- Private location
- < 60 minutes

Informal Interview
- Casual conversation
- Demographic information
- Guided by investigator
- Natural setting
- Not recorded

Artifacts
- Data collection fields
- Design of patient room
Sample Demographics

Nurses: 14 participants
- 9 nurses had an ADN
- 5 nurses had a BSN or greater
- Years in current position: <1 to 15, with an average of 7.8 years

Patients: 19 participants

Observations: 26 conducted between 7:00 AM – 8:30 PM
- 2 observations were excluded from analysis – discharges, no bedside computer use

Average duration of an interaction: 11 minutes, 14 seconds
- Shortest: 2 minutes, 23 seconds
- Longest: 23 minutes, 50 seconds

Informal interviews: 1/observation, Semiformal interviews: 2
Trustworthiness

Credibility
- Repeated observations at various times between 0600 – 2200 hours.
- Field note worksheet
- Verification of interpretation with participants (member checks)
- Triangulation of information from the various sources (observation, audio recording, informal interviews)
- Peer Review

Confirmability
- Reflexive journal
Trustworthiness

Transferability
  o Rich field notes
  o Integrating observations with audio-taped interactions

Dependability
  o Methodological notes – linking rationale for decisions
  o Audit trail
Pauses

Game of Tag

Machine-like Actions
Theme 1: Pauses

- Eye contact and verbal interaction paused to enable nurse to look at the screen and keyboard
  - Periods of silence from 40 seconds to 90 seconds occurred during documentation

- Phone call interruptions occurred on average every 9 minutes (based on 30 interruptions over 270 minutes of observation)

- Pause to enter physical assessment data

- Other pauses
Theme 2: Game of Tag

During:
- Medication administration
- Physical assessment

Speak across the room
Theme 3: Machine-like Actions

**Automatic:** the nurse would nod affirmatively, but had limited eye contact with the patient.

A patient was referring to the home situation.
Patient: “I have to help my wife, so I make the bed.”
Nurse: “No doctors been in yet, right?”

**Deliberative:** eye contact, affirmative head nodding, smiling and leaning toward the patient.

Nurse: “The medicine that you take is Tenormin, which is a beta blocker that helps with your heart rate, and Lasix, which helps with your swelling. Am I right?’
Patient: “Yes”.
Nurse: “Do you take Lasix at home?”
Patient: “Yes, it depends on my weight. If I gain a few pounds in a day, then I take one.”
# Theme 3: Machine-like Actions

**Documentation example:**

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Mnemonic</th>
<th>Order Details</th>
<th>Scheduled DT/TM</th>
<th>Task Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biophysical Assessment</td>
<td>Biophysical Assessment</td>
<td>12/10/13 9:00:00 Ordered via a Discern Expert rule secondary to admission</td>
<td>12/10/13 8:00</td>
<td>Pending</td>
</tr>
<tr>
<td>Braden Assessment</td>
<td>Braden Assessment</td>
<td>12/10/13 9:00:00 Order generated by Discern Expert based on patient admission or transfer</td>
<td>12/10/13 8:00</td>
<td>Pending</td>
</tr>
<tr>
<td>Falls Risk Assessment</td>
<td>Falls Risk Assessment</td>
<td>12/10/13 9:00:00 Generated by Discern Expert. Patient admitted</td>
<td>12/10/13 8:00</td>
<td>Pending</td>
</tr>
<tr>
<td>Foley Catheter Indicators</td>
<td>Foley Catheter Evaluation</td>
<td>12/06/13 8:00:00 Ordered by system – xxx-xxx-foley-cath_stop_rule</td>
<td>12/08/13 8:00</td>
<td>In Process</td>
</tr>
<tr>
<td>Glucose (Nsg POC)</td>
<td>Glucose (POC)</td>
<td>Scheduled, 4:00:00 12/10/13</td>
<td>12/10/13 4:00</td>
<td>Overdue</td>
</tr>
<tr>
<td>Narcotic Shift Documentation</td>
<td>Narcotic Shift Documentation</td>
<td>12/09/13 6:00:00 This task is for PCA HYDROmorphine 10 mg/100ml NaCl 10 my</td>
<td>12/09/13 6:00</td>
<td>Overdue</td>
</tr>
</tbody>
</table>
Theme 3: Machine-like Actions

Nurses’ comments:

- “Very busy doing the tasks on our list, for example, giving the meds and getting to the next patient.”

- “… a lot of information to fill out every day.”

- “… required fields include: educate your patient, medications, fall risk, the Braden scale, IV assessment, and the biophysical assessment. That’s a big one.”

- “Everything is a priority” and “required by 8:00 AM”
Benefits of Electronic Documentation

Nurses stated that:

- Medication administration is safer
- Computer is a resource for medication information
- Patient's history is easily accessible
- Notes are legible
Discussion

Automatic actions lead to unidirectional and asymmetrical nurse-patient interaction or institutional talk 11

Nurses frequently pause during interactions

Stationary computers challenge the logistics of the interaction

Continued use of paper and pen
Discussion (continued)

The computer generated task lists are lengthy

All tasks are required at the same time on every patient

Electronic documentation becomes a task.

Nurses can become “bogged down”
Limitations

- The observations (N = 26) included medication administration and physical assessment (n= 22)
- Admission assessments were not observed
- The sample size was small, limited to one type of documentation system, and one type of clinical setting
- Other patient populations, such as non-English speaking and those who are cognitively impaired, were not represented
- Differences between nurses in the volunteer group and other nurses at the facility are unknown
Recommendations for Future Research

Practice:

- Explore the impact of redesigned software including tablets
- Expand research into a macro-ethnography study
- Investigate electronic documentation in other facets of care, for example patient admission and discharge documentation processes
- Conduct research at different types of facilities, including small community based centers
- Explore the concurrent use of paper and electronic documentation
Recommendations for Future Research

Policy:

- Policy development for electronic documentation and other aspects of health care informatics should include nurses \(^{12}\)

Education:

- Policy development to educate nurses in communication during bedside documentation must extend to the academic setting \(^{13}\)
Tak for invitationen.
Jeg honred at være her.

Thank you for inviting me.
I am honored to be here.
References


References


